

RESPONSE TO REQUESTS FOR REVIEW

Bureau Veritas Certification had performed the validation of the CDM Project No. 1642 – "SHYAM DRI WHR CPP".

Subsequently, there have been four requests for review.

We thank the CDM Executive Board and the Secretariat for giving us the opportunity to clarify about our considerations in validating the said project.

Our responses to the queries are given below:

Reasons for Request for Review	Bureau Veritas Certification's response
<p>1. Further clarification is required on how the DOE has validated that the economic comparison of the cost of electricity production from a 25 MW coal based power plant with that of the 15 MW project activity is appropriate.</p>	<p>The financial analysis has been conducted based on the levelised cost of power from a coal based plant vis-à-vis the WHRB based project activity.</p> <p>In the absence of the project activity, 15 MW (equivalent of the project) capacity would be an integral part of 25 MW coal based power plant. This is for the simple reason that PP would install a 25 MW capacity with suitable configuration rather than a combination of 15 MW & 10 MW coal based power plants operating independently.</p> <p>Therefore, Validation team accepted the consideration that the levelised cost of power from a 15 MW coal based power plant in baseline would be same as that for 25 MW coal based power plant. Therefore, actually the levelised cost of power of 25 MW coal based power plant is compared with that of the project activity.</p> <p>We wish to further explain how conservative assumptions are used in the levelised power costing -</p> <p>a. As explained in the PDD, WHRB and AFBC boilers through a common steam header provide steam to the turbine. We have therefore factored and apportioned the common costs involved in the installation and operation of both the AFBC as well as the WHRBs, while arriving at the levelised cost of power of the project activity</p> <p>For the WHRB costing, the validation team did not accept costing of an independent full-fledged WHRB. Instead, the validation team insisted that the cost of planned configuration [15 MW WHRB + 10 MW AFBC boilers + common turbines] be considered. Accordingly, the WHRB cost is worked out after allocating the cost of common equipment on pro-rata basis towards WHRB. Same approach was insisted for the manpower numbers and associated costs. Thus per MW capital and manpower cost actually used is lower than that for an independent WHRB based power plant. Hence the levelised cost of power of project activity actually considered is lower than that</p>

	<p>would work out for an independent WHRB based power plant.</p> <p>b. The validation team insisted that the costing for the 25 MW capacity coal based power be used rather than high capacity ultra mega power plants. In such calculation, the validation team also insisted that the configuration considered should be with multiple units [boilers and turbines] rather than single units. Thus the capital and manpower cost for 25 MW capacity coal-based power plant actually considered in calculations is higher than that for a single equipment plant. Hence the levelised cost of power for the baseline plant is higher than the single equipment configuration. Further, it is noted that the levelised cost of power calculated in this manner is also higher than that used by a few of the previously registered projects using cost based on much higher capacities of ultra mega projects.</p> <p>The basis for acceptance of assumptions is already explained in the validation report.</p>
<p>2. Further clarification is required on how the DOE has validated the barrier analysis, in particular it should be clarified what third party evidence has been assessed to determine the prohibitive nature of the barriers.</p>	<p>Validation team has assessed the technological barriers and was convinced about the operational difficulties leading to lower PLF. The operational difficulties were considered appropriate based on letters provided from different suppliers of Sponge Iron plants¹. The 66% PLF was accepted as reasonable assumption based on the verified data of the registered CDM projects (Reference Numbers: 515, 526, 556, 678, 696). This was further supported by production details of similar plant in the region of Chhatisgarh and Orissa (under validation with the same DOE). As explained in the validation report (page 16), validation team did not consider other barriers as prohibitive in nature.</p>
<p>3. Given the time gap between the decision to invest in the project activity and the commencement of validation, the DOE should state with what level of assurance it considers that this project activity would not have been implemented without the CDM.</p>	<p>Project participant has provided the detailed chronology of events from date of board resolution to the date of submission of project for request for registration. We have verified all the steps for their correctness along-with with their dated evidences and these are found to be in order.</p>
<p>4. Further clarification is required on how the DOE has validated the baseline determination, in particular that the</p>	<p>The project activity is part of the power generation facility for providing power for captive consumption consisting of integrated steel complex to produce Sponge Iron, Steel billets, Re-rolled Products, Ferro Alloys and Coal Washery. This is to be implemented in a phased manner starting with sponge iron plant followed by other facilities. In order to provide power to</p>

¹ Letters from: Avani Industrial Machinerics (P) Ltd (Appendix –1) and Hari Machines Limited (Appendix –2).

<p>coal based captive power plant is a more economically attractive alternative than the continuation of grid electricity imports.</p>	<p>the sponge iron facility, till the captive power was available, project participant resorted to grid power as a make shift arrangement. Hence import of grid power is not a pre-project scenario.</p> <p>Continuous / uninterrupted power supply is a very critical input for steel making process. Since the grid supply was proven to be inconsistent and unreliable, import of power from grid was not considered as a baseline alternative.</p> <p>Nevertheless, even if import of grid power is considered as a baseline alternative, it is observed that coal based power is cheaper than grid power. Refer the WESCO (Western Electricity Supply Company of Orissa Limited) power tariff schedule²; it is clear that the power import cost from grid (considering only energy charges) was Rs. 3.00 per KWh Considering a minimum cost of 35 paise towards demand charges, the cost of importing power would be Rs. 3.35 per KWh. Both these costs are higher than the coal based power generation (Rs. 1.14 per KWh³).</p> <p>Therefore the coal based power generation, being the cheapest alternative is accepted as the baseline scenario.</p>
<p>5. Monitoring plan should include monitoring of the electricity supplied to the grid and electricity imported from the grid.</p>	<p>Since grid power was neither the baseline scenario nor a baseline alternative, the validation team did not insist on including these parameters in the monitoring plan.</p> <p>However, as directed by EB, we will ask PP to include these parameters in the monitoring plan. We request EB to enable the web interface for uploading the revised PDD.</p>

The project proponent has provided the stated evidences. We have verified all these evidences and confirm that they provide the information stated in the response.

We hope that the explanation provided above is satisfactory and request CDM EB to kindly register the project.

² WESCO (Western Electricity Supply Company of Orissa Limited); *Tariff at a glance* (Appendix – 3).

³ For Calculation of levelized cost refer the levelized cost working already submitted.