CDM Project Activity Registration and Validation Report Form

(By submitting this form, designated operational entity confirms that the proposed CDM project activity meets all validation and registration requirements and thereby requests its registration)

Section 1: Request for registration	
Name of the designated operational entity (DOE) submitting this form	Det Norske Veritas Certification Ltd. (DNV)
Title of the proposed CDM project activity (Section A.2 of the attached CDM-PDD) submitted for registration	Aquarius Hydroelectric Project
Project participants (Name(s))	Aquarius Energética S.A. Electric Power Development Co., Ltd.
Sector in which project activity falls	Sectoral scope 1: Energy industries
Is the proposed project activity a small-scale activity?	Yes / ~~No~~ *(underline as applicable)*

Section 2: Validation report	
List of documents to be attached to this validation report (please check mark)*:*	

- ☑ The CDM-PDD of the project activity
- ☑ An explanation by the submitting designated operational entity of how it has taken due account of comments on validation requirements received, in accordance with the CDM modalities and procedures, from Parties, stakeholders and UNFCCC accredited non-governmental organizations; (Note: Included in DNV's Validation Report (DNV Report No. 2003-0506, rev. 01))
- ☑ The written approval of voluntary participation from the designated national authority of each Party involved, including confirmation by the host Party that the project activity assists it in achieving sustainable development:
  - ○
- ☑ Other documents, including any validation protocol used in the validation
  - ○ DNV's Validation Report (DNV Report No. 2003-0506, rev. 01), including a validation protocol and a list of persons interviewed by DNV during the validation process and including an explanation of how DNV has taken due account of comments on validation requirements received.
- ▫ Information on when and how the above validation report is made publicly available.
- ▫ Banking information on the payment of the non-reimbursable registration fee
- ▫ A statement signed by all project participants stipulating the modalities of communicating with the Executive Board and the secretariat in particular with regard to instructions regarding allocations of CERs at issuance.

Executive Summary and Introduction, including

- **Description of the proposed CDM project activity**
- **Scope of validation process (include all documentation that has been reviewed and name persons that have been interviewed as part of the validation, as applicable)**
- **DOE Validation team (list of all persons involved in the validation, describing functions assumed in the validation)**

The "Aquarius Hydroelectric Project" is a small-scale, renewable energy CDM project activity. The project is a run-of-river hydroelectric plant (with no dam or flooding) at Sonora, Mato Grosso do Sul State, Brazil, which will supply electricity to the South-Southeast-Midwest (S-SE-CO) regional grid of Brazil. The project is expected to have an installed capacity of 4.2 MW and will utilize the water of the Correntes river.

Partly displacing fossil-fuel based electricity with electricity generated from a renewable source; the project is expected to reduce GHG emission by 13 436 tonnes CO_2-equivalents per year.

The validation scope is an independent and objective review of the Project Design Document (PDD). The PDD was reviewed against the criteria stated in Article 12 of the Kyoto Protocol criteria for the CDM, the CDM modalities and procedures as agreed in the Marrakech Accords, the simplified modalities and procedures for small-scale CDM project activities and relevant decision by the CDM Executive Board. The validation team has, based one the recommendation in the IETA/PCF Validation and Verification Manual, and employed a risk-based approach, focusing on the identification of significant risks for the project implementation and the generation of CERs.

The following documents were reviewed:

MGM International, Inc.: Clean Development Mechanism Project Design Document – Aquarius hydroelectric project. Version 01 of April 2003 and version 02 of 19 April 2006

MGM International, Inc.: Reserved Appendix to the Clean Development Mechanism Project Design Document – Aquarius hydroelectric project. April 2003

Spreadsheet of Calculation of Combined Margin (ONS Emission Factor SSECO 2002-2004 v 2006-03-13)

CDM Executive Board: Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories - I.D. Grid connected renewable electricity generation (AMS-I.D), version 08 of 3 March 2006.

