

Comment 1

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Name: Avdhesh**City: INDORE****Organisation: Individual****Country: INDIA****PDD STATEMENT:**

The deployment of 8 MW waste heat recovery based power generation system would help to meet up the industrial power requirement. The implementation of the power generating facility is in furtherance of aim of utilizing sensible heat of waste gas generated at DRI Kiln of steel manufacturing process through Effective waste heat recovery module. Implementation of the project activity results in reducing import of grid power and associated emission that would occurred in absence of the project activity.

COMMNET-1

IS THIS OUT OF STEEL MAKING PROCESS? IF YES THE DETAILS OF THE STEEL MAKING PROCESS WHICH GENERATED WASTE HEAT NEED TO BE DEFINED

PDD STATEMENT

The flue gas available at high temperatures of around 900-950oC from the sponge iron kiln constitutes a significant amount of heat energy. With the Waste Heat Recovery Boiler (WHRB), an established and efficient technology, BSFAL has achieved about 55 percent recovery of waste heat from flue gas of sponge iron kiln. The sensible heat from the flue gases is transferred to the WHRB to produce super heated steam. Steam thus produced is fed to a common steam header, from where it is finally fed to the turbo-generator set to generate power.

COMMNET-2

SINCE THE TECHNOLOGY IS ALREADY ESTABLISHED THEN HOW CAN THE TECHNOLOGY BARRIER CLAIMED CAN BE HELD GOOD?

PDD STATEMENT

The 12 MW captive power plant 8 MW waste heat recovery boiler and 4 MW coal and char based fluidized bed combustion (AFBC) boiler. The steams from these sources are fed to a common steam header and then are directed to the turbine generator. The power generation that arises from the waste heat recovery boiler is considered for emission reductions.

COMMENT-3

HOW CAN THIS BE CLAIMED THAT THE ASSOCIATED COAL BASED BOILER WILL NOT NEED TO ANY ADDITIONAL EMISSION DUE TO RELEASE OF ANY UN UTILISED STEAM WASTED SPECIALLY DUE TO THE WHRB BOILER PERFORMANCE? THEN WILL IT NOT BE PROPER ALSO TO CONSIDER THE LEAKEGES DUE TO THE COAL BASED POWER PLANT ALSO?

PDD STATEMENT

In the absence of waste heat recovery based steam generation system for captive power generation, the same heat energy would have been lost in the atmosphere through stack emission of the flue gases of sponge iron kiln, thus the waste heat recovery based power plant generates power from waste heat energy displaces equivalent quantity of grid based power. The main sustainable benefit to the project arises from replacement

COMMENT-4

IS THIS TECHNICALLY FEASIBLE TO OPERATE AN ESP WITH SO HOT GASES? CAN THE PP OPERATE THE PLANT WITHOUT OPERATING AN ESP? DOES THE LAW PERMIT FOR SUCH RELEASE OF UNCLEANNED HOT GASES? DOE TO CHECK THE CORRECTNESS OF THE STATEMENT

PDD STATEMENT

These waste gases

(containing high quantity of SPM and with a temperature of more than 900oC) would otherwise have been emitted to atmosphere leading to air and thermal pollution.

Combusted gases after maximum heat transfer in the boilers lead to exhaust stacks through Electrostatic Precipitators (ESP) which reduce Suspended Particulate Matter (SPM) load of the flue gas to a large extent.

COMMENT -5

THE STATEMENT DOES NOT SEEM TO BE CORRECT DOE TO CHECK THE PREVAILING LAW & THE PRACTICES TO VERIFY THE SAME.

PDD STATEMENT:

Without the implementation of WHRB, the common practice in the sector is to clean the flue gas through Venturi Scrubbers which generate a large quantity of waste water. However the current project activity eliminates the scope of waste water generation and ensures conservation of water.

