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

Your ref.:	Our ref.:	Date:
CDM Ref 0086	MLEH	10 October 2007

Response to request for review
Poechos I Project (0086)

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 for project activity 0086 "Poechos I Project" and would like to herewith provide our initial response to the issues raised.

Comment 1

The DOE has verified that the project consists of a 15.2 MW hydroelectric power plant. However, the monitoring report and the spreadsheet indicated a capacity of 15.4 MW. Clarification is required. In addition the DOE shall further clarify how they have verified during the site visit that the actual implementation of the project was as described in the PDD and how they have verified the actual nameplate capacity of the generation equipment as well as calibration of generation metering.

DNVs response

The 15.4 MW described in the monitoring report and spreadsheet had been determined as the real capacity according to the reservoir conditions, rather than the nominal capacity.

The generating units consist of two Kaplan turbines coupled to synchronous generators. The nominal name plate capacity of each generator is 9500 kVA. Applying a power factor of such equipment of 0.8:

9500 kVA * PF (0.8) = 7600 kW = 7.6 MW x 2 (units) = 15.2 MW

Please refer to the photograph of the name plate contained in Appendix A and the Alstom generator specification sheet contained in Appendix B.

The project's implementation is thus as described in the PDD which states in para A.4.3: "The penstock of the power house is connected to the existing steel pipe of the bottom outlet. The penstock is bifurcated in two penstock pipes leading to a power house with two generating units each of 7.6 MW capacity. The generating units consist of two Kaplan turbines coupled to synchronous generators (3-phase) each of 9.5 MVA nominal capacity."

Meter No. PL0303A133-01 had been calibrated on 23 March 2003 and the calibration certificate was verified by DNV (see Appendix C).

The certification program requires to calibrate the meter every five years. During the site visit DNV verified that the project generation is verified by monthly reviews between ENOSA and SINERSA based on the SINERSA invoicing meter. Both entities calculate the monthly valorization and send each other for approval. During this process there had not been mayor differences between both organizations measurements. Hence, there is no need to perform calibration before the above mentioned time indicated in the certification program.

Comment 2

According to the monitoring plan, real NEC (Net Efficiency Conversions) per power plant needs to be taken from the most recently COES annual statistics. At the end of the year, NECs per technology should be replaced by using the most recent year published NEC information. However, it appears that the same values of NECs per technology as in the PDD have been used in this monitoring report. Clarification is required.

DNVs response

The COES 2006 statistical report was published after the submission of the monitoring report. Hence, the NECs per technology as in the PDD were applied. Nonetheless, the revised monitoring report enclosed to this response includes an updated determination of the Operating Margin; Building Margin and Combined Margin emission coefficient using the NECs in the COES 2006 statistical report.

Reported parameter	Initial reported value	New value with most recent NEC values
DDA-OM	0.69213	0.73951
BM2	0.34964	0.31932
CM	0.52089	0.52942
CER's	30 119	30 612

The NECs from the COES 2006 statistical report are submitted in a spreadsheet enclosed to this response. Moreover, revised spreadsheets for the calculation of the OM and the BM were provided to DNV and are currently assessed.

Comment 3

The assumed efficiencies for the different power plant technologies underlying the calculation of the NECs seem unrealistic (80% for cogeneration regardless whether fuel is gas or coal, or combined cycle for coal at 55%). Clarification is required.

DNVs response

In the revised version of the monitoring report NEC values were updated and applied as reported by COES for the year 2006.

Comment 4

The date and version numbers of monitoring report are missing. A revised monitoring report should be submitted.

DNVs response

The revised monitoring report was corrected to the correct date and version.

Comment 5

As the project description by the DOE in page 5 of 16 of the Verification and Certification Report states that "The project uses a portion of the discharged water from the Poechos Dam, affecting the flow of the Chira river and the Miguel Checa channel", the DOE shall further clarify how they have verified that there were no adverse impacts form the project activity. In addition, the DOE shall further clarify how they have verified that "During the site visit was assessed sustainable indicators from the first and second period" and which "Information was identified as correct" regarding those indicators, in order to close the pending open FAR, as stated in page 8 of 16 of the Verification and Certification Report.

DNVs response

Is important to note that the monitoring plan of the registered PDD does not include monitoring of sustainable development indicators and these are additional as project participant's requirements.

