

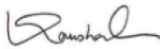


Validation report form for post-registration changes for CDM project activities
(Version 01.0)

VALIDATION REPORT ON POST-REGISTRATION CHANGES (PRCs)

Title and reference number of the project activity	Micro Scale Biogas CDM Project of CROSS
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	02
Completion date of the validation report on PRCs	05/08/2017
Type(s) of PRCs	<input type="checkbox"/> Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline <input 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 checked="" 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	03
Project participant(s)	M/s Community Reconstruction of Social Service (CROSS)
Host Party	India
Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)	1. Sectoral Scope 1, Energy industries (renewable-/non-renewable sources) AMS.I.E – “Switch from Non-Renewable Biomass for Thermal Applications by the User” ver.4 2. Conditional Sectoral Scope 13; Waste Handling and Disposal
Name of DOE	KBS Certification Services Pvt. Ltd

Name, position and signature of the
approver of the validation report on PRCs



Kaushal Goyal
Managing Director
KBS Certification Services Pvt. Ltd.

SECTION A. Executive summary

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The project activity is the installation of biogas plants (digesters) of 2 m³ capacity each for single households in Mandals of Chittoor District, Andhra Pradesh, India. The biogas units will be fed by cattle dung generated from the households. The biogas stoves will replace the traditional fire wood stoves used for cooking and heating purposes. In baseline situation, households use traditional fire wood stove which is inefficient. In the project situation the biogas stoves are used for cooking and hence completely avoiding the usage of traditional stoves which results in savings in non-renewable biomass. Thereby, it avoids the related CO₂ emission from the avoidance of non-renewable biomass in cooking. The PP planned to install 5000 biogas units of 2 m³ capacity each for single households out of which 1863 units were commissioned.

KBS Certification Services Pvt. Ltd was appointed for verification of the given monitoring period (01/01/2014 to 31/03/2017 (including both days) of the project. During the verification, the auditing team observed changes to the project design of the registered PDD. The changes are validated in this report. The project applies for post registration changes with the following changes applied in the revised PDD:

Registered PDD (version 2.1, dated 06/12/2012)	Revised PDD (version 03, dated 12/07/2017)
The project location site was mentioned as 4 Mandals (SR Puram, GD Nellore, Vedurukuppam and Karvetinagaram.) of Chittoor District in Andhra Pradesh. Geographical coordinates of the 4 Mandals were also provided.	The project location sites have been expanded to all Mandals of Chittoor District in Andhra Pradesh.

The changes to the project design are reported.

The changes to the project design are reported.

In line with appendix 1, para 06 of Project standard version 09, the actual change to the registered CDM project activity does not have any impact to the following:

- (a) *The applicability and application of the applied methodology under which the project activity and, where applicable, the applied standardized baseline under which the project activity has been registered;*
- (b) The additionality of the project activity;
- (c) The scale of the project activity.

The scope of the validation is defined as an independent and objective review of the revised project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the CDM Validation and Verification Standard for project activities (version 09 EB 65 annex 04) and CDM Project Standard for project activities (version 09 EB 65 annex 05), Kyoto Protocol requirements and UNFCCC rules. The report is based on the assessment of the revised project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., on site visit, electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidance and CDM decisions.

Validation methodology and process

The validation has been performed as described in the VVS 09 and constitutes the following steps:

- Desk review of the revised PDD and the relevant documents
- Interviews
- Issuance of Validation Report for the post-registration changes

Validation criteria

The following CDM requirements have been considered:

- Article 12 of the Kyoto Protocol,
- Modalities and procedures for CDM (Marrakech Accords)
- Subsequent decisions by the COP/MOP and CDM Executive Board
- Host country criteria
- Criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the project's fulfilment of all the stated criteria. In our opinion, the project meets all applicable UNFCCC requirements for the CDM.

SECTION B. Validation team, technical reviewer and approver**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)	Verification findings
1.	Team Leader/ Technical Expert/Local Expert	IR	Kanal	M.P	Central Office	x	x	x	X
2.	Technical Expert	IR	Narendra Kumar	R	Central Office		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	IR	Kandari	Sanjay	Central Office
3	Manager (Technical & Certification)	IR	Kandari	Sanjay	Central Office
4	Approver	IR	Goyal	Kaushal	Central Office

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

The revised PDD and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data. The list of documents reviewed during the validation process is mentioned in the Appendix-3 of this report.