COMMENT-6

A} DOE TO CHECK THE CLAIM AS HOW MANY SUCH UNITS ARE OPERATING WITHOUT WHRB SYSTEM & USING THE VENTIRI SCRUBBER. IS SO MUCH OF WATER IS AVAILABLE AND DOES THE LEGAL PERMISSION TO THE PP IS OR WAS AVAILABLE TO DO SO? DOE TO CHECK WITH THE CONCERNRD LEGAL DEPTT ABOUT THE CORRECTNESS OF SUCH CLAIMS.

B] THE ABSENCE OF THE PROJECT ACTIVITY WAS THIS POSSIBLE TO MEET THE RQUIRED QTY OF WARE TO RUN A VENTURY SCRBBER? IS THE LAW PERMITTING THIS?

[0]

PDD STATEMENT

This has improved the local economic structure and hence social status of the involved people. More than 200 local people are engaged including management staff, skilled, and unskilled labour, for plant operation and maintenance. The local employees are from the nearby villages namely, Tumkela, Gumlei and Bonai. About 80 percent of the total employees have been deployed from the local community. Apart from that, some local people are also associated as suppliers of raw materials, transportation etc. BSFAL is also in the process of making fly ash bricks through local contractors and

these will be used in captive construction. It enhances the livelihood and income of the local people. The project is located in a rural area, its construction, installation and operation helps in the economic and sustainable development scenario, bringing new sources of employment in the region and associated business opportunities for the local people. The equipment and parts used are manufactured indigenously; the project also leads to an extension of the national and local value chain.

COMMNET-7

THE DOE SHOULD INDEPENDANTLY ESTABLISH SUCH CLAIMS BY DIRECTLY TALKING TO THE LOCAL PEOPLE AND PROJECT AFFECTED PEOPLE AS WELL AS TO LOCAL STAKE HOLDERS SUCH AS FARMERS, FEMALES, CHILD HEALTH CONSULTANTS, MEDICAL PRACTITIONERS. AS SERIOUS CONCERNS ARE REPORTED FROM INDIA ABOUT THE ADVERSE IMPACT OF OPERATING THE SPONGE IRON PLANTS, WIYH UNCONTROLLED EMISSION FROM HOT UNCLEANED GASES.

PDD STATEMENT:

The unit is presently generating around 57000 MWh of power per annum. Around 51624 MWh of power is available after auxiliary consumption

COMMENT-8

GROSS GENERATION FROM THE PROJECT IS OVER 90% ?????

PDD STATEMENT :

The sponge iron kiln is a rotary type DRI kiln of capacity 350 TPD operating on 320 days/annum (at 100% capacity utilization). It has an annual production of around 11,200 tonnes and runs on coal as fuel. Typical flue gas availability from the sponge iron kiln is 90,000 Nm³/hr

COMMNET

HOW ONLY 11200 TPA CAN PRODUCE 8MW POWER?

PDD STATEMENT :

The exhausted flue gas of the sponge iron kiln is received at the After-Burning Chamber (ABC) inlet at a temperature of around 950 oC. The waste gases are burnt in ABC to remove traces of carbon monoxide

COMMENT

HOW THE TRACES OF CO ARE REMOVED?

PDD STATEMENT

The combusted gas from ABC is circulated through three passes of WHRB to transfer the sensible heat energy of the waste gas to water and generate steam. About 55% of heat is recovered during those passes

COMMENT

HOW IS THIS POSSIBLE TO GENERATE 8MW POWER, ONLY WITH 55% RECOVERY OF HEAT?

PDD STATEMENT:

Sub-step 1b. Consistency with mandatory laws and regulations:
All the above mentioned alternatives are in compliance with all

applicable legal and regulatory requirements applicable in such manufacturing industries and may be a part of the baseline.

Alternative 2: Import of grid based power was found to be the most feasible baseline scenario and commercially viable too. The project proponent is required to establish additionality of the project activity by conducting:

COMMENT:

ALTERNATIVE 1: PROPOSED PROJECT ACTIVITY NOT UNDERTAKEN AS CDM PROJECT ACTIVITY IS NOT DISCUSSED HERE?