1) Environmental Impacts: The project as implemented had been granted the necessary environmental permits by the Peruvian environmental authorities and this had been validated previously. No further modifications were done. The applied project description was rephrased from the validated and registered PDD section A.2. Page 2.

2) Sustainable indicators: The second periodic verification for the project includes information related to the monitoring of sustainable indicators for some of the initiatives of period one and period two.

1st verification:

- Improvement of soil quality: Number of planted trees: This had been verified on site as well as based on photographs included in the 2nd monitoring report annex 4.
- Number of environmental education programs for the local population (power saving). Second monitoring report includes a comment about this initiative and why it is not concluded.
- Scholarships granted for education of the local population: The project participants includes in attachment 6 of the 2nd monitoring report a Letter from the University of Piura that list students with scholarships granted since 2005.
- Number of workers hired from the local population: The 2nd monitoring report includes as attachment 5 lists of local employees since the beginning of the project.
- List of Purchases from local suppliers: A list of local purchase was requested to project participants and delivered as part of the period verification.
- Population has gained access to the electric power system as a result of the project construction activities: The 2nd monitoring report includes as attachment 8 information about actual number of PSE Sullana clients up to 2007.

2nd verification:

- Number of new trees within the concession area: This had been verified on site as well as through photographs in the 2nd monitoring report.
- Number of education programs for local population (energy saving): The initiative related to education programs for the local population has not been accomplished, according to information from ENOSA during the initial stage of the new distribution system operation. In order to not cancel this kind of initiatives it is recommended that the project participants identify other means of contribution to the local population as there are other environmental needs in the area. As a new initiative SINERSA has decided, together with ENOSA, to

propose a program of financial support for potential energy users of PSE Sullana. This consists in forming a support fund to be used as a credit for potential local energy users and as such provide conditions for accelerated incorporation. This agreement is under review by the local authorities and will be verified during the next verification.

- Scholarships granted for education of the local population: Project participants includes in 2nd. Monitoring report as attachment 6 a Letter from the University of Piura that list students with scholarships granted since 2005.
- Number of workers hired from the local population: The 2nd monitoring report includes as attachment 5 lists of local employees since the beginning of the project.
- Purchases from local suppliers: The 2nd monitoring report includes as attachment 7 a list of local purchases.
- Population has gained access to the electric power system as a result of the project construction activities: 2nd Monitoring Report includes as attachment 8 Information about actual number of PSE Sullana clients up to 2007.

Comment 6

The DOE shall further clarify how they have ensured that the mistakes as described in page 10 of 16 of the Verification and Certification Report: "The first emission factor spreadsheet delivered for verification contained a mistake related to the project generation, which affected the calculation of the operating margin and consequently the combined margin. Corrections were requested in the form of CAR 1" are avoided through a systematic approach to monitoring.

DNVs response

The error in the first emission factor spreadsheet provided to DNV for verification was identified on site by DNV. To ensure a transparent verification process, a Corrective Action Request was issued. This request was solved immediately by the project participants. The reason of the observed error was that the emissions factor spreadsheet included a data in column EE "Project Hourly Generation" which for some months was not updated and the stated values were not accurate. This was detected during a crosschecking of spreadsheet with monthly generation. The project participant has implemented a check list that includes data to be verified in order to avoid similar future mistakes.

Comment 7

The DOE shall provide further clarification of how they reviewed and crosschecked all delivered information related to the net amount of electricity was of 57 822 MWh generated during the period of 01 April 2006 to 31 March 2007 and thus the claimed emission reductions of 30 119 tCO2e reported for the period 01 April 2006 to 31 March 2007.

DNVs response

The verification process was as follows:

1) Verification of project hourly generation reports for the total verification period (April 2006 – March 2007).

2) Crosschecked with SINERSA receipt of sales to ENOSA (final client).

3) Crosschecked with ENOSA confirmation letter of energy received. The project participant delivers a copy of monthly generation and the 2nd monitoring report includes as part of annex 3 Resume of Energy produced by HPP Poechos 1 and approved by ENOSA

4) Total project production during the verified period (57 822 MWh) are multiplied by the calculated combined margin (0.52089); now (0.52942).

5) Total Emission Reductions obtained are 30 119 tCO2e; now with 2006 NEC values provided by COES 30 612 tCO2e

Comment 8

The DOE shall avoid typographic errors in their V&C report.