C.2. On-site inspection

The changes to the project design of the registered PDD were cross verified during site-visit interviews. The activity performed during the verification is detailed below:

Duration of on-site inspection: 07/07/2017 and 08/07/2017				
No.	Activity performed on-site	Site location	Date	Team member
1.	Implementation and Operation of the CDM project activity based on registered Monitoring Plan and physical features of the project activity as per registered PDD	Chittoor district of Andhra Pradesh, India	07/07/2017 to 08/07/2017	M.P. Kanal Narendra Kumar
2.	Information flows for generating, aggregating and reporting the monitoring parameters			
3.	Competency of the operating personnel, monitoring personnel and calibrating agencies			
4.	Data collection procedures			
5.	Calibration performance and monitoring practices followed for monitoring equipment's used in the project activity			
6.	Quality Control and Quality Assurance procedures against the approved monitoring plan			
7.	Calculation and assumptions made in determining the GHG data and emission reductions			
8.	Compliance with CDM criterion and relevant guidance with respect to monitoring plan			
9.	Level of accuracy (Materiality) of the monitoring activity			

C.3. Interviews

The changes to the project design of the registered PDD was cross verified during site-visit interviews. Hence, the details of the interviews conducted during the verification are detailed below:

No.	Interviewee		Date	Subject	Team member
	Name	Affiliation			
1.	Mr. Puvvani Bhupathi	Director , CROSS	07/07/2017	<ul style="list-style-type: none"> - General aspects of the project - Changes since validation / previous verification - Remaining issues from validation/ previous verification - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - Procedural aspects of the Monitoring - Maintenance 	M P Kanal Narendra Kumar
2	Sudha Padmanabha	FCN	07/07/2017	<ul style="list-style-type: none"> - Data Analysis - Issues in the MR - ER calculation 	M P Kanal Narendra Kumar
No	Beneficiaries Name	Unit No	Date	Subject	Team Member
4	Adhilakshmi	1957	07/07/2017	<ul style="list-style-type: none"> - Verification of data collected through survey - Awareness about ownership of CERs - Working condition of bio-digester unit - SD parameters verification 	M P Kanal Narendra Kumar
5	Amaravathi	1959	07/07/2017		
6	Govindamma	1960	07/07/2017		
7	Sulochana	3340	07/07/2017		
8	Hema latha	3356	07/07/2017		
9	Divya	3344	07/07/2017		
10	Shamala	3365	07/07/2017		
11	Jamuna	2264	07/07/2017		
12	Govindamma	2068	08/07/2017		
13	Sheshamma	2567	08/07/2017		
14	Shamala	3371	08/07/2017		
15	Lakshmi	3368	08/07/2017		
16	Samyapurnamma	2168	08/07/2017		
17	Suguna	3373	08/07/2017		
18	Neelamma	3367	08/07/2017		
19	Saraswathi	4060	08/07/2017		
20	Maniyamma	2645	08/07/2017		
21	Amaravathi	2647	08/07/2017		
22	Chinnamma	4058	08/07/2017		
23	Vijayashanthi	1857	08/07/2017		
24	Chitramma	2658	08/07/2017		
25	Rekha	2450	08/07/2017		
26	Girija	2854	08/07/2017		

27	Laltha	2653	08/07/2017		
28	Jayamma	2652	08/07/2017		
29	Baby Rani	1958	08/07/2017		

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	-	-	-
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	0	0	0

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	The revised PDD (version 03, dated 12-07-2017) is filled in the template CDM-SSC-PDD, version 8 which is the valid version at the time of submission for request for approval of PRC along with the request for issuance of the monitoring period (01/01/2014 to 31/03/2017). The template has not been altered and no modifications have been made to the font, format, headings and logo. All the sections of the PDD are checked for the compliance with the "Instructions for filling out the project design document form for CDM project activities" provided in the PDD template.
Findings	No finding
Conclusion	The following is confirmed: 1. The PDD is completed using the valid version of PDD at the time of submission and PP used appropriate type of template i.e., Small scale 2. All the information has been correctly transferred from registered PDD (version 2.1) to the current PDD (version 03) which is filled in the latest PDD form available in UNFCCC website. Verification team confirms that the transfer of information from the old form to the new form is correct and materially the same as the information in the registered PDD 3. PDD is in compliance with the instruction provided in the template. 4. As per the requirement of PRC, both clean and track change copy of PDD is submitted for validation.

D.2. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline

Means of validation	No temporary deviation is sought
Findings	NA
Conclusion	NA

D.3. Corrections

Means of validation	No corrections to project information or parameters fixed at validation
Findings	NA
Conclusion	NA

D.4. Changes to the start date of the crediting period

Means of validation	No change in start date of crediting period is sought.
Findings	NA
Conclusion	NA

D.5. Inclusion of a monitoring plan to a registered project activity

Means of validation	Not applicable as monitoring plan is included in the registered PDD itself.
Findings	NA
Conclusion	NA

