




Validation report form for post-registration changes for CDM project activities

(Version 01.0)

Complete this form in accordance with the "Attachment: Instructions for filling out the validation report form for post-registration changes for CDM project activities" at the end of this form.

VALIDATION REPORT ON POST-REGISTRATION CHANGES (PRCs)

Title and reference number of the project activity	CTR Candeias Landfill Gas Project UNFCCC ID: 3958
Process track	<input type="checkbox"/> Prior approval <input checked="" type="checkbox"/> Issuance <input type="checkbox"/> Renewal of crediting period
Version number of the validation report on PRCs	Version 01.0
Completion date of the validation report on PRCs	29/12/2016
Type(s) of PRCs	<input type="checkbox"/> Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline <input checked="" type="checkbox"/> Corrections <input type="checkbox"/> Changes to the start date of the crediting period <input type="checkbox"/> Inclusion of a monitoring plan to a registered project activity <input type="checkbox"/> Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline <input type="checkbox"/> Changes to the project design of a registered project activity <input type="checkbox"/> Types of changes specific to afforestation and reforestation project activities
Version number of PDD to which this report applies	Version 11.2
Project participant(s)	Brazil: Haztec Tecnologia e Planejamento Ambiental SA Spain: International Bank for Reconstruction and Development, as Trustee of the Spanish Carbon Fund (SCF); Kingdom of Spain - Ministry of Agriculture, Food and Environment and Ministry of Economy and Competitiveness; Endesa Generacion S.A. Sweden: Swedish Energy Agency Norway: Norwegian Ministry of Climate and Environment Germany: E.ON Climate & Renewables GmbH
Host Party	Brazil

Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)	Project Scope (according to UNFCCC sectoral scope numbers for CDM)	<input type="checkbox"/>	1	Energy Industries (renewable- /non-renewable sources)
		<input type="checkbox"/>	2	Energy distribution
		<input type="checkbox"/>	3	Energy demand
		<input type="checkbox"/>	4	Manufacturing industries
		<input type="checkbox"/>	5	Chemical industry
		<input type="checkbox"/>	6	Construction
		<input type="checkbox"/>	7	Transport
		<input type="checkbox"/>	8	Mining/Mineral production
		<input type="checkbox"/>	9	Metal production
		<input type="checkbox"/>	10	Fugitive emissions from fuels (solid, oil and gas)
		<input type="checkbox"/>	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
		<input type="checkbox"/>	12	Solvents use
		<input checked="" type="checkbox"/>	13	Waste handling and disposal
		<input type="checkbox"/>	14	Afforestation and Reforestation
		<input type="checkbox"/>	15	Agriculture
		<input type="checkbox"/>	16	Carbon capture and storage
	Applied Methodology(ies) and/or standardized baseline		CDM Methodology: ACM0001 v.11 - Consolidated baseline and monitoring methodology for landfill gas project activities	
Name of DOE		TÜV NORD CERT GmbH		
Name, position and signature of the approver of the validation report on PRCs		 Rainer Winter Final Approver		

SECTION A. Executive summary

As this assessment was carried out as part of the 4th verification of the project activity please refer to chapter 2 of the verification report.

For a detailed project description please refer to the registered PDD and/or the latest verification report (to which this report is attached).

SECTION B. Validation team, technical reviewer and approver

On the basis of a competence analysis and individual availabilities an assessment team, consistent of one team leader and 1 additional team members, were appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the following table below.

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader	EI	Sebben	Marcelo	BRTÜV	x	x	x	x
2.	Team member	EI	Lopes	Ricardo	BRTÜV	x	x	x	x

B.2. Technical reviewer and approver of the validation report on PRCs

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	EI	Cruz	Sergio	BRTÜV
2	Approver	IR	Winter	Rainer	TÜV NORD CERT

SECTION C. Means of validation**C.1. Desk review**

The *assessment of post registration changes* consisted of the following steps:

- Appointment of team members and technical reviewers
- A desk review of the registered and revised PDD^{/PDD/} submitted by the client and additional supporting documents
- On-Site assessment (if required)
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,

- Resolution of corrective actions (CARs / CLs) (if any)
- Final reporting
- Technical review
- Final approval.

In this case all activities were carried out as part of the 4th verification of this project activity.

The registered as well as the revised PDD and supporting background documents related to the project design and the post registration changes were reviewed.

