



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	N ₂ O Emission Reduction in Onsan, Republic of Korea
Project participants (Name(s))	<ul style="list-style-type: none"> - KEMCO (Korea Energy Management Corporation) of the Republic of Korea - Rhodia Energy Korea Co, Ltd of the Republic of Korea - Rhodia Energy SAS of France - Rhodia Energy GHG SAS of France - Rhodia Japan Ltd of Japan
Sector in which project activity falls	Sectoral scope 5: Chemical industries
Is the proposed project activity a small-scale activity?	Yes / <u>No</u> (underline as applicable)

Section 2: Validation report

List of documents to be attached to this validation report (please check mark):	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> The CDM-PDD of the project activity <input checked="" type="checkbox"/> 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 Validation Report (DNV Report No. 2005-0786, rev. 02)); <input checked="" type="checkbox"/> 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: <ul style="list-style-type: none"> ○ Letter of Approval by the DNA of the Republic of Korea of 28 September 2005 ○ Letter of Approval by the DNA of France of 28 September 2005 ○ Letter of Approval by the DNA of Japan of 26 July 2005 <input checked="" type="checkbox"/> Other documents, including any validation protocol used in the validation <ul style="list-style-type: none"> ○ Validation Report (DNV Report No. 2005-0786, rev. 02), including a validation protocol and a list of persons interviewed by the validation team during the validation process <input checked="" type="checkbox"/> Information on when and how the above validation report is made publicly available. <input checked="" type="checkbox"/> 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 “N₂O Emission Reduction in Onsan, Republic of Korea” project activity consists of the installation of a facility for thermal decomposition of nitrous oxide (N₂O) from an adipic acid manufacturing unit located in Onsan, Korea, operated by Rhodia Polyamide Co Ltd. N₂O is generated as a by-product of the nitric acid oxidation stage and is emitted in the waste gas stream. Currently, the waste gas stream from the adipic acid unit goes through a treatment process to recover the nitrogen oxides (NO_x), but N₂O is together with the off-gases released to the atmosphere. The project is expected to reduce GHG emissions by approximately 9.15 million tonnes of CO₂-equivalents (tCO₂e) 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, the criteria contained in the approved baseline and monitoring methodology AM0021 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:

Rhodia Energy and Perspectives Climate Change: CDM-PDD - N₂O Emission Reduction in Onsan, Republic of Korea. Version 6 of 9 June 2005, version 7 of 24 August 2005 and version 9 of 1 September 2005.

Rhodia Polyamide and Perspectives Climate Change: Monitoring Plan for the N₂O Emission Reduction Project in Onsan, Republic of Korea. 3 May 2005.

Rhodia Energy: NPV. Excel Sheets received 25 May 2005.

Rhodia Energy: Gas and electricity price. Excel Sheets received 25 May 2005.

Rhodia Energy: Steam price. Excel Sheets received 25 May 2005.

JOHN ZINK International Luxembourg: Quotation for N₂O emission control unit. 13 May 2005.

The CDM Review Committee (DNA of Republic of Korea). Letter of approval. 28 September 2005.

Interministerial Task Force for Climate Change (DNA of France): Letter of approval. 28 September 2005.

The Liaison Committee for the Utilization of the Kyoto Mechanisms (DNA of Japan): Letter of approval. 26 July 2005

Approved baseline methodology AM0021: Baseline Methodology for decomposition of N₂O from existing adipic acid production plants. Version 01, 25 February 2005.

Approved monitoring methodology AM0021: Monitoring Methodology for decomposition of N₂O from existing adipic acid production plants. Version 01, 25 February 2005.

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

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

The following persons were interviewed:

Thierry MANTE, Project Executive Director, Rhodia Polyamide Co Ltd, Onsan
 Soo Young LEE , Project integration Manager, Rhodia Polyamide Co Ltd, Onsan
 Hyun-Chul PARK, HSE Manager, Rhodia Polyamide Co Ltd, Onsan
 Jin-Hwan JU, Quality Control Manager, Rhodia Polyamide Co Ltd, Onsan
 Johan CHOI, Site Manager. Rhodia Polyamide Co Ltd, Onsan
 Yong Gon AHN, Accounting Manager , Rhodia Polyamide Co Ltd, Onsan
 Franck, MUNERET, Instrument Engineer, Rhodia Polyamide Co Ltd, Onsan

The validation team consisted of the following personnel:

Mr Michael Lehmann	DNV Oslo, Norway	Team Leader, GHG auditor
Mr Ramesh Ramachandran	DNV Chennai, India	GHG auditor
Mr Young-Keun Kim	DNV Seoul, Republic of Korea	GHG auditor
Mr K. Chandrashekara	DNV Bangalore, India	Chemical sector expert
Ms Susanne Haefeli	DNV Oslo, Norway	Technical reviewer

For further details, please refer to the "Introduction" and "References" Sections of DNV's Validation Report (DNV Report No. 2005-0786, rev. 02).

