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Validation Report

(with a Validation Opinion)

KDM S.A.

VALIDATION OF THE REVISED MONITORING PLAN OF
THE REGISTERED CDM-PROJECT N°: 0822

“Loma Los Colorados Landfill Gas Project”

REPORT NO. 600500381

March 26rd, 2010

TÜV SÜD Industrie Service GmbH
Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
600500381	23/03/2010	1	26/03/2010	-

Subject: Validation of a revision of Monitoring Plan			
Accredited TÜV SÜD Unit: TÜV SÜD Industrie Service GmbH Certification Body “climate and energy” Westendstr. 199 - 80686 Munich Federal Republic of Germany.		TÜV SÜD Contract Partner: TÜV SÜD Industrie Service GmbH Carbon Management Service Westendstr. 199 - 80686 Munich Federal Republic of Germany.	
Client: KDM S.A. Av. Pardo y Aliaga N° 699 4to Piso San Isidro Lima 27 Perú		Project Site(s): The Loma Los Colorados Landfill is located in the administrative district (“Comuna”) of Til-Til, 63.5 km north of Santiago, Chile, near a village named Montenegro. Coordinates (WGS84 datum): Latitude: -32.956394 Longitude: -70.801347	
Project Title: “Loma Los Colorados Landfill Gas Project”			
Applied Methodology / Version: ACM0001 version 04 ACM0002 version 06		Scope(s): 1, 13 Technical Area: 1.2, 13.1	
Registered PDD Version: 3 Registration Date: 17/03/2007 Starting Date of Crediting Period: 17/03/2007		Revised Monitoring Plan: Date of issuance: 25/03/2010	
Assessment Team Leader: Javier Castro		Further Assessment Team Members: Lester Saldias (GHG Auditor) Eric Tolcach (GHG Auditor)	
Summary of the Validation Opinion: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The review of the revised monitoring plan and the subsequent follow-up interviews has provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the revised monitoring plan meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the replacement of the monitoring plan of the registered PDD by the submitted version. <input type="checkbox"/> The review of the revised monitoring plan and the subsequent follow-up interviews has not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the replacement of the revised monitoring plan of the registered PDD. 			



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1 INTRODUCTION

1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed revision of a monitoring plan against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is required in the context of proposed revisions of a registered CDM activity and will finally result in a conclusion by the executing DOE whether a revised monitoring plan is valid and should be submitted for replacing the previous version. The ultimate decision on the registration of the proposed revision rests at the CDM Executive Board.

The project activity discussed by this validation report is registered as CDM activity N° 0822 with the project title:

“Loma Los Colorados Landfill Gas Project”.

1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. The core requirements on revised monitoring plans are given by annex 12 of the report of EB-31 as referred below:

15. The request for revising monitoring plan is made in cases where:

- a. the monitoring plan in the registered CDM project activity document is found not to be consistent with the approved monitoring methodology applied to the registered project activity; or*
- b. the proposed revision of the monitoring plan ensures that the level of accuracy or completeness in the monitoring and verification process is not reduced as a result of the revision;*

Furthermore, consideration on paragraph 3 of annex 28 of EB49 report is taken as it states:

3. If a DOE during verification finds that the monitoring plan is not in accordance with the monitoring methodology applied to the registered project activity and/or does not reflect the actual monitoring activity based on the registered PDD, the DOE shall request a revision of the monitoring plan.

The validation is not meant to provide any consulting towards the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

2 METHODOLOGY

The project assessment applies standard auditing techniques to assess the correctness of the information provided by the project participants. The assessment is based on the latest version of the “Clean Development Mechanism Validation and Verification Manual”.

2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body “climate and energy”. The composition of an assessment team has to be approved by the Certification Body ensuring that the required skills are covered by the team. The Certification Body TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A)
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)

It is required that the sectoral scope and technical area linked to the methodology has to be covered by the assessment team.

The validation team was consisting of the following experts (the responsible Assessment Team Leader is written in bold letters):

Name	Qualification	Coverage of Sectoral scope	Coverage of Technical Area	Host country experience
Javier Castro	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Eric Tolcach	GHG-A			<input checked="" type="checkbox"/>
Lester Saldías	GHG-A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (13.1)	<input checked="" type="checkbox"/>

Javier Castro is ATL and head of the “Knowledge Management Department” at TÜV SÜD Industrie Service GmbH. He has an academic background in chemical engineering and energy systems. In his position he participates as project manager in the validation, verification and certification processes for GHG mitigation projects. He has received extensive training in the CDM and JI validation processes, and has participated in some validations and verifications of CDM projects.

Eric Tolcach is biologist and is working as GHG auditor at TÜV SÜD Industrie Service GmbH. He was involved in several CDM projects activities and is receiving extensive training on all aspects of the Validation and Verification Process. Previously, he was working as consultant and auditor in ISO systems and due-diligence environmental audits.

Lester Saldías is an Environmental Engineer working as a Freelance Auditor in Chile. He is an auditor for integrated management systems (ISO 9001/ISO 14001/OHSAS 18001). He has received intensive training in the CDM validation process and now is working as GHG auditor on the verification and validation of several CDM projects on Latin America.



2.2 Review of Documents

The revised Monitoring Plan submitted by the client was reviewed as initial step of the validation process. The assessment was correlated to the verification of the first monitoring plan.

(<http://cdm.unfccc.int/Projects/DB/DNV-CUK1166695034.41/view>).

2.3 Follow-up Interviews

Follow-up interviews by telephone have been carried out. A further on-site audit was not necessary to be performed as the verification team performed the third verification on-site audit in September 28th, 2009.

2.4 Internal Quality Control

As final step of a validation, the validation report has to undergo an internal quality control procedure by the Certification Body “climate and energy”, i.e. each report has to be approved either by the head of the certification body or his deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests at the decision of TÜV SÜD's Certification Body whether a project will be submitted for re-requesting registration by the EB or not.