A list all documents reviewed or referenced during this validation is presented in **Fehler!
Verweisquelle konnte nicht gefunden werden..**

C.2. On-site inspection

Duration of on-site inspection: 26/10/2016 to 27/10/2016				
No.	Activity performed on-site	Site location	Date	Team member
1.	- Walk through CTL Candeias site (LFG collection and flaring system, control room, and location of the meters) - Interview with project operators, O&M personnel and plant Manager. - Preparation of the CDM Draft Verification Report (DVR).	Candeias	26/10/2016	Marcelo Sebben Ricardo Lopes
2	Evidence assessment at office (including calibration certificates checking, applicable legislation, technical information)	Recife	27/10/2016	Marcelo Sebben
3	ER and PE calculation review	Recife	27/10/2016	Ricardo Lopes

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Lopes	Fabio	Ecopesa	26/10/2016 27/10/2016	Reception of residues in the Landfill and installation of 2 nd flare	Marcelo Sebben

C.4. Clarification requests, corrective action requests and forward action requests raised

Areas of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form			
Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline			
Corrections	1		
Changes to the start date of the crediting period			
Inclusion of a monitoring plan to a registered project activity			
Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline			
Changes to the project design of a registered project activity			
Types of changes specific to afforestation and reforestation project activities			
Others (please specify)			
Total	1		

SECTION D. Validation findings**D.1. Compliance with PDD form**

Means of validation	The project participants used a later version of the PDD form for the revised PDD than the version of the PDD form of the registered PDD. By means of checking updated PDD with the latest applicable and available PDD template form the DOE can confirm that the information transferred to the later version of the PDD form is materially the same as that in the registered PDD besides those changes highlighted and assessed under this report.
Findings	N/A
Conclusion	The updated PDD is in line with the latest applicable PDD form.

D.2. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline*Not applicable***D.3. Corrections**

Means of validation	Description of post registration change		
	Start Date: Please provide the start date of the change	27/10/2016	End Date: Please provide the end date of the change, if applicable
			N/A
	Description: Please give a detailed description of the change(s)	Incorrect information was observed in the section B.7.1 of the PDD, under the parameter $LFG_{flare,y}$, "Additional comment", where it is stated that there will be only one flare in the project activity.	
	Assessment of post registration change – Corrections		
	Accuracy: Please give a detailed assessment whether the deviation is likely to lead to a reduction in the accuracy of the ER calculation.	It is just a correction of information of the PDD to avoid misinterpretation. The flare system, as per the registered PDD, has 5,000 Nm ³ /h of capacity. This capacity is reached by the installation of two flares of 2,500 Nm ³ /h of individual capacity. This system of flares corresponds to the "flare system", mentioned in section A.3 of the registered PDD. Thus, the statement "there will be only one flare" was excluded.	
Conservativeness: Please give a detailed assessment whether conservative assumptions or discount factors have been applied to ensure that ER will not be overestimated.	No interference in the conservativeness was observed as this correction only intends to exclude wrong information to avoid misinterpretation. The Project activity is operating as per the registered PDD.		
Appendix 1 PS: Check if the changes fall under one of the scenarios of appendix 1 of the PS.	This change falls under the following scenario of the appendix 1 of the PS paragraph 1: - Any corrections to project information (number of components) of a registered clean development mechanism (CDM) project activity (...) that do not affect the design of the project activity do not require prior approval by the CDM Executive Board (the Board).		
Findings	CL 1: <i>It has been observed mistaken information in the PDD under the parameter LFG_{flare}, "Additional comment" where it is stated that there will be only one flare operating, which is not the project situation.</i>		
Conclusion	Based on the above stated, the corrections to the registered PDD are in accordance with applicable validation requirements related to the corrections in the VVS.		
	Revised PDD		
	Rev. of PDD: Check whether the	<input checked="" type="checkbox"/>	The changes have correctly been reflected in the revised PDD.

	changes have been fully addressed in a revised PDD.	<input type="checkbox"/>	A revision of the PDD is not required (in case of temp. changes).
		<input checked="" type="checkbox"/>	The revised PDD has been forwarded in (i) track-change and (ii) clean version.
	Prior Approval		
	Prior approval:	<input type="checkbox"/>	The post registration change requires prior approval
	Assess whether the change requires prior approval of the board	<input checked="" type="checkbox"/>	The post registration change does not require prior approval

D.4. Changes to the start date of the crediting period*Not applied***D.5. Inclusion of a monitoring plan to a registered project activity***Not applied***D.6. Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline***Not applied***D.7. Changes to the project design of a registered project activity***Not applied***D.8. Types of changes specific to afforestation and reforestation project activities***Not applied***SECTION E. Internal quality control**

Before submission of the final assessment report a technical review is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the assessment opinion as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

SECTION F. Validation opinion

The below listed changes have occurred after the registration of the project / PoA.