Bosi, M., A. Laurence, P. Maldonado, R. Schaeffer, A. F. Simoes, H. Winkler and J.-M. Lukamba: Road testing baselines for greenhouse gas mitigation projects in the electric power sector. OECD and IEA information paper, October 2002.

Comissão Interministerial de Mudança Global do Clima. http://www.mct.gov.br/clima/

Ministério do Meio Ambiente (MMA): Politicas para Desenvolvimento Sustentável. http://www.mma.gov.br/port/sds/capa/

Fórum Brasileiro de Mudanças Climáticas: Programas Relacionados com o Desenvolvimento Sustentável promovidos pelo governo brasileiro. http://www.forumclimabr.org.br/programas.htm

IPCC: Good Practise Guidance and Uncertainty Management in National Greenhouse Gas Inventories. 2000

International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): Validation and Verification Manual. http://www.vvmanual.info

The following persons were interviewed:

Manuel Araújo, Adm Director, Cia Agrícola Sonora Estância Rio Correntes

José Roberto Moreira, Executive Director, Negawatt

Victor Pulz Filho, Operational Director, Negawatt

Marcia Regina Bertholdi Piacentini, CEMA Enviromental Consulting
Marco G Monroy, President, MGM International
Luz Dodero, Technical Researcher, MGM International
Natsuki Tsukada, Project Manager, MGM International

The validation team consisted of the following personnel:

Mr Michael Lehmann	DNV Oslo, Norway	Team Leader, Energy sector expert
Mr Luis Filipe Aboim Tavares	DNV Rio de Janeiro, Brazil	GHG auditor
Ms Susanne Haefeli	DNV Oslo, Norway	Technical reviewer

For further details, please refer to the "Introduction" Section of DNV's Validation Report (DNV Report No. 2003-0506, rev. 01).

Description of methodology for carrying out validation

- **Review of CDM-PDD and additional documentation attached to it**
- **Assessment against CDM requirements (e.g. by use of a validation protocol)**
- **Report of findings by the DOE, e.g. by use of type of findings (e.g. corrective action requests, clarifications or observations). Please explain the way findings are "labelled" during validation.**
- **Include statements or assessments in the section "Conclusions, final comments and validation opinion" below.**

The validation consisted of the following three phases:

i) a desk review of the project design, baseline and monitoring plan

ii) follow-up interview with project stakeholders

iii) the resolution of outstanding issues and the issuance of the validation report and opinion

The original and revised versions of the project design document (PDD) of the project were assessed. Additional background documents related to the project design and the baseline were also consulted.

On 30 May 2003, DNV performed interviews with the Aquarius project stakeholders to confirm selected information and to resolve issues identified in the document review.

In order to ensure transparency, a validation protocol has been customized for the project, according to the Validation ad Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validation of the identified criteria.

Findings established during the validation can either be seen as a non- fulfilment of validation criteria or where a risk to the fulfilment of project objectives is identified. Such findings are termed Corrective Action Requests (CAR). The term Clarification may be used where additional information is needed to fully clarify an issue. The Corrective Action Requests and requests for Clarification raised by DNV were resolved through communication with the project participants. To guarantee the transparency of the validation process, the concerns raised by DNV and the response provided by the project participants are documented in Table 3 of the Validation Protocol in Appendix A of DNV's Validation Report (DNV Report No. 2003-0506, rev. 01).

For further details, please refer to the "Methodology" Section of DNV's Validation Report (DNV Report No. 2003-0506, rev. 01) and the IETA/PCF Validation ad Verification Manual (www.vvmanual.info)

Explanation by the submitting designated operational entity of how it has taken due account of comments on validation requirements received, in accordance with the CDM

modalities and procedures, from Parties, stakeholders and UNFCCC accredited non-governmental organizations;

- **Description of how and when the PDD was made publicly available**
- **Description of how comments were received and made publicly available**
- **Explanation of how due account has been taken of comments received**
- **Compilation of all comments received (Identify the submitter)**

The PDD of April 2003 was made publicly available on DNV's climate change website and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during a 30 days period from 5 April 2004 to 5 May 2004. No comments were received during this call. However, as part of the pre-validaion of the project one comment was received on 17 May 2003 during a 30 days stakeholder consultation from 22 April 2003 until 23 May 2003.

