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	Kuyasa low-cost urban housing energy upgrade project, Khayelitsha (Cape Town; South Africa)
Project participants (Name(s))	City of Cape Town, Urban development unit
Sector in which project activity falls	Energy generation for the user/Energy efficiency
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;
- ☑ 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:
  - o (Attach a list of all Parties involved and attach the approval (in alphabetical order))
- ☑ Other documents, including any validation protocol used in the validation
  - o (comprehensive list of documents attached clearly referenced)
  - o List of persons interviewed by DOE validation team during the validation process
  - o Any other documents. Please specify.

- ☑ 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 Kuyasa project is aimed as an intervention in existing low-income households in a housing development in Kuyasa, Khayelitsha, as well as in future housing developments in this area. The project activity aims to improve the thermal performance of the existing and future housing units and improve lighting and water heating efficiency. This will result in reduced current and future electricity consumption per household, causing avoided CO_2 emissions per unit. Other co-benefits of the project activity include a reduction in local air pollution with subsequent decreases in pulmonary pneumonia, carbon monoxide poisoning and other respiratory illnesses as a consequence of paraffin burning. A decrease in accidents and damage to property as a result of fire is also anticipated.

The project activity relates to the following 3 interventions per household unit:

- Insulated ceilings;
- Solar Water Heater installation; and
- Energy Efficient Lighting.

Improved end-use energy efficiency combined with the use of solar energy for water heating will result in measurable avoided pollutant emissions and measurable energy consumption savings. This contributes to 'energy poverty' alleviation.

By increasing the use of renewable energy and improving thermal performance, energy services are provided that are cleaner with respect to local pollutants and cheaper than in the baseline situation. The improvements in the thermal performance will moderate indoor air temperature with associated comfort and health benefits. The project will aim to reduce the suppressed demand for the services provided, hence taking into account the Marrakech Accords paragraph 46.

The average emission annual reductions over the first 7 years crediting period are expected to be 6580 tCO_2e per year.

The validation scope was 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 and for small-scale CDM projects at CoP 8, the criteria contained in the approved baseline and monitoring methodology AMS I C, AMS II C and AMS II E and the relevant decisions by the CDM Executive Board. The validation team has, based on 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:

SouthSouthNorth: Project design document, version of November 23, 2004 and updated version of February 28, 2005.

Final report on monitoring data results, July 2003-January 2004. AGAMA Energy, March 4, 2004

Solar Water Heater Model. AGAMA Energy, 29th March, 2004. Updated February 20, 2005

Thermal Modelling: AGAMA Energy, 10.October 2003, Updated February 20, 2005.

Kyuasa Retrofit Project Support Manual. AGAMA Energy, November 2003

Suppressed Demand in low cost housing in Kuyasa 2003, attachment A; Social Research Study for Kuyasa 2003, attachment B

South African DNA: Letter of Approval, May 10, 2005

Letter from the Director: Planning and development. Western Cape Province, Dept.of environmental affairs and development planning. February 23, 2004

Paper on results form methodology using actual indoor temperature levels during heating periods and from methodology using measured thermal comfort temperature of 21o C for both heating periods. Kuyasa project, Not dated.

Validation and verification Manual. PCF/IETA, 2003

Small-Scale modalities for the CDM. Version 03, UNFCCC, October 2004.

Sustainable development criteria for CDM projects in South Africa. DEAT, October 14, 2004.

The following persons were interviewed:

Representatives for SouthSouthNorth: Lwandle Mqadi, Shirene Rosenberg, Lester Malgas, Steve Thorne

Liaison in the Kuyasa community: Zuko Ndamani

Energy consultant, Agama Energy: Greg Austin

Interviewed residents in pilot houses of Kuyasa: Wezana Qwili, Thembisa Kulana, Nombulelo Sontleba, Moses Dyasi

The validation team consisted of the following personnel:

Mr Einar Telnes	DNV Oslo, Norway	Team Leader, GHG auditor
Ms Mari Grooss Viddal	DNV Oslo, Norway	Internal verifier

For further details, please refer to the "Introduction" and “References” Sections of DNV's Validation Report (DNV Report 2005-0169, 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 of the project consisted of the following three phases:

i) a desk review of the original project design documents (December 2004-January 2005)

ii) follow-up interviews with project stakeholders (January 27-28 2005)

iii) the resolution of outstanding issues and the issuance of the final validation report and opinion (February to June 2005).

