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	IRANI Biomass Electricity Generation Project
Project participants (Name(s))	Celulose Irani (Brazil) EcoSecurities (United Kingdom) Shell Trading International Limited (United Kingdom) Showa Shell Sekiyu K.K. (Japan)
Sector in which project activity falls	Energy industries Waste handling and disposal Agriculture
Is the proposed project activity a small-scale activity?	Yes

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 2004-1301, rev 03));
- ❑ The written approval of voluntary participation from the designated national authority of each Party involved, including confirmation by the host Party hat the project activity assist it in achieving sustainable development:
  - (Attach a list of all Parties involved and attach the approval(in alphabetic order))
- ☑ Other documents, including any validation protocol used in the validation.
  - DNV's Validation Report (DNV report 2004-1301, rev 03), including a validation protocol and a list of person interviewed by DNV during the validation process.
- ❑ 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 Border and the secretariat in particular with regard to instructions regarding allocation 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 project activity consists of the construction and operation of a 9.43 MW biomass generation plant that will generate part of the electricity required by the Celulose Irani plant in the paper manufacturing process. The project activity involves displacing more carbon intensive electricity from the grid with electricity generated by GHG neutral biomass (wood chips and wood residue). The project also involves methane avoidance from biomass not being landfilled. In the absence of the project the wood residue, which will be used in the thermoelectric plant will continue to be landfilled.

The project participants are Celulose Irani (Brazil), EcoSecurities (UK), Shell Trading International Limited (UK) and Showa Shell Sekiyu K.K. (Japan).

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, the simplified modalities and procedures for small-scale CDMM project activities and the relevant decisions by the CDM Executive Board. The validation team has, base done the recommendation in the IETA/PCF Validation and Verification Manual, 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:

Irani Biomass Electricity Generation Project PDD, version June 2004

Irani Biomass Electricity Generation Project PDD, version October 2004

Irani Biomass Electricity Generation Project PDD, version December 2004

Irani Biomass Electricity Generation Project PDD, version July 2005

Spreadsheet of Calculation of Combined Margin (ONS database SSC 2001-2003 v.05.xls), 26 May 2005.

Spreadsheet of Calculation of Cash flow (Irani CashFlow 15-dec-04.xls), 15 December 2004.

Appendix B of the simplified modalities and procedures for small-scale CDM project activities, Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories, (Version 05 of 25 February 2005).

Martina Bosi: Road-Testing Baselines for Greenhouse Gas Mitigation Projects in the Electric Power Sector (OECD and IEA Information Paper COM/ENV/EPOC/IEA/SLT(2002)6). October 2002. Available at http://www.oecd.org.

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

The following persons were interviewed:

Odivan Carlos Cargnin – Celulose Irani – Diretor Financeiro

Leandro Lexis Farina – Celulose Irani - Gerente Qualidade

Ruy Micheil Filho – Celulose Irani - Gerente Engenharia / Coordenador Planta

Pablo Fernandez – Ecosecurities

The validation team consist of the following personnel:

Mr Luis Filipe Aboim Tavares	DNV Rio de Janeiro
Mr Michael Lehmann	DNV Oslo
Mr Einar Telnes	DNV Oslo

For further details, please refer to the "Introduction" Section of DNV's Validation Report (DNV report 2004-1301, rev 03).

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 of the project started in July 2004. The validation consisted of the following three phases:

i) a desk review of the Project design and the baseline and monitoring methodology;

ii) follow-up interview with Project stakeholders;

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

The original and revised versions of the PDD for the Irani Biomass Electricity Generation Project submitted by the project participants were reviewed. Additional background documents related to the project design and the baseline were also consulted.

On 17 December 2004, a site visit and interviews with Irani and EcoSecurities was carried out to confirm selected information.

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 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 two Corrective Action Requests and the seven requests for Clarification raised by the validation team were resolved through communications with the project participants. To guarantee the transparency of 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 2004-1301, rev 03).

