

Ref : AIPL/VT/2007-08

Date : 18 August 2008

To

**Project Registration Team Member
UNFCCC**

Sub. : **Request for Review Project No. 1654 – “AIPL WHRB 1&2”**

Dear Sir

We are pleased to submit hereby reply for the review points for your kind consideration.

Thanking you & With regards

[Naresh Aggarwal]

POINT -1 :

Further clarification is required how the investment comparison analysis has been validated by the DOE, in particular the appropriateness of comparing :

(a) a 16 MW coal based power plant with 95% PLF with the project activity with 66% PLF, and

(b) backup power cost for the project activity with no back-up cost for the alternative.

REPLY:

We are herewith submitting our reply in broken up form of questions and answers

(a) Justification for comparison with 16 MW coal based power plant, as why it is appropriate:

The size of the project activity is 16 MW whereas the size of the total captive power plant is 37 MW, which comprises of a 21 MW Coal based AFBC. Hence in absence of the project activity the entire power requirement would have been generated by the 37 MW coal based AFBC captive power plant only.

Thus we wish to submit that the proposed Project Activity is being implemented as a partial replacement of coal based captive power plant because in absence of the project activity only the coal based captive power plant would have been established with 37 MW capacity. The prevailing practice and common practice in the region reveal that the coal based captive power plant is the first and foremost choice, and financially most attractive. **Thus the comparison only with coal based power plant is appropriate.**

The comparison for levelized cost of generation could have been made between the following options of different capacities of the projects:

- 1) Cost of generation from an independent coal based power plant, connected to the Grid. (these are normally of much higher size in hundreds of mega watt)
- 2) Cost of generation from a total 37 MW coal based captive power plant. (which would have been implemented in absence of the project activity)
- 3) Cost of generation from a 16 MW coal based captive power plant, which is equivalent to the capacity of project activity.

The comparison with grid power generation cost such as, NALCO, is found to be less than Rs. 1.10 per unit, as evident from the power export tariff approved by the State Electricity Regulatory Commission at this rate (The rate includes 14% allowable margin to the power producer) hence the cost of generation would definitely be less than this.

But for making a fair comparison between the baseline scenario and project scenario, we have considered the situation, where in the power requirement would have been met by the coal based power plant of atleast the equivalent capacity (i.e. 16 MW), whereas in absence of the Project activity, capacity the total 37 MW CPP would have been based on Coal.

Therefore making a comparison of levelized cost of generation from project scenario (i.e. 16 MW WHRB without CDM support) with the 16 MW equivalent capacity coal based power plant is more conservative than making comparison with 37 MW coal based power plant.

Appendix-II at page no. 71 and 72 of PDD the comparison between project scenario with 16 MW and 37 MW both have been given. By which it is evident that the

levelized cost of generation from 37 MW coal based captive power plant is much less than 16 MW coal based captive power plant.

Hence the most appropriate and most conservative investment comparison analysis for levelized cost of generation is with 16 MW coal based power plant.

(b) Justification for the considering the 66% PLF for WHRB based power plant:

- The lower capacity utilization of a Sponge Iron Plant is the first and major reason for the lower capacity utilization for WHRB power plant. Because the power generation in WHRB power plant is directly linked to the Sponge Iron Plant operation and capacity utilization. Whereas the AFBC power plant has the total freedom to operate as per the requirement. The WHRB power plant also faces a number of barriers which influence the generation of power in WHRB (Refer to the PDD – Page No.22) whereas the coal based AFBC has no such barriers. Hence the best capacity utilization with WHRB, without CDM support would be around 60 to 65%. Hence 66% PLF (which is a better PLF) has been considered for the sake of financial comparison for WHRB based levelized cost of power generation. Even on going through the number of registered projects which have sought issuance during the past years also reveal that normal capacity utilization of sponge iron based WHRB is between 50 to 60%. (refer to **Annex-1.a**).

(c) Justification for consideration of 95% PLF for coal based power plant:

The coal based captive power plant of this size have no Technological and other barriers, hence they can be operated easily up to 95% & above PLF. Hence, the considered PLF is most appropriate for the sake of making economic comparison between the two scenarios. On going through a number of publicly available disclosure also it will be revealed that it is comfortably possible to achieve more than 95% PLF in thermal power plant. This may be appreciated that in a coal based captive power plant the boiler has higher steam generation capacity than the full load required steam capacity and also where the turbine and generators design allow to generate upto 10% excess power than the design level thus at several moments plant is able to operate even at 105% to 110% level. Also in this coal based power plant there is no crisis of raw material as well there is no crisis of consumption of generated power or evacuation of generated power. Therefore the capacity utilization is also not hampered due to this. The 95% PLF has been calculated based on 350 working days only whereas the captive power plant can also operate for 355 day. Therefore, it is easily possible to generate power with 95% PLF in coal based AFBC.