DNVs response

DNV aims at improving our V&C reports, but any typographic errors in the verification / certification report that does not have any impact on the verified and certified emission reductions.

We hope that the Board accepts our above explanations.

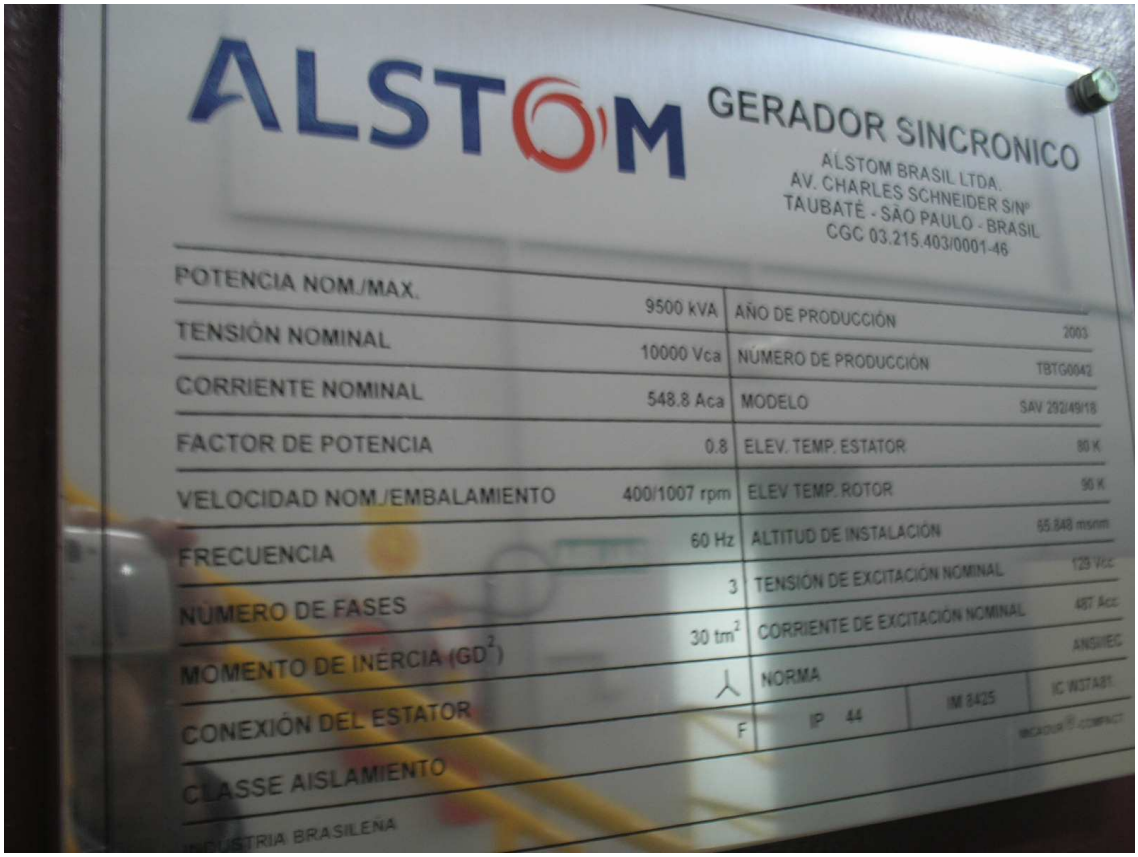
Yours faithfully
for DET NORSKE VERITAS CERTIFICATION AS