For further details, please refer to the "Methodology" Section of DNV's Validation Report (DNV report 2004-1301, rev 03) 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)**

DNV Certification published the initial PDD of June 2004 on the DNV Climate Change web site (http://www.dnv.com/certification/ClimateChange) and stakeholders were through the UNFCCC CDM web site invited to provide comments within a 30 days period from 19 September 2004 to 19 October 2004. One comment was received in this period. The comment (in unedited form) and how DNV has taken due account of the comment received is given in the "Comments by Parties, stakeholders and NGOs" Section of DNV's Validation Report (DNV report 2004-1301, rev 03).

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 "Irani Biomass Electricity Generation Project" at Vargem Bonita Santa Catarina State, Brazil (hereafter called "the project"). 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. UNFCCC criteria refer to 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 decisions by the CDM Executive Board.

The proposed thermoelectric power project with a capacity of 9.43 MW will generate electricity utilizing biomass of wood chips and wood waste from eucalyptus and pinus production in Irani forests. Utilising biomass waste instead of landfilling it, the project will also avoid methane emissions.

The project is not expected to have considerable environmental impacts. A preliminary Environmental License and Installation Environment License was received from the State Environment Agency FATMA as required by Brazilian law and the subsequent Operation Environment License is expected to be issued after project start.

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 and having less than 15 000 tCO2e project emissions the project meets the criteria for Renewable electricity generation for the grid (Category I.D) and Methane avoidance (Category III.E) as defined in Appendix B of the simplified modalities and procedures for small-scale CDM project activities.

Category I.D comprises projects that "that supply electricity to an electricity distribution system". The electric energy generated by the project will be used by the Celulose Irani Plant and will reduce the imports from grid electricity. Hence, as this project activity reduces grid electricity imports and thus

avoids marginal fossil fuel based electricity generation in the same way as projects supplying all their electricity to the grid, it is DNV's opinion that the project can apply the simplified baseline and monitoring methodology for category I.D small-scale CDM project activities.

The simplified modalities and procedures give no further guidance on which project emissions to include for determining whether a project meets the small-scale eligibility threshold for category III.E, i.e. the project emissions shall be less than 15 000 tCO_2e per year. The selected definition of the project emissions being the CH_4 and N_2O emissions due to incomplete combustion of biomass with an exclusion of biogenic CO_2 emissions from the combustion of biomass is in line with other approved CDM baseline and monitoring methodologies.

The project applies the appropriate simplified baseline methodologies proposed for the above mentioned small-scale project activity categories. A combined margin emission coefficient of 0.521 tCO_2e/MWh is calculated in accordance with the simplified baseline methodology for category I.D small-scale CDM project activities, i.e. the average of the approximate operating margin and the build margin. The determination of this combined margin emission coefficient is based on actual electricity generation data provided by the National Electricity System Operator (ONS) for the years 2001- 2003 in the South-Southeast-Midwest (S-SE-CO) grid.

The second baseline component is established according to the simplified baseline methodologies for category III.E small-scale CDM project activities. The amount of methane produced from decay of biomass landfilled in absence of the project is determined using adequate IPCC default emission factors.

The additionality of the project is demonstrated through a barrier test. Upon request, an investment analysis considering all savings and expenses associated to the project was presented. DNV acknowledges that the project without CER revenues has an IRR lower than the levels regarded as acceptable for other investments in Brazil. Although Celulose Irani already operates two old biomass power plants, the new boiler has different conditions of operation, using the wood waste which is not readily utilised to generate electricity. Hence, it is sufficiently demonstrated that the project is not a likely baseline scenario and that emission reductions attributable to the project are additional.

By displacing fossil fuel-based electricity with electricity generated from a renewable source and by avoiding landfilling of biomass, the project results in reductions of CO_2 emissions and the avoidance of CH4 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.

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 assured through ISO 9001 certification of Celulose Irani, however these procedures were not implemented yet and should be assessed on verification phase.

In summary, it is DNV's opinion that the "Irani Biomass Electricity Generation Project", as described in the revised and resubmitted project design documentation of July 2005, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the simplified baseline and monitoring methodology for category I.D and III.E small-scale CDM project activities. Hence, DNV requests the registration of the "Irani Biomass Electricity Generation 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 2004-1301, rev 03).

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 the participating Parties, including confirmation by the DNA of Brazil that the project assists in achieving sustainable development..		
Name of authorized officer signing for the DOE	Michael Lehmann Michael Lehmann		
Date and signature for the DOE	26 July 2005		
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