

To,  
The Secretary  
AP Electricity Regulatory Commission  
Singareni Bhavan,  
Red Hills  
Hyderabad – 04

Date:19 – 03 – 2004

Respected Sir,

Sub: Submissions on tariff for NCE units  
Ref: Public Notice issued by APERC dated 04-03-2004.

I would like place the following issues before the Honourable Commission for its consideration with regard to tariffs for the NCE units.

**1.1** The present public hearing on tariffs and incentives for the NCE units appears to be an after thought. As the date for declaration of new tariffs is just four days away how far this public hearing will serve any purpose? According to the Tariff order of the Commission for the year 2003-04 and also one of the orders of the Commission related to non-conventional energy the present treatment of these plants will end by 31<sup>st</sup> March 2004, and that it will bring in new treatment from 1<sup>st</sup> April 2004. In the Tariff Order the Commission also stated that a public hearing will be held before finalizing the tariffs for NCE units. Given the explicit stand taken by the Commission in the Tariff Order we expected that the exercise for the NCE tariff will also start three months before the finalisation of its tariff as is the case with the general tariff. But the ARR and FPT did not include any detailed documentation on NCE, but just a proposal from TRANSCO on tariff to be paid to NCE subject to the Commission's orders. We learn that in December 2003 itself the proposals of TRANSCO and NCE developers were discussed, but with out any public participation. Public should have been involved at that stage itself. We fail to understand why consumers are not invited to participate in the hearings conducted by the APERC to finalise the NCE tariffs? The present public hearing just a few days before the announcement of the tariff order for the next financial order do not evoke public confidence in the public. But, later is better than never!

**1.2** While we welcome the APTRANSCO's proposal to reduce tariff for NCE to Rs. 2.30 from the current levels, we want further exploration of bringing down this tariff further. We also would like to know the basis for the APTRANSCO's proposal of Rs. 2.30 per unit.

**1.3** Total quantity of power purchased from non-conventional sources has increased by 100% every year between 2002 and 2004. During the year 2005 this is expected to increase by another 50%. Along with quantity per unit price of this power is also increasing every year up to 2004. Combined together total outgoes on this account are staggering. It is needless to mention that this is the costliest power purchased by APTRANSCO.

Year	Power purchased in MU	Cost Rs per Unit	Total cost paid in Rs/Crore
2002	313	2.89	90.30
2003	733	3.20	234.70
2004	1262	3.47	437.00
2005	1802	2.30	415.30

At the same time it is to be noted that the presently proposed quantity of power procurement from NCE units comes from the already commissioned units which are less than 50% of the sanctioned capacity. While the total sanctioned capacity is 971.65 MW the commissioned capacity according to the discussion note released by the Commission is 450.69 MW. If the total sanctioned capacity is added to the grid the impact of it on the tariffs will be enormous. This indeed signals the need to review the tariff policy towards NCE.

While there is no doubt about the need to promote non-conventional and environmentally friendly source of power, the question is at what cost?

## **How many units are there?**

**2.1** There is no clear picture on the total number of existing plants. In the ARR for the year 2003-04 it was mentioned that 106 meters of 0.2 & 0.5 accuracy meters were installed with respect to these types of plants. In a reply given to our question related to this in the context of the ARR for the year 2004-05 the total number of NCE units amount to 95. In a reply given to one of the objectors Mr. G. Narendranath for the year 2004-05 a list of 67 NCE units was provided. In the Proposals on Tariff Policy for Non-Conventional Energy Projects submitted by TRANSCO to the Commission it was mentioned, "As per available information, 89 NCE projects are connected to the grid. The actual number of suppliers to APTRANSCO needs to be ascertained" (p.40). This shows that there is no clear picture on the number of NCE units. Though they mention the capacity of installed capacity and number of units being purchased there is no clear picture regarding the number of NCE units. First this needs to be clarified.

## **Availability of Fuels:**

**3.1** The non-conventional power units raises many issues. At the operational level, how far these non-conventional energy producers are depending on non-conventional fuel sources? Similar to the gas power plants one of the important issues is the availability of fuel for these plants. There were serious doubts about the availability of bio-mass for the bio-mass based power plants. According to a study in AP there is not much of bio mass available to sustain bio mass based power generation. But still, in opposition to this study, many people/agencies obtained licenses to generate bio mass energy. Despite this these plants succeeded in obtaining the necessary clearances for setting up the plants. But

they ended up felling trees in the forest area unauthorized. These plants instead of protecting the environment are causing serious damage to it. If reports are to be believed most of them are running on coal but collecting bills as if they are non-conventional energy producers. In these circumstances it is very urgent to examine their actual feasibility and give clearance only afterward. It seems MNCE also stopped capital subsidy as the scope for this type of plants is limited.