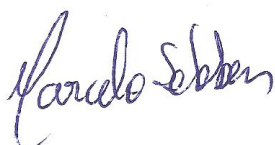
<i>Type of Change occurred</i>	<i>Total No. of changes</i>	<i>No. of changes which require prior approval</i>
<input type="checkbox"/> Temporary deviations from the MP		
<input type="checkbox"/> Temporary deviations from the MM		
<input checked="" type="checkbox"/> Corrections that do not affect the project	1	0
<input type="checkbox"/> Change to the start date of the crediting p.		
<input type="checkbox"/> Permanent changes from the MP		
<input type="checkbox"/> Permanent changes from the MM		
<input type="checkbox"/> Design changes to the project activity / PoA		
<input type="checkbox"/> Changes specific to AR projects		

The change does not require prior approval of the Board as it falls under paragraph 1 of the Appendix 1 of the Project Standard as it is a correction to the project information (i.e: number of components) of a registered CDM project activity that do not affect the design of the project activity.

As a result of the proposed correction the PP updated the version of the PDD form to the 08.0. The PP also updated the list of PPs at the PDD in accordance with UNFCCC website.

The information included in the new PDD form is materially the same as the information in the registered PDD, apart from the changes informed above.

Caxias do Sul, 29/12/2016




Marcelo Sebben
TÜV NORD JI/CDM CP
Assessment Team Leader

Appendix 1. Abbreviations

Abbreviations	Full texts
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
DNA	Designated National Authority
EB	CDM Executive Board
GHG	Greenhouse gas(es)
PA	Project activity
PDD	Project Design Document
PoA	Programme of Activities
PRC	Post Registration Changes
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



Statement of Competence
Appointment and authorization according to the procedures
of the TUV NORD JCCDM Certification Program

Mr. Marcelo Sebben


SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2017-08-31
VCS / ISO 14064-2	Lead Assessor	2017-08-31

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
13.1	Solid waste and wastewater

297 - Rev. 7, Date: 2016-09-05

297_S01-VA050-F04_2016-09-05_Rev.7.doc



Statement of Competence
Appointment and authorization according to the procedures
of the TUV NORD JCCDM Certification Program

Mr. Ricardo Lopes


SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2018-03-03
VCS / ISO 14064-2	Senior Assessor	2018-03-03

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
13.1	Solid waste and wastewater

77 - Rev. 6, Date: 2015-03-04

S01-VA050-F04.doc



Statement of Competence
Appointment and authorization according to the procedures
of the TUV NORD JCCDM Certification Program

Mr. Sergio Cruz

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2017-12-10
VCS / ISO 14064-2	Senior Assessor	2017-12-10

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
13.1	Solid waste and wastewater

185 - Rev. 6, Date: 2015-01-07

185_S01-VA050-F04_2015-01-07_Rev.6.doc

Appendix 3. Documents reviewed or referenced

No.	Reference	Author	Title	References to the document	Provider
1.	/ACM01/	UNFCCC	ACM0001 - version 11 – Consolidated baseline and monitoring methodology for landfill gas project activities	https://cdm.unfccc.int/filestorage/U/J/B/UJBDVFYLQKSEWCM73XG14Z692TRHO0/EB47_repan06_ACM0001_ver11.pdf?t=NIB8bnM3ZXRpfDDbMkC6RMNWbJxysDrbTk6t	Other
2.	/CPM/	DOE	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)	-	Other
3.	/GOT/	UNFCCC	Glossary “CDM terms” (version 08.0)	https://cdm.unfccc.int/filestorage/e/x/t/extfile-20150226124447549-glos_CDM.pdf/glos_CDM.pdf?t=UmZ8bnFjODI3fDCW9A3vJwR03kQqH4sbLiYu	Other
4.	/IPCC/	IPCC	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book	www.ipcc-nggip.iges.or.jp	Other
5.	/KP/	UNFCCC	Kyoto Protocol (1997)	http://unfccc.int/kyoto_protocol/items/2830.php	Other
6.	/MA/	UNFCCC	Decision 3/CMP. 1 (Marrakesh – Accords)	http://cdm.unfccc.int/Reference/CO2PMOP/index.html	Other
7.	/MRT/	UNFCCC	Monitoring Report Form (CDM-MR-FORM), Version 5.1	https://cdm.unfccc.int/Reference/PDs_Forms/index.html	Other
8.	/MT/	UNFCCC	1. Tool for the demonstration and assessment of additionality – version 05.2 2. Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site – version 05 3. Tool to calculate baseline, project and/or leakage emissions from electricity consumption – version 01 4. Tool to determine project emissions from flaring gases containing methane – version 01.0.0 5. Tool to calculate the emission factor for an electricity system – version 02.2.0 6. Tool to calculate project or leakage CO2 emissions from fossil fuel	http://cdm.unfccc.int/Reference/tools/index.html	Other

