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Att: CDM Executive Board

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CDM Ref 0367	KCHA/MLEH	20 December 2007

Response to request for review - Issuance of CERs regarding "8MW Waste Heat Recovery based Captive Power Project at OCL" (0367)

Dear Members of the CDM Executive Board,

We refer to the requests for review raised by three Board members concerning DNV's request for issuance of the CERs from "8MW Waste Heat Recovery based Captive Power Project at OCL" (0367) and would like to provide the following initial response to the issues raised by the requests for review.

Comment 1:
Total electricity generated and auxiliary electricity consumption were not measured, but calculated. Further clarification is required on how the DOE verified total electricity generated and auxiliary electricity consumption in accordance with approved methodology.

DNV Response:
DNV would like to clarify that the total electricity generated and auxiliary consumption from the captive power plant (CPP) have indeed been measured in the project scenario. However, as per the project design provided in the registered PDD, the steam fed to the turbine in the project activity is supplied from two different sources, i.e. from the waste heat recovery boilers (WHRB) and coal based fluidized bed boiler (FBC). Thus, to account for the amount of electricity contributed by the steam supplied from the WHRB it was proposed in the PDD that the total net electricity generation, which is measured as per the methodology, will be proportioned based on the enthalpy contribution of the WHRB steam as opposed to the enthalpy of total steam fed to the turbine as per the following formulae:

$EG_{net} = EG_{gen} - EG_{aux}$

and $EGgen = EG_{gen,CPP} \times \frac{H_1}{H_1 + H_2}$

$EGaux = EG_{aux,CPP} \times \frac{H_1}{H_1 + H_2}$

Where,
$EG_{gen,CPP}$ *= Total monitored electricity generation from the CPP*

$EG_{aux,CPP}$ = Total Monitored auxiliary consumption of the CPP
H_1 = Enthalpy of steam fed to turbine from WHRB
H_2 = Enthalpy of steam fed to turbine from FBC
EG_{gen} = Electricity generation from WHRB
EG_{aux} = Auxiliary electricity consumption contributed by the WHRB

This approach of monitoring the total electricity generated from the CPP and the total auxiliary consumption of the CPP and calculating the proportion of the net electricity contributed by the WHRB has been validated by the DOE and accepted by the CDM Executive Board during the registration of the project. During the verification, DNV has ensured that the total electricity generated and the total auxiliary consumption of the CPP is monitored as per the provisions of the methodology as well as the parameters required to calculate the enthalpy of WHRB and FBC steam as mentioned in the registered PDD. While we acknowledge that ACM0004 did not describe this approach, the approach outlined in the registered PDD is in accordance with ACM00012, which replaced ACM0004, and which states that "an alternative method that could be used when it is not possible to measure the net calorific value of the waste gas/heat, and steam generated with different fuels in dedicated boilers are fed to turbine/s through common steam header takes into account that the relative share of the total generation from waste gas is calculated by considering the total steam produced and the amount of steam generated from each boiler".

Comment 2:
Net Calorific Value for the diesel consumption has not been measured, but the IPCC value was applied. Although this parameter is not included in the monitoring plan, the methodology requires to measure the NCV. Further clarification is required on how the DOE verified the value in line with approved methodology.

DNV Response:
DNV agrees that as per the monitoring plan in the methodology the NCV of diesel should be monitored. However, since monitoring of the NCV of diesel was not included in the monitoring plan of the registered PDD, the local values for NCV of diesel was also not available with the project participant. As per the methodology ACM0004, version 1, page 4, if no such values are available, country-specific values from sources such as IPCC Good Practice Guidance can be used. However, for India, IPCC guidelines do not provide country specific NCV of diesel. Hence, the default IPCC emission factor, which is the next available option as per the methodology, as provided in the *"2006 IPCC Guidelines for National Greenhouse Gas Inventories"* has been used in the calculations. This has been verified by DNV to be 43.0 TJ/Gg.

Comment 3:
Oxidation factor of diesel (OXIDi) should be included in the formula of the project emission calculation in the emission reduction calculation spreadsheet.

DNV Response:
Since the default carbon oxidation factor of diesel is 1 as per the *"2006 IPCC Guidelines for National Greenhouse Gas Inventories"* the oxidation factor of diesel is already incorporated in the emission reduction calculations. This is deemed conservative and more appropriate than the oxidation factor (0.99) of the fuel from page 1.29 in the 1996 Revised IPCC Guidelines for default values, as referred to in ACM0004.

We sincerely hope that the Board accepts our aforementioned explanations.

Yours faithfully
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