The comment received and how DNV has taken due account is documented in the "Comments by Parties, stakeholders and NGOs" Section of DNV's Validation Report (DNV Report No. 2003-0506, rev. 01).

Conclusions, final comments and validation opinion

- **Provide conclusions on each requirement under paragraph 37 of the CDM modalities and procedures, describing how these requirements have been meet. This shall include assessments and findings (e.g. corrective action requests, clarifications or observations) in relation to each requirement, including a confirmation that all issues raised have been addressed to the satisfaction of the DOE.**
- **Final comments and validation opinion**

Det Norske Veritas Certification Ltd (DNV) has performed a validation of the "Aquarius Hydroelectric Project" at Sonora, Mato Grosso do Sul State, Brazil. The validation was performed on the basis of UNFCCC criteria for small-scale CDM project activities and relevant Brazilian criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The proposed run-of-river hydroelectric power project with a capacity of 4.2 MW will generate electricity utilizing the water of the Correntes river. The project in not expected to have considerable environmental impacts. An Environmental Impact Study as required by Brazilian law has been carried out and the project has received an environmental licence by IBAMA.

The project participants are Aquarius Energética S.A. of Brazil and Electric Power Development Co., Ltd. of Japan. The Parties involved in this project are Brazil as the host Party and Japan as the participating Annex I Party. The Parties involved meet the requirements to participate in the CDM.

By promoting renewable energy, the project is in line with the current sustainable development priorities of Brazil.

Being a renewable energy project activity with an output capacity of less than 15 MW, the project is a "Renewable electricity generation for a grid project activity" (Type I.D) as defined in the simplified modalities and procedures for small-scale CDM project activities. The project applies one of the simplified baseline methodologies proposed for this project activity category (AMS-I.D), i.e. the average of the approximate operating margin and the build margin. The baseline methodology has been applied correctly and the assumptions made for the selected baseline scenario are sound.

By displacing fossil fuel-based electricity, the project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

It is sufficiently demonstrated that the project is not financially attractive, in particular in absence of PROINFA, the Brazilian incentive program for renewable energy, and thus faces an investment barrier. Emission reductions are thus additional.

The monitoring plan sufficiently specifies the monitoring requirements of the main project indicators. Detailed responsibilities and authorities for project management, procedures for monitoring and reporting, and QA/QC procedures are not yet described, but will need to be developed prior to project commencement in order to enable consistent subsequent verifications of emission reductions.

In summary, it is DNV's opinion that the project, as described in the project design document of 19 April 2006, meets all relevant UNFCCC requirements for the CDM and correctly applies the approved simplified baseline and monitoring methodology AMS-I.D. Hence, DNV requests the registration of the "Aquarius Hydroelectric Project" as CDM project activity.

For further details, please refer to the "Validation Findings" Section and Table 1 of the Validation Protocol in Appendix A of DNV's Validation Report (DNV Report No. 2003-0506, rev. 01).

The DOE declares herewith that in undertaking the validation of this proposed CDM project activity it has no financial interest related to the proposed CDM project activity and that undertaking such a validation does not constitute a conflict of interest which is incompatible with the role of a DOE under the CDM.

By submitting this validation report, the DOE confirms that all validation requirements are met.	Prior to the submission of this validation report to the CDM Executive Board, DNV will have to receive the written approval of voluntary participation from the DNA of Brazil and Japan, including the confirmation by the DNA of Brazil that the project assists it in achieving sustainable development.
Name of authorized officer signing for the DOE	Michael Lehmann
Date and signature for the DOE	19 April 2006 Michael Lehma..

Section below to be filled by UNFCCC secretariat		
Date when the form is received at UNFCCC secretariat		
Date at which the registration fee has been received		
Date at which registration shall be deemed final		
Date of request for review, if applicable		
Date and number of registration	Date	Number