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 project design and the baseline and monitoring methodology (June to September 2005)
- II follow-up interviews with project stakeholders (July 2005)
- III the resolution of outstanding issues and the issuance of the final validation report and opinion (July to September 2005).

The PDD (initial version of June 2005, revised version of August 2005 and final version of September 2005) and the Monitoring Plan for the "N₂O Emission Reduction in Onsan, Republic of Korea" project were reviewed. Moreover, Excel sheets, which were made available to DNV and which document in detail the NPV analysis, the gas and electricity price, and the steam price, and the quotation by the selected technology supplier were reviewed.

On 6 and 7 July 2005, DNV conducted interviews with 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 and 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 No. 2005-0786, rev. 02).

For further details, please refer to the "Methodology" Section of DNV's Validation Report (DNV Report No. 2005-0786, rev. 02) 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)

According to the modalities for the validation of CDM projects, the validator shall make publicly available the PDD and receive, within 30 days, comments on the validation requirements from Parties, stakeholders and UNFCCC accredited Non-governmental Organisations (NGOs) and make them publicly available.

The PDD of 9 June 2005 has been published on DNV's Climate Change website. Parties, stakeholders and NGOs were through the UNFCCC CDM website invited to provide comments on the validation requirement during a period of 30 days from 10 June to 9 July 2005.

No comments were received.

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 met. 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 made a validation of the "N₂O Emission Reduction in Onsan, Republic of Korea" project (hereafter called "the project") located in Onsan, Korea, on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board.

The review of the project design documentation and the subsequent follow-up interviews have

provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

The project consists of the installation of a facility to thermally decompose nitrous oxide (N₂O) from an adipic acid production plant located in Onsan, Republic of Korea.

The project participants are KEMCO (Korea Energy Management Corporation) and Rhodia Energy Korea Co, Ltd of the Republic of Korea, Rhodia Energy SAS and Rhodia Energy GHG SAS of France and Rhodia Japan Ltd. The participating Parties - the Republic of Korea as host Party and France and Japan as Annex I Parties - meet all relevant participation requirements. The DNA of the Republic of Korea, France and Japan have provided approval of voluntary participation, and the DNA of the Republic of Korea has provided confirmation that the project assists in achieving sustainable development.

The project correctly applies the approved baseline and monitoring methodology AM0021 titled "Decomposition of N₂O from existing adipic acid production plants". The determination of the baseline is well elaborated, transparent and sufficiently supported with facts. The selected baseline scenario, i.e. the continued non-utilization and atmospheric release of N₂O emissions, is reasonable for the first 7 years crediting period of 2006-2013. Moreover, an analysis of the economic attractiveness of the project alternative without the revenue from carbon credits demonstrates that the project is not a likely baseline scenario.

By collection and combustion of N₂O captured at the adipic acid production plant, the project results in the reduction of N₂O emissions that are real, measurable and give long-term benefits and that are additional to what would have occurred in the absence of the project.

The GHG emission calculations are documented in a complete and transparent manner. The algorithm and methodologies for accounting GHG emissions are appropriate and emission factors are deemed to be of sufficient accuracy.

Detailed responsibilities and authorities for project management, monitoring and reporting and QA/QC procedures have been developed.

In summary, it is the validation team's opinion that the "N₂O Emission Reduction in Onsan, Republic of Korea" project, as described in the project design documentation of 1 September 2005, meets all relevant UNFCCC requirements for the CDM and correctly applies the approved baseline and monitoring methodology AM0021. Hence, DNV requests the registration of the "N₂O Emission Reduction in Onsan, Republic of Korea" 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. 2005-0786, rev. 02).

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.

Name of authorized officer signing for the DOE Michael Lehmann

Date and signature for the DOE

28 September 2005

Michael Lehmann

<i>Section below to be filled by UNFCCC secretariat</i>		
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