The power plant supplier had also confirmed that it is possible to easily achieve up to 100% PLF on annualized basis for coal based AFBC, whereas, it is not possible to have more than 60 to 65% PLF with WHRB Power Plant (refer to **Annex 1.b** –, the other publicly available information such as **Annex-1.c**-, **Annex-1.d**) also reveal that it is possible to have more than 95% PLF in coal based thermal power plant.

(d) Justification for the backup power cost consideration with WHRB:

The operational fluctuation in WHRB Captive Power Plant may make the total generated power useless for the captive utilization, if a proper synchronized backup power support is not available to make up the supply deficiency due to reduced WHRB generation (fluctuations). Since the generation of Power from WHRB can not be regulated like in AFBC. Therefore in order to make the WHRB generated power useable; it requires the backup power support from the Grid. Therefore **only the cost of assurance to draw power from the Grid** (minimum demand charges/ contract demand), has been considered as cost of “backup power” in the cost of generation of power, whereas if the actual impact (cost) of importing deficient power is calculated towards the cost of deficient power required to be purchased from the

Grid then the average cost of power due to WHRB will be still quite higher than considered by us. Because to make up the 29% PLF deficiency ($95\% - 66\% = 29\%$), required for smooth captive load operation the power when imported from the grid would cost @Rs.2.90/kWh only towards energy charges as per the tariff order enclosed as **annex 1.e.** (this energy charge does not include the demand charges which is already considered towards the cost of assurance to draw power from the grid as backup power cost), it is therefore evident that we have adopted more conservative approach by considering only the cost of assurance to draw power from the grid as backup power cost.

(e) Justification for not considering any backup power cost with Coal based power plant :

Since power generation from AFBC can be most comfortably regulated as per the demand and requirement also there is no fluctuation in AFBC power generation hence there is no need to have any backup power from the Grid. The explanation at para (c) also provide evidence that more than 95% PLF can be achieved therefore there is no need to have any backup power drawl assurance from the grid.

Therefore there is no cost considered towards this in the calculation made for sake of comparison.

Thus the cost of backup power considered is most appropriate.

Thus the economic comparison made between these two scenarios with the above PLF consideration and the backup power cost is most conservative & appropriate.

POINT- 2 :

The DOE is requested to provide further explanation for the delay in submitting the project for validation to show that CDM revenues were considered essential in the decision to invest in the project activity. The response should provide a detailed timeline of project implementation with relevant credible evidences

REPLY:

We would like to submit that in the initial assessments made to set up the WHRB based power plant it was made clear to us that the power generation from WHRB will be costlier than the Coal based captive power plant. Also the cost of project on per MW basis will be more, even then the plant utilization will be low due to fluctuations in power generations, hence, the ultimate cost of power will be higher as compared to Coal based captive power plant. Hence the WHRB was set up only due to the CDM strength.

We were new to the steel industry as well as to power industry and also selected a backward location in Orissa, hence we were not very well equipped by our selves to complete the CDM documentation process. We were therefore depending on the consultant, who was also not able to complete the documents due to some of the unavoidable circumstances. Thus the company had to spent lot of time also in search for an alternative consultant. At the same time completion of the legal formalities also had delayed the process. We had also submitted the details about the CDM serious consideration to DNA which after satisfaction issued us the HCA. The Financial calculations submitted by us also are the evidence that in a business decision in which the project activity was not found attractive the only reason to go for it was CDM support. Hence it is humbly requested that the delay caused in submission of the documents may please be pardoned. It is further submitted that 50 % part of our project activity is only implemented the remaining part is under implementation. Hence also we had it hurried very much to get the project registered as we were confident that the CDM EB

would allow the credits for at least ten years from the date of registration. The chronological order for delay is submitted herewith:

Chronological History for Project

S.No.	Item	Date	Relevance of Action for Registration of The CDM project activity
1	Minutes of Meeting held with Mr. M.L. Pareek regarding CDM consideration	01/11/2004	Primary CDM consideration
2	Letter from Mr. M.L. Pareek to Mr. Naresh Aggarwal- CDM consideration	03/11/2004	Suggestion for CDM consideration
3	Letter from Mr. Naresh Aggarwal to Mr. M.L. Pareek- regarding CDM consideration	05/11/2004	CDM consideration
4	Letter from Cethar Vessel(Boiler Manufacturer) suggesting CDM support to set up WHRB	12/11/2004	CDM consideration
5	CDM Consideration	15/11/2004	CDM consideration by the Board of Directors
6	Board Resolution for Appointment of Consultant ITFC	24/11/2004	Efforts to prepare the CDM documents for registration
7	MOU with Govt. of Orissa	27/11/2004	Seriousness towards the implementation of the Captive power plant
8	Appointment of Consultant ITFC	10/12/2004	Efforts to prepare the CDM documents for registration
9	“Gram Sabha” meeting held on Marakota	08/02/2005	Efforts to seek local stakeholders NOC
10	NOC issued on	07/03/2005	Efforts to seek local stakeholders NOC
11	Gram Sabha meeting at Pandari Pathar	22/03/2005	Efforts to seek local stakeholders NOC
12	LOI for WHRB	24/03/2005	Steps towards implementation of the project activity
13	Purchase order for turbine	16/03/2005	Steps towards implementation of the project activity
14	Consent to establishment 1x 350 TPD and 8 MW power received on	07/10/2005	Legal document essential for seeking HCA