**3.2** Same is the case with the bagasse based plants. Is there enough bagasse feed stock available to run these plants or the investors are going to set up these plants in order to reap the guaranteed profits under the provisions of various schemes. This particularly because in the background of declining ground water many farmers are quitting sugar cane. There is also new substantial addition to the sugar factories' capacity to warrant more availability of the fuel to the bagasse based plants. According to TRANSCO's tariff proposals for NCE units there are 37 sugar plants crushing about 70-75 lakh tones of cane, and bagasse accounts for 32% of the sugar cane weight. According to reply given by TRANSCO to our question related to this in the context of ARR for 2004-05 there are 15 Bagasse Cogen Projects already in the state. Whether there is scope to set up new capacities.

**3.3** As the show is allowed to run, those who have obtained licenses but not yet started have woken up and started adding to the already unviable capacity. The result is the increasing quantum of power being purchased from these sources and adding to the existing trouble. So before the situation goes out of hand it is in fitness of things to cancel those licenses and save the sector from unscrupulous moneymakers. At present less than 50% of the sanctioned capacity is established. This is already causing immense problems. If the remaining capacities are also added the things will definitely go out of hand. Hence, we request the Commission to cancel the permission given to the units who have not started erection of the plants. In other words, the environmental aspects of these non-conventional plants and their feasibility demand a relook at them.

## **No normative costs:**

**4.1** While NCE units are differentiated on the basis of the fuel being used, within each category TRANSCO proposes normalized capital costs. That is while calculating tariffs capital costs for each category will be taken to be the same. As the information provided show for this they have taken new plants. We request that plants be differentiated on the basis of the age and their actual capital costs. The Annexures to the Discussion Note released by the Commission also supports this contention. Take the examples of Bagasse, Wind farm and Waste to energy plants. In the case of Bagasse plants APTRANSCO adopted Rs. 3 crore per MW as the normative cost. For the same category NEDCAP's original proposal mentioned Rs. 2.5 crore (NEDCAP should have mentioned this on the basis of the its information) and Sudalagunta plant Rs. 2.5 crore. This shows that there are no uniform capital costs. In the case of Wind farms while TRANSCO mentions Rs. 4 crore as the normative cost NEDCAP in its revised proposal mentions Rs. 3 crore for the existing plants. In the case of Waste to Energy plants while TRANSCO mentions Rs. 6

crore as the normative capital cost NEDCAP in its original proposal mentions Rs. 5.5 crore per MW. This shows that no uniform normative capital costs are to be taken. This is important because in the tariff calculations the depreciation on the basis of debt repayment is an important component and the uniform normative capital costs which are invariably higher than the older plants will adversely affect the consumers with higher unit cost of power. The capital costs per MW should also related to the age. That is in the case of relatively old plants ones capital costs might be less than the new ones. Old plants should be differentiated from the newer ones for calculating the tariff.

**4.2** Besides this, as the policy is decade old and the depreciation/debt repayment will be over for some the earlier established plants and the normative capital costs will lead to higher unit costs and also benefit unduly the old plants. Some of the old plants might have been depreciated totally leading to 0 fixed costs. If the normative costs are taken in to account for calculating the tariff on the average it will lead to higher tariffs. In calculating the tariffs TRANSCO has used the normative capital costs. If we take the example of Bio-Mass units the per unit tariff according to the normative capital costs is Rs. 2.27 per unit. If we take the plant which debt is repaid the tariff will be less than Rs. 1.70 per unit. So, it is very important to take in to account the age of the plant while determining its tariff.

**4.3** Some of the NCE units received capital subsidy. Treating these plants with the ones which do not have capital subsidy under normative capital costs will lead to uneven returns in the sector. So in the case of the plants that have received capital subsidy the same is to be reckoned in calculating the tariff.

**4.4** One of the reasons shown for uniform tariff is that the number of plants is large it leads to cumbersome administrative problem to treat each one separately. If the method of calculating the tariff is given the number of plants will not be a problem in calculating separate tariffs on the basis of different fuels and ages of the plants. Number should not be an excuse for differential tariffs.

**4.5** For calculating the tariffs actual capital costs should be taken in to account. But under the guaranteed returns regime the scope for inflating the capital costs is very high and this is proved in the case of IPPs. It may not be different in the case of NCEs. So there is need to verify the claims of capital costs. TRANSCO is taking the costs as given by the developers. There appears to be no cross checking. They should have own sources of data and information to cross check the figures given by the developers. Otherwise the consumers will be left to shoulder high tariff burden. Whether the Commission has mechanism to cross check and examine the capital costs or will it take the capital costs as given by the developers. Given the guarantees of returns on the basis of the capital costs there are incentives to inflate the capital costs. This is the case with all the IPPs...