No.	Reference	Author	Title	References to the document	Provider
			combustion – version 02		
9.	/PDD/	UNFCCC	Project Design Document for CDM project: “CTR Candeias Landfill Gas Project” 1. version 11.1, dated 2013-11-05 2. version 11.2, dated 2016-11-08	http://cdm.unfccc.int/Projects/DB/ERM-CSV1283351787.62/view	Other
10.	/PRC/	UNFCCC	1. Post registration change number PRC-3958-001 approved on 2014-02-07 2. Assessment Regarding Post Registration Changes # 10076 – 13/140 issued by TÜV Nord on 2013-11-21	http://cdm.unfccc.int/Projects/DB/ERM-CSV1283351787.62/view	Other
11.	/PS/	UNFCCC	CDM Project Standard (Version 9.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
12.	/VAL/	ERM CVS	Validation Report for CDM project “CTR Candeias Landfill Gas Project” – version 02.1 – 2011-08-30	http://cdm.unfccc.int/Projects/DB/ERM-CSV1283351787.62/view	Other
13.	/VER/	PP	Documents of previous verifications (Monitoring report, verification report, ER calculation sheet)	http://cdm.unfccc.int/Projects/DB/ERM-CSV1283351787.62/view	Other
14.	/VVS/	UNFCCC	CDM Validation and Verification Standard (Version 09.0)	http://cdm.unfccc.int/Reference/Standards/index.html	Other
15.	/MR/	PP	Monitoring Report “CTR Candeias Landfill Gas Project” – 4 th Monitoring period - version 1 - version 2	2016-09-06 2016-10-27	PP
16.	/PRO/	Biotechnogas PP	<ul style="list-style-type: none"> Technical Procedures of Biogas plan # BTG033/11-C <ul style="list-style-type: none"> Management and maintenance manual for equipment Management and Supervision Software manual CTR Candeias Internal Procedure of Biogas Plant Monitoring <ul style="list-style-type: none"> Responsibilities Procedures and routines Emergency Periodic Inspection Program Operational Control Non-conformity procedures 	Dec/2012 version 1.2	PP
17.	/TECH/	Biotechnogas	FLARE <ul style="list-style-type: none"> Technical Specification of the Flare Model BTG2500HT DIAGRAM Updated diagram of Aspiration and Combustion Plant # T100 dated on	2013-01-04	PP

No.	Reference	Author	Title	References to the document	Provider
			September/2014		
18.	/dna/	-	DNA of Brazil	http://www.mct.gov.br	Other
19.	/haztec/	-	Haztec web site	www.haztec.com.br	Other
20.	/unfccc/	-	UNFCCC	http://cdm.unfccc.int	Other

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

CL ID	1	Section no.	b.1	Date:	27/10/2016
Description of CL					
It has been observed mistaken information in the PDD under the parameter LFG_{flare} , "Additional comment" where it is stated that there will be only one flare operating, which is not the project situation.					
Project participant response (1st round)					Date:
The PDD mentions "There will be only one flare" at the "Additional comment" under the parameter LFG_{flare} instead of "There will be only one flare system". To avoid any misinterpretation, as the project does not specify any number of flares but use of a flare system, as described at section A.3 of the PDD, this sentence will be deleted.					
Please see the revised version of the PDD attached, which corrects this inconsistency.					
Documentation provided by project participant (1st round)					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s): B.7.1		New version No.: 11.2	
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:	
<input type="checkbox"/>	Other:				
DOE assessment (1st round)					Date:
The information was correctly excluded from the PDD. The verification team understands that the maximum flow of the flare system remains unaltered (5,000 Nm ³ /h – Section A.3 of PDD).					
The correction was assessed as a PRC in this document.					
Conclusion Tick the appropriate checkbox		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed			

Table 2. CAR from this validation

CAR ID	xx	Section no.		Date:	DD/MM/YYYY
Description of CAR					
Project participant response					Date:
Documentation provided by project participant					
DOE assessment					Date:

Table 3. FAR from this validation

FAR ID	xx	Section no.		Date:	DD/MM/YYYY
Description of FAR					
Project participant response					Date:
Documentation provided by project participant					
DOE assessment					Date:

Appendix 5. Assessment of Financial Parameters

Assessment of Financial Parameters (VVS, §§ 129, 130 / in case financial parameters from FSR §131 and §132)

Not applicable

Appendix 6. Assessment of Barrier Analysis

Assessment of Barrier Analysis (VVS, §§ 133-136)

Not applicable