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Martin-Luther-King-Strasse 8  
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Att: CDM Executive Board

Your ref.:  
CDM Ref 0966

Our ref.:  
TOFO/BRINKS

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## Response to request for review of the project “Mondi Richards Bay Biomass Project” (0966)

Dear Members of the CDM Executive Board,

We refer to the issues raised by the requests for review by three Executive Board members regarding the request for issuance for the project activity “Mondi Richards Bay Biomass Project” (UNFCCC reference number 0966) and would like to provide following initial response.

### ***Question 1i:***

*Further clarification is required on how the DOE verified:*

- i) The moisture content of biomass used considering that the applied methodology requires continuous on-site measurements.*

### **DNV Response:**

The applied methodology, AM0036 version 1 requires moisture content of the biomass residues to be monitored continuously by on-site measurements, but allows for mean values to be calculated only annually.

The monitoring plan of the registered project design document (PDD) defines that the moisture content of each biomass type will be monitored at the Mondi Laboratory, and cross-checked with national data. Furthermore, that “on-site analysis will be performed at least monthly on the plantation residues and six monthly for bark and chipping plant biomass residues”.

Actual measurements of moisture content in this verification period were performed at least monthly, which was confirmed during the site visit. According to the project participants, a monitoring system was implemented in 2007, where in practice the parameter is monitored on a weekly basis and results are stored in the electronic data management system. An output file from this system has been verified by DNV.

Given the nature of the measurement, DNV finds it reasonable to consider weekly measurements as the highest feasible frequency to monitor moisture content. Therefore, DNV proposes to revise the monitoring plan for the next verification period in order to incorporate the improvements in the monitoring system.

**Question1ii:**

*Further clarification is required on how the DOE verified:*

- ii) The historical annual heat generations in 2001-2003 which are different from the values in the validated PDD.*

**DNV Response:**

In the registered PDD, the annual historical heat generation was calculated according to the methodology, however the calculation was incorrect and would have produced an inflated number of CERs. This had to be corrected and was done through raising CAR 3.

In the monitoring report, the same raw data were used, but the calculation was carried out in the correct way, leading to lower CERs. In the registered PDD, heat generation was incorrectly calculated as the quantity of biomass burnt times its net calorific value (NCV). This corresponds in fact to *energy input*, not the heat that was actually generated output of the boiler. The revised monitoring report considers the steam enthalpy (that is energy out) times the fraction of the energy originating from biomass.

**Question1iii:**

*Further clarification is required on how the DOE verified:*

- iii) the steam measurement since the spreadsheet concerning the monitoring of stream production contains only one reading per day.*

**DNV Response:**

Heat generation ( $HG_{PJ, total, y}$ ) is calculated based on measurements of steam flow, temperature, and pressure. Methodology AM0036 version 1 requires continuous measurement and annual aggregation of these data.

In the project activity, steam generation is continuously monitored by an on-line monitoring system and the data is captured and stored by a PI (process information) system. Any information that is used in calculations, are accessed from the PI system and drawn into Excel. Data on steam flow, temperature etc. is captured every half second and every 4 seconds the data is aggregated. The information provided in the calculations is the daily average of all the data taken every half second by the process information system.

This system was verified by DNV during the site visit.

**Question 2:**

*The validation report (p 10) raised NIR 13 regarding the determination of historical annual heat generation from firing biomass residues in boiler to review the boiler efficiency again during verification. However, it is not clear how the DOE reviewed this issue in the verification report. Further clarification is required.*

**DNV Response:**

The issue of boiler efficiency was addressed in CAR 2 of the submitted verification report, and reviewed during verification as compared to the validation phase. Methodology AM0036 version 1 gives two options for determining boiler efficiency:

- Option 1: Use the higher value among (a) the measured efficiency prior to the implementation of the project activity, and (b) the manufacturer's information of the efficiency.
- Option 2: Assume 100% efficiency as a conservative default value.

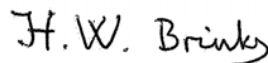
As clarified in the project participants' response to CAR2, Option 1 has been chosen. According to the Excel spreadsheet uploaded for issuance "Appendix 3 spreadsheet information", the boiler efficiency in the two years prior to implementation was found to be 66% and 71%. The calculation was assessed by DNV and found to be correct. Since the value is clearly lower than the manufacturer's information of the efficiency, 85.3%, the latter has to be used. Hence, the efficiency to be used in the calculations is 85.3%.

We sincerely hope that the Board find our elaboration on the above satisfactory

Yours faithfully  
for DET NORSKE VERITAS CERTIFICATION AS



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