The initial Project Design Document (PDD) of November 22, 2004 submitted by the SouthSouthNorth as well as additional background documents related to the project design and baseline were reviewed in the initial stage of the project. This documentation was subsequently updated as a consequence of corrective action and clarification requests and SouthSouthNorth submitted a

revised PDD of February 28, 2005.

Follow-up interviews were performed January 27-28 in Cape Town and Kuyasa with representatives from SouthSouthNorth, the local community in Kuyasa, residents in the pilot houses as well as with the consultant responsible for the baseline modelling.

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 requests for Clarification raised by DNV were resolved through communications 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 to the Validation Report (DNV Report 2005-0169, rev. 01).

For further details, please refer to the "Methodology" Section of DNV's Validation Report (DNV Report 2005-0169, rev. 01) and the IETA/PCF Validation and 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 November 2004 was made publicly available on DNV's climate change website (www.dnv.com/certification/climatechange) and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during the period December 4, 2004 to January 3, 2005. One comment was received from Partick Karani, BEA International and made publicly available on DNV's climate change website.

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 2005-0169, 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 Certification) has in the period December 2004 to June 2005 performed a validation of the "Kuyasa low-cost urban housing energy upgrade project, Khayelitsha (Cape Town; South Africa)", proposed for registration as small-scale CDM project activity. The validation is performed on the basis of UNFCCC criteria for small-scale CDM project

activities, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The project participants are the City of Cape Town. The DNA of the participating Party, i.e. South Africa, has provided confirmation of voluntary participation in the project.

The project is an intervention in an existing low-income housing development in Kuyasa, as well as in future housing developments in this area. The project activity aims to improve the thermal performance of the existing and future housing units and improve lighting and water heating efficiency. These interventions qualify under small-sale categories II.E, II.C and, I.C respectively.

The project will contribute to sustainable development by reducing fossil fuel-based electricity used for lighting and heating purposes and water heating through use of renewable energy. The DNA of South Africa has confirmed that the project is in line with current sustainable development priorities and is accepted as a CDM project.

The validation did not reveal any information that indicates that the project can be seen as a diversion of ODA funding towards South Africa.

An assessment of investment barriers and barriers due to prevailing practice demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. The project applies the simplified baseline methodologies for category I.C, II.C and I.D small-scale CDM project activities. The determination of the baseline scenarios is transparent. These baselines also take into account the current suppressed demand. The selected baselines represent business as usual for the residents of Kuyasa, taking into consideration the current suppressed demand, and it is confirmed that the project interventions would not have been the prioritised investment in the case of excess money.

The monitoring plan provides for the monitoring of measures implemented by the project and the continuation of these. Responsibilities and authorities for project management, monitoring and reporting and QA/QC procedures are described in the updated project design documentation.

Given the above, the project will result in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Direct project emissions are zero and the baseline emissions are determined using reasonable assumptions.

Local stakeholders were consulted extensively through a comprehensive consultation process. The PDD has been published on the DNV Climate Change website and comments by Parties, stakeholders and UNFCCC accredited NGOs were invited through the CDM website. One comment was received and considered in this validation.

In summary, it is DNV's opinion that the project, as described in the project design document of February 2005, meets all relevant UNFCCC requirements for the CDM and correctly applies the simplified baseline and monitoring methodologies for category I.C, II.C and II.E small-scale CDM project activities. Hence, DNV request the registration of the "Kuyasa low-cost urban housing energy upgrade project, Khayelitsha (Cape Town; South Africa)" 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 2005-0169, 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.	Einar Telnes

Name of authorized officer signing for the DOE			
Date and signature for the DOE	 July 12, 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