



## Validation opinion

### Revision of the monitoring plan

Title of project activity:			
West Nile Electrification Project (WNEP)			
CDM reference number:		DNV project No.:	
775		PRJC-199019-2009-CCS-NOR	
Type of revision:	<input type="checkbox"/> Proposed revision only includes the request by the CDM EB <input type="checkbox"/> Proposed revision includes not only the request by the CDM EB but also additional revisions proposed by the PP/DOE <input checked="" type="checkbox"/> Proposed Revision includes revisions proposed by the PP/DOE		
Date	Work carried out by:	Work verified by:	Approved by:
26 April 2011	Francisco Chávez V. 	Michael Lehmann 	Michael Lehmann 

## 1 Description of the changes to the monitoring plan

The West Nile Electrification Project (WNEP), CDM registered project 775, includes two components using each one a different methodology. One of the components is the installation and operation of a 3.5 MW hydropower plant on the Nyagak river, using AMS-I.D. Version 9. The other component refers to the installation and operation of a HFO-fired 1.5 MW generator, located in Arua municipality, using AMS-II.B Version 7. The revision of the Monitoring Plan, hereby presented, concerns 2 monitoring parameters, each one applying to one component of the project respectively:

1. As per the monitoring plan of the registered PDD (CDM registered project 775), the “Generation Output, HFO plant-Gen<sub>TH</sub>” is the parameter to be measured in this component. As per the final design/installation of the project activity, the net electricity output delivered to the grid will be the difference between the gross output and the auxiliary consumption. The parameters Gross Electricity Generation and the Auxiliary Consumption are monitored using two electricity meters: one to measure the gross output and one to measure the auxiliary consumption, thus the requested changes to the approved monitored plan consists of the following:

- including/adding two parameters: gross generation and auxiliary (internal) consumption, and ,
- replace the determination of the generation output, from being measured to being calculated based on difference of the gross generation and auxiliary consumption measurements.

2. In addition, the monitoring plan was revised to clarify that  $GEN_{Nyagak}$  is the net electricity export by the hydropower plant included in the project while the monitoring plan in the PDD indicate to monitor the generation output.

## 2 Assessment of the revision of the monitoring plan

***The proposed revision of the monitoring plan ensures that the level of accuracy or completeness in the monitoring and verification process is not reduced as a result of the revisions***

In the monitoring plan of the registered PDD, the generation output shall be determined from a direct measurement from an electricity meter, which shall be properly calibrated and maintained to ensure the reliability of the measurements.

In the requested change to the approved monitoring plan, the generation output parameter for the thermal generation components (methodology AMS-II.B.) is the difference between gross generation and the auxiliary consumption measured using two individual electricity meters. Regardless of whether these two proposed parameters are measured by one single meter or two separate meters, the industry standard accuracy of the meters and assuming a proper calibration and maintenance procedures are followed, the uncertainty of obtaining the generation output from two measurements, rather than, from only one measurement is negligible in this case.

Regarding the hydropower component (methodology AMS-I.D.) the net electricity will be measured with an electricity meter that is able to measure the electricity flow in both directions, and therefore can automatically measure the net electricity passing through the meter. This again allows for keeping the accuracy of the information provided at the same level as the one specified for other electricity meters providing only unidirectional readings.

Therefore, DNV confirms that the proposed revision of the monitoring plan ensures that the level of accuracy or completeness in the monitoring and verification process is not reduced as a result of the revisions.

***The proposed revision of the monitoring plan is in accordance with the approved monitoring methodology applicable to the project activity whilst ensuring the conservativeness of the emission reductions calculation***

Monitoring sections/paragraphs of methodologies adopted for the project activity:

***AMS - II.B./Version 07, “Supply side energy efficiency improvements – generation”***

*6. Energy savings shall be measured after implementation of the efficiency measures, by calculating the energy content of the fuel used by the generating unit and the energy content of the electricity or steam produced by the unit. Thus both fuel use and output need to be metered.*

*7. A standard emission coefficient for the fuel used by the generating unit is also needed. IPCC default values for emission coefficients may be used. In the case of coal, the emission coefficient shall be based on test results for samples of the coal purchased if such tests are part of the normal practice for coal purchases.*

***AMS - I.D./Version 9, “Grid connected renewable electricity generation”***

*13. Monitoring shall consist of metering the electricity generated by the renewable technology. In the case of co-fired plants, the amount of biomass and fossil fuel input shall be monitored.*

Thus, as per Paragraph 6 of AMS-II.B, Version 7 and Paragraph 13 of AMS-I.D, Version 9 indicated above, the request for revision of the monitoring plan proposes the following changes to the monitoring of the electricity generation: for the thermal component applying AMS-II.B, the generation output will be determined as the difference of 2 measurements – gross generation and internal consumption, instead of only one measurement – generation

output). For the hydropower component applying AMS-I.D, the parameter to be monitored will be the net electricity supplied by the project activity.

DNV thus confirms that the proposed approach of determining the generation output as the difference between the measured gross generation and the measured internal consumption for the supply side efficiency improvement component is in accordance with the approved methodology AMS-II.B, Version 7, and that the monitoring of the net electricity generation by the hydropower component is in accordance with AMS-I.D, Version 9.

***The findings of previous verification reports, if any, have been taken into account***

This is the first verification period of this project activity.

### **3 Validation opinion**

Hence, it is DNVs opinion that:

- a. the proposed revision of the monitoring plan ensures that the level of accuracy or completeness in the monitoring and verification process is not reduced as a result of the revisions.
- b. the proposed revision of the monitoring plan is in accordance with the approved monitoring methodology applicable to the project activity whilst ensuring the conservativeness of the emission reductions

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