15	IEM thermal power	26/10/2005	Legal document essential to seek pollution clearance
16	Letter from ITFC ltd asking for the legal clearance for the remaining capacity of WHRB	02/11/2005	Efforts to prepare the CDM documents for registration
17	Letter from ITFC ltd expressing their inability to provide services due to personal problems	20/01/2006	Delay started in preparation of documents due to unavoidable circumstances
18	Other consultant- PWC	18/04/2006	Efforts made to seek services from other consultants to prepare the PDD
19	Other consultant – Manglam Carbon Assests Pvt. Ltd	03/05/2006	Efforts made to seek services from other consultants to prepare the PDD
20	Other consultant – Emergent Ventures India Pvt Ltd	22/05/2006 & 24/05/2006	Efforts made to seek services from other consultants to prepare the PDD
21	Restoration of the project services by ITFC ltd	10/07/2006	Efforts to prepare the PDD
22	Preparation of draft PDD	25/08/2006	Efforts to prepare the PDD
23	First 8 MW WHRB starting date	27/11/2006	Fifty percent capacity of the project activity started
24	IEM for 16 MW non conventional energy	12/12/2006	One of the legal documents required to be obtained for the entire capacity of the project activity
25	Offer for validation from SGS	27/12/2006	Actions taken to get the PDD validated
26	Offer for validation from BVQI	28/12/2006	Actions taken to get the PDD validated
27	Appointment of Validator	25/01/2007	Actions taken to get the PDD validated
28	Finalization Of PDD for Webhosting	03/02/2007	Actions taken to get the PDD validated
29	Letter from DNA for requiring the proof for Serious CDM consideration, and legal permissions	16/03/2007	Actions taken to get the PDD, HCA approval
30	Web-hosting Of PDD For Validation	30/03/2007 TO 28/04/2007	Actions taken to get the PDD validated

31	Submission of the Additional documents to DNA regarding the serious CDM consideration of the project activity	27/04/2007	Actions taken to get the PDD, HCA approval
32	Submission of the Additional documents to DNA regarding the additionality of the project activity	25/05/2007	Actions taken to get the PDD, HCA approval
33	HCA received from DNA	30/07/2007	Actions taken to get the PDD, HCA approval

It would be evident with the above that inspite of our best efforts the project documents submission was delayed due to the delay caused by the consultants. We have provided the relevant documents in support to our claim to DOE i.e. copy of legal clearances, other relevant correspondence, copy of minutes of meeting and correspondence with various consultants from November 2004 to July 2006 and the continued effort thereafter from August 2006 to February 2007 to prepare the PDD and finalize the same, and get it webhosted from 30/03/2007. The validation process is going on since 25/01/2007 with appointment of DOE.

Even the Ministry of Environment and Forest (DNA) had enquired about the serious CDM consideration and on submission of the same they had issued Host Country Approval. The documents were verified by the DOE during validation. EB in its 41st Board Meeting has held the decision taken in board meeting of the company as a credible evidence towards CDM consideration, therefore we request to kindly pardon the delay caused due to unavoidable circumstances.

We have been making serious efforts and steps to complete the procedure for seeking registration with UNFCCC as explained above, but due to delay by the consultants and then in appointment of the validator the submission of PDD was slightly delayed. The validation process is going on since 25/01/2007.

POINT- 3:

Further clarification is required on the baseline alternative considered, as the PDD and the validation report do not refer to the same baseline alternative

REPLY:

Kindly refer to page no. 12 to 14 of the PDD at which analysis of various plausible options reveal that only two alternatives i.e. first to draw power from the grid (alternative-2 and alternative-8), second to generate power from coal based captive power plant (alternative-5) are feasible options. Therefore to select the most conservative option the “combined tools for demonstration of additionality and assessment of baseline” was used, as per requirement of methodology and as given in PDD page No. 14 to 16, which reveals that the grid being more conservative and lower in emission factor in baseline has to be selected (refer to PDD page No.16).

Validation report page no.10 also refers to the same alternatives only in place of coal fossil fuel has been used. As a conservative approach the validator has opted for selecting grid as baseline. The calculated EFCO₂ for coal based captive power plant was 1.293 tCO₂/MWh whereas EFCO₂ for Eastern Regional Grid was found 1.01 tCO₂/MWh. Therefore we feel that there is no difference in the consideration of baseline.