UNFCCC Secretariat
Martin-Luther-King-Strasse 8
D-53153 Bonn
Germany

Att: CDM Executive Board

DET NORSKE VERITAS
CERTIFICATION AS
International Climate Change Services
Veritasveien 1
NO-1322 Høvik
Norway
Tel: +47-6757 9900
Fax: +47-6757 9911
http://www.dnv.com
NO 945 748 931 MVA

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Response to request for review

Generation of Electricity through combustion of waste gases from Blast furnace and Corex units at JSW Steel Limited (in JPL unit 1), at Torangallu in Karnataka, India (0325)

Dear Members of the CDM Executive Board,

We refer to the issues raised in the requests for review by three Board members concerning DNV's request for issuance of emission reductions for the project activity "Generation of Electricity through combustion of waste gases from Blast furnace and Corex units at JSW Steel Limited (in JPL unit 1), at Torangallu in Karnataka, India" (0325) and would like to provide the following clarifications for your perusal and review.

The points raised and our response to the same are indicated below.

*Two monitoring reports are submitted by the PPs: the first and the updated. Parameters for monitoring are correctly **described** in both of them along with the formulas used. Verifiers confirm that they checked everything (all excel sheets) and everything is correctly calculated. Technical details of the power plant are also given in Monitoring Reports.*

*In **the first report** the annual generations (total and net) for the years 2005 and 2006 are presented in Appendix I along with the baseline EF for captive power generation and the efficiency of power generation fixed ex-ante? Final annual results of baseline emissions are also presented. Total **(annual)** quantity of fuel consumed along with the necessary coefficients and calculated annual project emissions for 2005 and 2006 are also there.*

*In **updated monitoring report** the project emission is recalculated and instead of 191 t CO2 it became 181 t CO2 for the crediting period. Annual generation and all other coefficients are removed from the updated report and only final **monthly** results of baseline and project emissions for the years 2005 and 2006 are presented.*

It should be mentioned that according to the monitoring plan the PPs have to measure and record the electricity daily, calorific values monthly, etc. Neither daily nor monthly figures are presented for these parameters.

DNV Response:
DNV confirms that the measurement of the various parameters was checked and found to be in line with the monitoring plant of the registered PDD. The electricity measurements have indeed been monitored on a daily basis and the calorific values on a monthly basis. While the calorific values do not form a part of the data presented in the excel worksheet, the daily electricity

readings formed a part of the excel worksheet that was submitted during the request for issuance. Please refer to the updated and revised monitoring report (appendix I of Annexure III) submitted by the PP, wherein all necessary data has been incorporated appropriately.

The difference in the project emissions, baseline emissions and the final emission reductions between the initial and updated monitoring report is due to the "rounding off" the figures to the lower side in order to be conservative. This was pointed out during the verification by DNV. Consequently, the revisions effected resulted in the reduction of baseline emissions by 12 tCO_2e and in the project emissions by 10 tCO_2e. The overall impact due to the same has been a negligible reduction of 2 tCO_2e in the emission reductions. While the approach adopted is indeed conservative, we regret the omission to address this clearly in the report.

The efficiency of captive power plant *is measured and fixed ex-ante as it is clearly said in verification report (page 7). This approach is not correct and not so clear from the PDD. The PDD says "As a conservative approach the highest value 33.375% among the* ***options A*** *and B is considered for the baseline calculation (page 13). In my reading these A and B options as they are formulated in PDD are not the same A and B from methodology. Option A in PDD is: "Design Efficiency" while in methodology (page 5) for option A we have sub-options 1,2,3 and the highest value should be chosen among them* ***during monitoring process*** *because the sub-option 2 requests measuring the efficiency during monitoring though two other sub-options are fixed once ex-ante. Methodology doesn't say "or" among these three sub-options. Taking into consideration that this parameter is correctly insert in the registered monitoring plan (though there is not mentioned record frequency) my opinion is that Efficiency captive should be measured yearly during the crediting period then compared with two others (fixed ex-ante) and the highest one should be used for calculation of baseline. This parameter could be fixed only in case if option B as in methodology (100% efficiency) is assumed.*

DNV Response:

We do agree that the options A and B for monitoring the plant efficiency, as stated in the registered PDD, are not very clear. As per the methodology, there are two options stated for the calculation of the plant efficiency. Option A in-turn has three sub options: (a) measured efficiency prior to project implementation (which is the process guarantee figure) (b) measured efficiency during monitoring (actual monitoring) and (c) nameplate data for efficiency (or the design data). While the sub-options (a) and (c) are fixed ex-ante, (b) is to be monitored. As per the methodology the highest of the three sub-options is to be selected for calculations. The Option B considers the plant efficiency at 100%.

As stated above, the registered PDD is ambiguous on the approach and frequency of monitoring for the boiler efficiency estimation during the monitoring period. The registered PDD does provide the ex-ante figures of (a) process guarantee figure of 31.877% and (c) the name plate efficiency of 33.375%. Considering the fact that, the actual efficiency of the boiler is not likely to exceed the nameplate efficiency (due to boiler ageing, inefficient burning due to burner nozzle erosion, tubes fouling, scaling and leaks in the combustion air side) inspite of the best maintenance practices, we have selected and stated the nameplate efficiency to be ex-ante.

The boiler efficiency figures for the period April 2005 to December 2005 and January 2006 to December 2006, which had been monitored (from the plant operators log sheets) have now been presented to us for verification (see attached Excel spreadsheet for efficiency calculations) and the efficiency figures of 32.41% and 32.22% as determined are verified. The name plate efficiency of 33.375% being the highest of the three efficiencies, namely nameplate efficiency, process

guarantee and the actual efficiency, and used for the calculation still holds good and hence will not in any way change the emission reductions for the period.

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully
for DET NORSKE VERITAS CERTIFICATION AS

Michael Lehmann
Technical Director
International Climate Change Services

C Kumaraswamy
Manager – South Asia
Climate Change Services

Attachments:

- Excel spreadsheet for efficiency calculations