

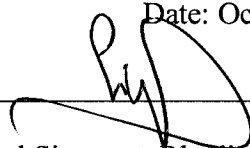


**CDM
MONITORING REPORT #1
of
“N2O Emission Reduction in Onsan,
Republic of Korea”
UNFCCC 0099**

**From: Sep. 1, 2006
To: Oct. 22, 2006**

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1 Introduction

The purpose of this monitoring report is to calculate and clarify GHG emission reduction quantity achieved by this project for periodic verification.

This monitoring report covers the activity from September 1st 2006 to October 22nd 2006 as the 1st period.

Duration of the project activity period

The starting date of the project as well as the starting date of the crediting period is defined as 01/09/2006.

2. Reference

Approved Baseline methodology :

Baseline Methodology for decomposition of N₂O from existing adipic acid production plants (AM0021)

Approved Monitoring methodology :

Monitoring Methodology for decomposition of N₂O from existing adipic acid production plants (AM0021)

Project Design Document :

N₂O Emission Reduction in Onsan, Republic of Korea.

Version number of the document : 8

Date : September, 1st 2005

CDM registration number :

“N₂O Emission Reduction in Onsan, Republic of Korea” – UNFCCC ref number 0099

3. Definition

y : Monitoring period (in this report, September 1st 2006 to October 22nd 2006.)

PDD : Project Design Document of this project “N₂O Emission Reduction in Onsan, Republic of Korea.” Version number of the document: 8, issued on September, 1st 2005



4. General description of project

Project activity

Nitrous oxide (N₂O) is a by-product of adipic acid production. It is of low toxicity but is a greenhouse gas (GHG), whose GWP is large (GWP=310 in the IPCC 2nd Assessment Report). Emissions of N₂O will be controlled under the Kyoto Protocol. As far as we are aware, there are however no national or regional regulations or restrictions on the emission of N₂O in South Korea. There are in fact no governmental regulations with quantified emission limits in any non-Annex I countries at this point.

In this project, Rhodia Polyamide Co. Ltd additionally installed N₂O collection and a thermal decomposition process equipment to the currently operating adipic acid manufacturing plant. This installation reduces the GHG emissions, which would otherwise be released to the atmosphere if the project was not implemented.

The decomposition facilities was installed in the factory site of Onsan Rhodia Polyamide Co., Ltd. in May 2006 and destruction of N₂O was started in September 2006.

The starting date of the project as well as the starting date of the crediting period is defined as 01/09/2006.

This project activity was registered at UNFCCC on November 27th 2005 with the number 0099.

Technical description of the project

Location of the project activity

The decomposition facilities were installed in the factory site of Onsan Rhodia Polyamide Co. Ltd, in May 2006. The surrounding area is the Onsan industrial estate.

Technology to be employed by the project activity

A thermal oxidizer with 2 chambers is the technology used to decompose N₂O.

Natural gas is fed with the off gas adipic acid production containing N₂O and some air in a reduction chamber, where it burns (oxidizes) to carbon dioxide CO₂ and water vapour. N₂O is used as an oxidizer. Being oxygen deficient, the oxidation is not complete and carbon monoxide and hydrogen are present.



The temperature in the furnace is kept at about 1300°C and under fuel rich conditions, so as to promote the complete decomposition of N₂O while minimizing the formation of unwanted combustion by-products such as NO and NO₂.

The gas is then quenched with air to complete the combustion of carbon monoxide and hydrogen at a temperature of about 950°C in a second chamber. Steam and ammonia are injected to control the emission of NO and NO₂.

Before release to the stack, the flue gas coming from the thermal oxidizer is used to produce saturated steam, which is fed into the existing on-site steam network.