THIS ESTABLISHES THAT THE GRID POWER IS MOST VIABLE HENCE CONSIDERED AS BASELINE.

PDD STATEMENT

According to the "Tool for the demonstration and assessment of additionality (Version 03)" one of the three options viz; Simple Cost Analysis, Investment Comparison Analysis and Benchmark Analysis must be applied to determine whether the project is financially additional or not. Revenue of the project is considered by cost savings through avoiding power purchase from grid thus, simple cost analysis cannot be done. Also investment comparison analysis is not applicable in this case as the project proponent did not have any expertise in captive power generation. The benchmark analysis is appropriate for this case as it can show the justification behind the investment decision for the project activity.

COMMENT

IS THIS ENOUGH REASON TO EXCLUDE THE OPTION?

PDD STATEMENT

The one of the main barrier to the project activity is the high cost of captive power plant relative to gridconnectivity. BSFAL management faced problems in arranging fund from the banks for the project activity. The debt equity ratio for the investment of the project activity is 59:41. The project proponent approached a number of banks like State Bank of India, Oriental Bank of Commerce, Central Bank of India etc for debt sourcing for the project. In due course, three Government undertaking banks agreed to finance the project at competitive lending rates on the sole premise that the project activity had the potential to accrue revenues through CDM project activity, which pushed the IRR above threshold values and made the project financially attractive. All the three banks agreed to partially fund the debt portion required by BSFAL for project. The factors influenced banks to come up with such offer are large amount as loan and project which has low penetration of technology in similar industries than other captive power projects

COMMENT

THE DOE TO CHECK THE SANCTION LETTER AND THE APPRAISAL NOTE OF THE BANK UNDER WHICH THE CDM REVENUE EFFECT HAS BEEN THE DRIVING FORCE FOR SANCTION OF THE TERM LOAN. THE PP SHOULD MAKE AVAILABLE THESE TO THE INTERNATIONAL STAKE HOLDERS FOR COMMENT.

HOW DOES THE PP CLAIM THIS TECHNOLOGY AS LOW

PENETRATION WHERE IN THE PDD ITSELF IT IS STATED THAT THE TECHNOLOGY IS WELL ESTABLISHED, EVEN THE AREA HAS A LARGE NUMBER OF SPONGE IRON PLANT OPERATING WITH SIMILAR TECHNOLOGY. THE CLAIMED POWER GENERATION FIGURES ALSO REVEAL THAT THE PLANT IS OPERATING AT FAIRLY HIGH LOAD FACTOR, BASED ON THIS THE BENCHMARK IRR OF THE PROJECT MUST BE HIGHER THAN THE GRID POWER COST.

PDD STATEMENT

There were many operational barriers faced by the project activity. There is almost no control over the Quality and Quantity of the flue gases, thus the designing of a proper waste heat recovery system to generate power with the available steam, which is generated out of the available waste heat, is a great technology barrier. This is one of the most important reasons for not having many WHRB plants in India and in the region coming up without CDM benefits. Due to these barriers it was difficult for the project proponent to go ahead with the project.

COMMENT

THESE BARRIERS STATED DO NOT SEEM TO BE REAL, ON COMPARING THE CLAIMS MADE IN MANY OTHER PDDs WHERE IN THE BEST PLF REPORTED ARE WITHIN ABOUT 70%. WHEREAS THE PROJECT IS ALREADY OPERATING AT ABOVE 90% PLF. HOW COULD THIS BE ACHIEVED WHEN SUCH OPERATIONAL BARRIERS AS STATED IN PDD PREVAIL WITH THE PROJECT

PDD STATEMENT

Waste gas non-availability and inconsistency of waste gas parameters

Waste gas availability and consistency of waste gas parameters are the most important aspects that can affect the performance of the project activity. Any non-availability of waste gas or inconsistency of key waste gas parameters and WHRB failure will result in inadequate steam and power generation.