## **PLF for Calculating Tariff:**

**5.1** TRANSCO has taken normative PLF for calculating the tariffs for NCE units. The information provided show that there is scope for higher PLF. For example while TRANSCO has taken 80% PLF for Bio-Mass energy developers, the Bio-Mass energy developers have pointed out that they have achieved 93% PLF. This means that 93% PLF can be taken to calculate the tariffs. Then costs will be distributed over a large number of units leading to lower tariff. We suggest that instead of 80% PLF take higher PLF for calculating tariffs. This will help to bring down the tariff burden on the consumers.

**5.2** Similarly in the case of Hydel and Wind energy very low PLFs are mentioned. If at the end of the year/period the PLF is more tariff should be adjusted accordingly. If the actual PLF is more than that unit cost should come down

**5.3** Once a given PLF is taken to calculate tariffs it means that fixed costs are recovered at that rate and generation and sale of units above that level will automatically mean incentives. As the NCE units are given other incentives this will imply additional incentives. So, when power generation is above the stipulated PLF the extra units' tariff should be less than the previous units. Otherwise it will add to the tariff burden of the consumers.

## **Interest rates:**

**6.1** In the background of the changed fiscal policies and the declining interest rates as a consequence of this policy lower interest rates on term loans and working capital loans. Similarly the return on equity should also be brought down in conformity with the declining interest rates.

## **Lower Tariff:**

**7.1** Lower capital costs, lower interest rates and ROE, and higher PLF should lead to lower tariff. Reckoning of older plants and capital subsidy provided to some of these plants shall also lead to lower tariff for NCE units.

## **Monitoring and Dispatch of NCE Power:**

Particulars	2003		2004	
	ARR 03-04	ARR 04-05	ARR 03-04	ARR 04-05
Cost per U (Rs)	3.32	3.20	3.48	3.47
Power Purchased (MU)	666	733	1216	1262
Total Cost (Rs.Crore)	221.00	234.70	423.20	437.00

**8.1** The dispatch and metering of NCE units presents problems. It is not included in the normal dispatch though it tops in the merit order dispatch as they are categorised as must run stations. As the TRANSCO is not clear about the number of NCE units connected to the grid it is a matter of doubt whether the number of units it has claimed to have purchased from NCE units as reliable. The above table shows that the number units purchased according to the two ARRs differ. Is it real or concocted? Though the bills are directly paid to the NCE units by TRANSCO power in many cases directly fed in to DISCOMs with out entering TRANSCO lines. Whether there is any kind of monitoring on the power actually fed in to the grid.

**8.2** Given the large number of non-conventional plants in operation its monitoring presents a problem. Given the increasing quantity of power being purchased from NCE units it is necessary to streamline the dispatch and metering of non-conventional energy.

### **Environmental safeguards:**

**9.1** The Non-Conventional Energy units are contemplated as an alternative to depleting fossil fuels, and also minimize environmental damage as they will be based on renewable resources. But the actual operation of some of these units instead of safe guarding the environment they are harming it. This is particularly the case with bio-mass energy units. They are not only using more than the stipulated coal, some of these units are leading to depletion of neighbouring forest areas.

**9.2** Mini Hydel plants are also causing damage to environment around the areas they are located. They are leading to seepage and water logging and adding to the salinity problem. In the District Development Council meetings of Guntur district the damage done by these mini-hydel units were brought up many times.

**9.3** As the NCE units are given incentives in the name of protecting environment, any activity of these units that lead to environmentally damaging results they should be penalized exemplarily so that others will be deterred from resorting to such harmful steps.

### **Wheeling Charges:**

**10.1** Wheeling charges whenever third party sales are allowed they should include cross subsidy element also along with the transmission costs and T&D losses as contemplated by the Commission in its earlier order on wheeling charges.

**10.2** But the question is whether to allow third party sales or not. The guidelines for some of the NCE units provides for third party sales at tariffs more than HT tariffs. But this also presents some problems. Some of the NCE plants are in operation over a long period of time and substantial proportion of their capital costs are already recovered. To allow them sell to third party means the consumers connected the grid will lose to that

extent. In the case of plants whose depreciation is already substantially paid by the consumers in the grid should not be allowed to third party sales. It is fitness of things for the existing plants to be within the purview of TRANSCO/DISCOMs. Third party sales may be contemplated in the case of new plants. But given the limited scope for new NCE units, except those of the wind energy units the third party sales proposition may not be of that much importance.

### **Prayer to the Commission:**

We request the Commission

- To examine fuel availability before clearing any new NCE units.
- To base the tariff for different NCE units based on the fuels used, age of the plants, actual capital costs, and capital subsidies provided by the government.
- To penalize the NCE units that violate environmental norms.
- To include cross subsidy in the wheeling charges.

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