Michael Lehmann
Technical Director
International Climate Change Service

Alfonso Capuchino
Project Manager

Appendix A

Photograph of name plate



Appendix B

Generator specification sheet

1 Datos del generador y curvas características

Datos del generador

Normas generales	ANSI / IEC
Generador tipo	SAV 292/49/18
Tipo de construcción	IM 8425
Tipo de protección	IP 44
Tipo de enfriamiento	IC W37 A81
Potencia nominal	9500 kVA
Voltaje nominal	10000 V
Corriente nominal	548,5 A
Factor de potencia	0,8
Frecuencia nominal	60 Hz
Número de fases	3
Circuitos paralelos por fase	3
Dirección de rotación, visto del LNA (Lado No Acoplado)	Sentido del reloj
Número de polos	18
Velocidad nominal	400 rpm
Velocidad de disparo	1007 rpm
Tipo de la excitación	Estática
Efecto de inercia del generador (GD_2)	120 tm^2
Altitud de la instalación (Planta)	65,8 m
Elevación de temperatura del bobinado del estator	80 K
Elevación de temperatura del bobinado del rotor	90 K
Clase de temperatura del aislamiento del estator y del rotor	F
Conexión del bobinado del estator	Embricado
Corriente nominal de excitación	487 A
Voltaje nominal de excitación	129 V
Resistencias	
Resistencia eléctrica por fase del bobinado del estator @ 75 °C	0,067 ohm
Resistencia eléctrica del bobinado del rotor @ 75 °C	0,221 ohm
Reactancias	
Reactancia sincrónica saturada / no saturada en el eje directo (Xd)	1,05 / 0,96 pu
Reactancia transitoria saturada / no saturada en el eje directo (X'd)	0,35 / 0,33 pu
Reactancia subtransitória saturada / no saturada en el eje directo (X"d)	0,27 / 0,22 pu
Reactancia sincrónica saturada / no saturada en el eje cuadratura (Xq)	0,68 / 0,64 pu

Appendix C
Calibration Certificate

POWER MEASUREMENT

Certificate of Compliance and Verification

Model ION® 7600

Serial # PL-0303A133-01

The following data contains the energy test results verifying the accuracy of the above meter at the time this test was performed.

The meter has been factory tested in accordance with ***Power Measurement's*** verification procedures on equipment that is traceable to either ***N.I.S.T.*** (US) or ***N.R.C.*** (Canadian) standards.

Accuracy Data

Step	acc	volt_a	volt_b	volt_c	pab	pac	amp_a	amp_b	amp_c	ph_a	ph_b	ph_c
1	99.993	120	120	120	120	240	0.25	0.25	0.25	0	120	240
2	99.989	120	120	120	120	240	2.5	2.5	2.5	0	120	240
3	99.966	120	120	120	120	240	2.5	2.5	2.5	60	180	300
4	100.001	120	120	120	120	240	5	5	5	0	120	240
5	100.011	120	120	120	120	240	5	5	5	60	180	300
6	99.98	120	120	120	120	240	10	10	10	0	120	240
7	99.996	120	120	120	120	240	10	10	10	60	180	300
8	100.007	120	120	120	120	240	15	15	15	60	180	300
9	100.019	120	120	120	120	240	20	20	20	60	180	300

ISO 9002-1994
Registration
Cert # 002188

www.pwrm.com

Power Measurement 2195 Keating Cross Rd. Saanichton, BC, Canada V8M 2A5
Ph. 1 (250) **652 - 7100** fax: 1 (250) **652 - 0411** toll free: 1 - 866 - **ION SMART** (1-866-466-7627)

SE Poechos

POWER
MEASUREMENT

CERTIFICATE OF COMPLIANCE AND CALIBRATION

At the time of manufacture, this product was calibrated and final tested in accordance with Power Measurement's operating procedures. These procedures are in full compliance with ISO 9002-1994 and assure that at the time of shipment, this unit met or exceeded our published specifications. As per ISO requirements, Power Measurement's test and measurement equipment are calibrated and traceable to either N.I.S.T. (US) or N.R.C (Canadian) national standards.

Model	Serial #	Calibration Date
ION® 7600	PL-0303A133-01	3/23/2003

AUTOMATED TESTING	• Power supply levels tested and adjusted on variable power supply units • Communications verified • Unit ID and serial number programmed • Voltage and current inputs calibrated • Aux I/O calibrated and tested (if applicable) • Required software options programmed • Calibration constants saved to external file
FINAL TESTING AND INSPECTION	• Serial number verified • Firmware version verified • LCD/Keypad functionality checked (if applicable) • Memory checked • Calibration verified • Software options downloaded and verified (if applicable) • Applicable counters and registers cleared

TEST EQUIPMENT USED TO CALIBRATE METER

Model	S/N	Test Equipment Calibration Due Date
HP 3458A	2823A08692	12/2/2003
Rotek 8000	112	2/7/2004
Rotek 8000-3P	112BC	2/7/2004

Quality Manager

Production Manager

SE. Porchas