Waste gas from the DRI kiln is the only major source of heat energy for the project activity and its insufficiency would completely hinder the steam and power generation. Non availability of Waste gas may occur due to DRI kiln shut downs, functional disturbances in the DRI kiln or due to any kind of network failure. And since BSFAL plant operations would be significantly dependent on the project activity for electricity, disruption in steam and power generation would have a detrimental effect on BSFAL's entire plant operations

COMMENT

ALL THESE BARRIERS DON'T SEEM TO BE PREVALENT WITH THE PROJECT. AS IN GENERAL 300 WORKING DAYS ARE CONSIDERED FOR ASPONGE IRON PLANT, WHEREIN THE KILN IS FREQUENTLY SHUT DOWN FOR REFRACORY REPAIRS. THIS IS A NORMAL PHENOMENA WITH COAL BASED SPONGE IRON PLANTS. HENCE IN 7200 WORKING DAYS AT 8MW GENERATION THE POSSIBLE GENERATION AT 100 %

PLF WOULD BE 57600 MWH AGAINST WHICH THE PLANT HAS ALREADY GENERATED 57000 MWH, WHICH IS ALMOST 99% PLF. EVEN THE GRID CONNECTED POWER PROJECT ARE REPORTED TO HAVE ABOUT 85% PLF. DOE TO THOROUGHLY CHECK THE CORRECTNESS OF THE CLAIM

PDD STATEMENT:

The project activity faced institutional barriers during allotment of water linkage, the formal process of water allotment licensing from the Water Resources and Irrigation department involved a time frame of 6 months. Due to such delay the project activity with such facility gets affected on the roll out of operations.

COMMENT

THE LATEST TOOL FOR DEMONSTRATION OF ADDITIONALITY DEALS WITH ONLY SUCH BARRIERS TO BE CONSIDERED WHICH ARE HELPED OUT BY CDM PROCESS IN WHAT MANNER DOES THIS BARRIER IS HELPED OUT BY THE CDM PROCESS? IN ADDITION RED TAPPIISM & OFFICIAL DELAYS ARE REPORTED FOR EVERY TYPE OF THE PROJECTS IN INDIA. HOW WOULD HAVE THE PP ARRANGED FOR SUCH HUGE QTY OF WATER WHICH WOULD HAVE OTHERWISE BEEN CONSUMED IN THE ABSENCE OF THE PROJECT ACTIVITY TO OPERATE THE WET SCRUBBER?

PDD STATEMENT

Lack of information on operation know-how: BSFAL belongs to sponge-iron manufacturing sector with limited knowledge and exposure of complications associated with production of power. The industry personnel lacked the necessary technical background to develop and implement a waste heat recovery based power plant. They had to strengthen their internal capacity by employing external expertise to implement and operate the project activity. They were provided with training to ensure smooth operation

COMMENT

THE PP IS ALSO IMPLEMENTING A COAL BASED POWER PLANT. INCASE THE PP HAD NO EXPOSURE TO SUCH TECHNOLOGY & OPERATIONS OF POER PLANT HOW ARE THEY GOING TO FACE THE SAME FOR COAL BASED POWER PLANT. DOE TO CHECK IF REALLY SUCH CRISIS EXIST ?

PDD STATEMENT

Further other alternatives would not have to face any technological barriers as in the case of generation of waste heat based power. Therefore, it is most likely that in absence of the project activity BSFAL would opt for the business-as-usual scenario, i.e. releasing the waste heat into the atmosphere and generating equivalent electricity from grid.

COMMENT

THE PP CLAIMS THAT ONLY DRAWING POWER FROM THE GRID WOULD NOT FACE ANY BARRIERS, WHEREAS ALL THE ASSOCIATED BARRIERS WOULD BE FACED IN THE OTHER ALTERNATIVES. DOES IT MEAN THAT THE PROPOSED PROJECT ACTIVITY IS THE ONLY OPTION BEFORE THE PP

WHICH ALSO HELPS, IN COOLING THE GASE FOR CLEANING IT THROUGH ESP, IN ORDER TO COMPLY WITH THE REGULATORY NORMS?

