

<i>Response to request for clarifications on a request for revision of the monitoring plan</i>	
Project:	"Energeticos Jaremar Biogas recovery from Palm Oil Mill Effluent (POME) ponds, and heat & electricity generation, Honduras" (1483)
Date of the request for clarification:	6/10/2011
Date of the answer:	20/10/2011

### Request 1:

*With reference to the parameters ID38/39/40/41, the PP/DOE are kindly request to clarify:*

- *the frequency of measurement and recording as well as archiving procedure for bunker oil consumption;*
- *calibration procedures in place for the dedicated flow meters;*
- *how it validated that the value of bunker density as sourced from the International Energy Agency is suitable and applicable to the specific project situation;*
- *the monitoring frequency for the bunker density.*

### Answer 1:

Parameters ID38, 39, 40 and 41 refer to the bunker fuel consumption by each of the four boilers. The frequency of measurement, recording and archiving procedures for bunker oil consumption have been included in the Monitoring Plan.

A volume flow meter will constantly **measure** the volume of oil consumed and its mass will be determined using the density of bunker.

There will be at least monthly **recording** of the volume consumed. The volume data will be **archived** electronically.

The **calibration** procedures in place for the dedicated flow meters will follow strictly the technology provider's specifications and the relevant CDM rules such as the provisions contained in the General Guidelines to SSC CDM methodologies.

A new monitoring variable has been included to **determine the density of the fuel** used yearly (ID. 44). This value has replaced the standard value used before that came from the International Energy Agency. Regarding monitoring frequency, each time bunker is purchased, providers used will be asked to provide the bunker's specifications and the highest density value will be used for the whole volume to ensure conservativeness. The estimate provided ex-ante is the maximum density value of the ones provided by the two most common local suppliers of bunker oil. The value obtained is higher than the standard value from the IEA.

### Request 2:

*With reference to the parameters ID42/44, the PP/DOE are kindly request to further clarify how it validated that the determined efficiency values are in line with the requirements of paragraph 13 of AMS-I.C version 11, considering that they appear to be calculated (not measured) and/or provided by one (not two or more) manufacturer, and they refer to steam generation in a refinery using natural gas.*

Answer 2:

Parameters ID42 and 44 respectively, refer to the efficiency of boilers 3 and 4 using fuel oil.

For **boiler 3** (ID 45), the Cleaver Brooks boiler, three different provider's efficiencies have been compared and the highest one has been chosen in line with Paragraph 13 (b). In the case of Cleaver Brooks, the results of boiler efficiency tests across a range of operating conditions were available. For the other two manufacturers, efficiency has been calculated from the boiler's specifications using the definition in the "Tool to determine the baseline efficiency of thermal or electric energy generation systems" version 1: from the net quantity of useful heat produced per quantity of energy contained in the fuel.

Supporting documents: Efficiency\_paragraph 13 (b).xlsx, Fulton Boiler.pdf, Hurst Boiler.pdf

For **boiler 4** (ID 46, it was 44 in the previous version of the document), there was insufficient information to demonstrate the efficiency of the boiler using bunker according to paragraph 13, options (a) and (b). Therefore, option (c), the default value of 100% has been used. The project owner will be able to use a more realistic value if sufficient information to support it is provided at verification according to paragraph 13, options (a) and (b) of AMS-I.C (version 11).

Request 3:

*With reference to the parameters ID43/45 (efficiency of the boilers 3 and 4 using biogas), the PP/DOE are kindly request to further clarify how it validated that the determined efficiency values are applicable to the specific project situation considering that they refer to steam generation in a refinery using natural gas.*

Answer 3:

Since no biogas efficiency values are available it is common practice in the industry to approximate the efficiency using biogas from natural gas efficiency measurements. That is the reason those values had been used in the previous version of the document. In the current version, the efficiency of boilers 3 and 4 using biogas has been transformed into a monitoring variable that will be fixed at the first relevant verification, since neither technology provider values nor empirical values are currently available..

For **boiler 3** (ID 42) has been converted into a monitoring parameter. At the first verification for which this variable will be relevant, the project owner will provide a solid estimate of the efficiency of the boiler using biogas in line with CDM regulation (including AMS-I.C version 11 and the Tool to determine the baseline efficiency of thermal or electric energy generation systems). This parameter will be fixed at the relevant verification and will not be monitored afterwards.

For **boiler 4** (ID 43) has been converted into a monitoring parameter. In the first verification for which this variable will be relevant, the project owner will provide a solid estimate of the efficiency of the boiler using biogas in line with CDM regulation (including AMS-I.C version 11 and the Tool to determine the baseline efficiency of thermal or electric energy generation systems). This parameter will be fixed at the relevant verification and will not be monitored afterwards.

Request 4:

*With reference to the parameter ID31, the PP/DOE are kindly request to further clarify:*

- *whether the electricity consumption of the project will be measured during the monitoring periods or the ex-ante value as per Biotec technical feasibility study will be used;*
- *whether the comment in the “Any comment” box will affect future verifications or applies only to the ER estimate in the PDD.*

Answer 4:

Parameter ID 31 measures the electricity consumption of the project activity in the year. This parameter is continuously monitored by electricity meters connected to a control system (SCADA).

The comment in the “Any comment” box has been changed. The emissions resulting from the electricity consumption of the pumps located in the lagoons for sludge management can be neglected during the whole crediting period since they represent an insignificant share of the total emission reductions. This will be demonstrated at verification stage, using the monitoring records of the hours of the pumps’ operation and their consumption per hour.