3 FINDINGS

The basis of the revision of the monitoring plan presented herewith intends to give a clear approach and overview of the actual monitoring activities following the real situation of the project activity.

The Loma Los Colorados Landfill Gas Project consists in a landfill gas collection system. This will involve investing and operating of a system for landfill gas collection and flaring. Some of the landfill gas collected will be used to produce electricity at the landfill site and additional GHG emissions reductions will be claimed once this part of the project enter in operation.

The change presented in the revised monitoring plan comparing with the registered PDD is related to the monitoring of two emission sources that take place on the landfill. These emission sources correspond to the diesel used by a generator installed in the landfill (for feeding the pumping system and blackouts) and liquefied gas used for the start-up of the flare (as pilot gas).

Originally, the registered PDD includes on Annex 4, that “Another source of project CO₂ emissions may arise from any fossil fuel used in the project activity. In such cases, the quantity of fossil fuels required to operate the landfill gas project, including the pumping equipment for the collection system and energy required to transport heat, should be monitored.”

Following this approach, the project proponent has monitored the diesel consumed by the generator and the gas cylinder that feeds the pilot of the flaring system and discounted from the emission reduction calculations as Project Emissions. Those two emissions will be summarized in one single parameter known as $PE_{i,y}$, Project emissions from source i in year y , as can be seen in table D.2.2.1. of the revised monitoring plan.

Both parameters will be calculated considering the amount of fossil fuel used in each case during the monitoring period and multiplying it by its correspondent emission factor. Following conservative approach, PP is using the 2006 IPCC emission factors for calculation purposes. It is important to indicate that if any update is made to the IPCC Greenhouse Gases Inventories, the same update will be used by the Project Participants.

KDM S.A. is certified ISO 9001 and 14001. Therefore, all their operations are inserted in rigorous procedures and instructive documents. In order to estimate the amount of fossil fuels used during the Monitoring Period, KDM followed the specific operation instructive applicable at the time of preparation of this report I-RSL-013 “Instructivo Sistema de Captación y Abatimiento de Biogás” (Landfill Gas Flaring and Capture System Procedure). The specific consumption of the diesel is registered on R-RSL-005 “Informe consumo de combustible” (Fuel consumption report) and then transferred to digital, but conserving the original data. In the case of the Pilot-gas, the register used is R-BOB-005 Solicitud de materiales (Materials Request), and the same process is done. The procedures were assessed during verification activities and give confidence about the correct monitoring and accounting of the fossil fuel consumption of the project activity.

The revision of monitoring plan is the follow up of the outcome to the Request for Review raised during the 2nd Periodic Verification process. The project emissions has been discounted from the beginning of the crediting period, therefore no overestimation of emission reductions has been achieved during former verification activities.

All changes in the PDD are included in the revised monitoring plan, all other chapters or subchapters have not been affected by the revision.

4 VALIDATION OPINION

TÜV SÜD has performed a validation of the revised monitoring plan of the CDM project N°: 0822; "Loma Los Colorados Landfill Gas Project".

The review of the revised monitoring plan and the subsequent follow-up interviews has provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the revised monitoring plan meets all relevant UNFCCC requirements for the CDM. Hence, TÜV SÜD recommends the replacement of the monitoring plan of the registered PDD by the submitted revision.

In line with annex 28 from EB49, the DOE confirms that:

- (a) The completeness and accuracy of the monitoring plan due to the suggested revision is not reduced. The new approach followed is the most conservative one and the monitoring plan is now in line with the real situation on-site.
- (b) The proposed revision of the monitoring plan is in accordance with the approved monitoring methodology applicable to the project activity;
- (c) There are no findings from previous verification reports since these additional measurements are being performed since the first verification period.

Munich, 25/03/2010



Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 25/03/2010



Assessment Team Leader

Annex 1 – IRL

- 1) “Loma Los Colorados Landfill Gas Project”
<http://cdm.unfccc.int/Projects/DB/DNV-CUK1166695034.41/view>
- 2) PDD Project Design Document of Loma Los Colorados Lanfill Gas Project , Version 4, dated 18.12.2006.
- 3) Clean Development Mechanism Loma Los Colorados Landfill Gas Project Monitoring Report N° 2 Version 6 Period: 18/06/2007 – 12/03/2008 Date: 01/04/2009.
- 4) Request For Review of Second Verification Period <http://cdm.unfccc.int/Projects/DB/DNV-CUK1166695034.41/iProcess/TUEV-SUED1207302127.33/Review/F9MQF0R0CRIV9AVON8YZ1SYGET1H48/display>
- 5) Clean Development Mechanism Loma Los Colorados Landfill Gas Project Monitoring Report N° 3 Version 1 Period: 13/03/2008 – 31/08/2009 Date: 15/09/2009
- 6) “Consolidated baseline and monitoring methodology for landfill gas project activities”, ACM0001 ver 04, dated on July 28th, 2006, UNFCCC.
- 7) Verification Report No. 1156950 dated on 14th October, 2009 issued by TÜV SÜD.
- 8) “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, ACM0002 version 06, dated on may 19th, 2006, UNFCCC ”.
- 9) Validation Report Det Norske Veritas “Loma Los Colorados Landfill Gas Project In Chile” Report No. 2006-0496 issued by Det Norske Veritas.
- 10) Procedure I-RSL-013 “Landfill Gas Flaring and Capture System Procedure”, issued by KDM, version 7 dated on 06/07/09.
- 11) Register No. R-RSL-005 “Informe consumo de combustible” (Fuel consumption report), issued by KDM, version 4 dated on 31/03/2008
- 12) Revised Monitoring Plan, dated March 25, 2010