PDD STATEMENT

As per the discussion on the feasible baseline scenarios above in section B.4., the Alternative 2: Import of electricity from the grid is the most common practice due to its economic feasibility in the sponge iron industry in the state of Orissa. At the time of implementation of the project activity in August 2006, there were 73 sponge iron units⁴ operational within the state and many more are in the process of starting operations. Out of this 73 sponge iron units, till date, only three plants (Orissa Sponge Iron Ltd⁵ ., OCL India Ltd.⁶, and Tata Sponge Iron Ltd.⁷) have implemented Clean Development Mechanism project modalities for their waste heat recovery based captive power project in order to reduce GHG emission and avail the Carbon Credit revenues from sale of the carbon emission reductions. Out of these, 40 units are present in the Sundargarh district, from these only 4 units have Waste Heat Recovery based captive power generation facility. Hence it indicates that the Waste Heat Recovery based Captive Power Plant facility is not an established scenario in Iron and Steel manufacturing sector in Orissa. Thus, the partial power requirement through the WHR process would not have been feasible for establishment without the CDM opportunity.

COMMENT

DOE TO CHECK THE CORRECTNESS OF THE STATEMENT AS MANY MORE PLANTS IN THE STATE ARE IN THE PROCESS OF SEEKING VALIDATION AND REGISTRATION. THE DOE SHOULD ALSO TO VERIFY WHAT IS THE FATE OF THE WASTE HEAT IN THE REMAINING SPONGE IRON PLANTS WHICH HAVE NOT PUT UP THE WHRB.

PDD STATEMENT

CEA of government of India has brought a study of captive power plants in India in august 2005

COMMENT

The study referred in the context is base on quite old data. The DOE to verify with the latest figures.

PDD STATEMENT

Average cost of power generation from 12 MW unit (excludes diesel generator) : Rs. 1.87 per KWh

COMMENT

THE PP HAS PROVIDED AVERAGE COST OF POWER INCLUDING THE 4 MW COAL POWER WHEREAS COAL BASED POWER PROJECT IS NOT THE PART OF THE PROJECT ACTIVITY HENCE CONSIDERING THE AVERAGE COST OF FUEL IN COAL BASED POWER PLANT ON EXCLUDING THE COST OF FUEL THE AVERAGE COST OF POWER GENERATION FROM WHRB AT THE PLF LEVEL CONSIDERED IN THE PROJECT ACTIVITY EVEN BE LESS THAN 1 RS. PER UNIT. THE COST OF DIESEL POWER HAS BEEN ATTRIBUTED TO AROUND RS.98 LAKHS PER ANNUM., OIT IS NOT CLEARLY MENTIONED AS THIS COST IS TO BE APPORTIONED ON GRID

POWER OR ON CAPTIVE POWER. CONSIDERING THE LOGIC PROVIDED THIS COST NEED TO ATTRIBUTED ON THE GRID POWER TO MEET THE CONTINGENCY OF THE POWER FAILURE. ON CONSIDERATION OF THIS THE WHR PROJECT ITSELF IS FOUND TO BE FINANCIAL MOST ATTRACTIVE IN COMPARISON TO ALL OTHER ALTERNATIVES SINCE THE BARRIERS DEFINED IN THE PDD ARE NOT APPROPRIATE AND SUSTAINABLE HENCE THE PROJECT ACTIVITY ITSELF SEEMS TO BE THE BASELINE. THE REQUIREMENT OF ADDITIONALITY TOOLS OF VERSION 3 ARE NOT PROPERLY ADDRESSED HENCE CAN THE PROJECT BE CONSIDERED AS ADDITIONAL.