D.6. Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline

Means of validation	No permanent change is sought
Findings	NA
Conclusion	NA

D.7. Changes to the project design of a registered project activity

Means of validation	The project location sites have been expanded to all Mandals instead of 4 Mandals (SR Puram, GD Nellore, Vedurukuppam and Karvetinagaram) of Chittoor District in Andhra Pradesh. It was verified that the changes occurred during implementation due to (a) migrations of families to neighbouring villages, (b) unsuitable site conditions such as rocky or sandy, which prevents excavation of land to construct the biogas dome, (c) not interested anymore, etc. Thus all the Mandals in Chittoor District were identified and provided with biogas units which are deemed acceptable. Monitoring database was checked and site visit interviews were conducted to verify the above changes and found to be in line with the requirement of appendix 1, para (6) of Project standard, version 9. Validation team confirms that the post registration change does not require prior approval from EB.
Findings	NA
Conclusion	<p>The validation team confirms the below:</p> <ul style="list-style-type: none"> • PP has submitted the revised PDD in the latest format. • The changes are correctly applied in the revised PDD. • The post registration change reported in the revised PDD complies with the para 6 of Appendix 1 of CDM PS, version 09. • The actual change to the registered CDM project activity does not have any impact to the following: <p>(a) The applicability and application of the applied methodology under which the project activity has been registered;</p> <p>The project activity is verified to be in line with applied methodology AMS.I.E. Version 4. The changes did not impact the applicability criteria of the project activity and hence the applicability and application of the applied methodology.</p> <p>(b) The additionality of the project activity;</p> <p>Validation team has verified that there are no changes to the additionality of the project activity, as it has been deliberated upon at the State/District level. It was also checked that there is no investment analysis and the barriers as discussed in section B.5 is still valid.</p> <p>(b) The scale of the project activity.</p> <p>As the number of biogas units will remain the same at 5,000 units, the scale of the project activity remained unaltered,</p> <p>Thus as per appendix 1 of Project standard, version 9 para 6) the validation team confirms that the post registration change does not require prior approval from EB and is suitable for approval under issuance track.</p>

	Hence, validation team has assessed the changes to the registered PDD in line with VVS version 09 and accepts the changes.
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D.8. Types of changes specific to afforestation and reforestation project activities

Means of validation	It is not afforestation or reforestation project activity.
Findings	NA
Conclusion	NA

SECTION E. Internal quality control

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Following the completion of the assessment process and a recommendation by the assessment team, the validation opinion prepared by Team Leader is independently reviewed by internal Technical Reviewer. TR reviews if all the KBS procedures have been followed and all conclusions are justified in accordance with applicable standards, procedures, guidance and CDM decisions. The TR either is qualified for the technical area within the CDM sectoral scope(s) applicable to project activity or is supported by qualified independent technical expert at this stage

The Technical Reviewer will either accept or reject the recommendation made by the assessment team. The findings can be raised at this stage and PP must resolve them within agreed timeline

The opinion recommended by Technical Reviewer will be confirmed by Manager Technical & Certification and finally authorized by the Managing Director on behalf of KBS as final validation opinion.

SECTION F. Validation opinion

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KBS Certification Services Pvt. Ltd. has been contracted by "M/s Community Reconstruction of Social Service (CROSS)" to undertake independent verification of monitoring period (monitoring period 01/01/2014 to 31/03/2017) and validation of the post registration changes of the CDM Project activity Micro Scale Biogas CDM Project of CROSS" and UNFCCC Reference Number 8784 as described in the revised PDD, version 3, dated 12/07/2017 to ensure that the post registration changes meet all relevant requirements of the UNFCCC for CDM project activities including CDM VVS version 09. The request is to perform the independent and objective validation on PDD for the corrections to the registered monitoring plan reported in the revised PDD.

Validation methodology and process:

The validation has been performed as described in the VVS, version 09 and consists of the following steps:

- Review of the Registered PDD , version 2.1 dated 06/12/2012
- Desk review of the revised PDD, version 03 dated 12/07/2017, and the relevant documents
- Interviews
- Preparation of the Validation Report

The validation team confirms that the revised PDD has been submitted in the new format and is materially the same as the information in the registered PDD. The validation team also accepts the changes to the project design reported in the revised PDD.

It is DOE's opinion that the revised documentation submitted is conforming to the requirements for Post Registration Changes as stipulated in the CDM Validation and Verification Standard and thus DOE is recommending the approval of the post registration changes.

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CERs	Certified Emission Reductions
CH ₄	Methane
CL	Clarification Request
CO ₂ e	Carbon dioxide equivalent
COP	Conference of Parties
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CROSS	Community Reconstruction of Social Service
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
ERPA	Emission Reduction Purchase Agreement
ERs	Emission Reductions
FAR	Forward Action Request
FCN	Fair Climate Network
GHGs	Greenhouse Gas(es)
GWP	Global Warming Potential
HH	Household
ISO	International Organization of Standardization
IPCC	Intergovernmental Panel on Climate Change
KBS	KBS Certification Services Pvt. Ltd.
KP	Kyoto Protocol
LE	Leakage Emissions
MR	Monitoring Report
MP	Monitoring Plan
NGO	Non Governmental Organisation
PE	Project Emissions
PDD	Project Design Document
PS	Project Standard
PCP	Project Cycle Procedure
PPA	Power Purchase Agreement
QA/QC	Quality Assurance/Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VLV	Village Level Volunteers
VVS	Validation & Verification Standard

Appendix 2. Competence of team members and technical reviewers

Appendix 3. Personnel Name:	M.P. Kanal
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Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal		
Agriculture	TA 15.1 Agriculture		
Approved by (Manager C & T)	Gagandeep Kakkar		
Approval date:	03/11/2015		

Personnel Name:		Narendra Kumar	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy Demand	TA 3.1: Energy Demand		
Approved by (Manager C& T)	Akhilesh Joshi		
Approval date:	16/01/2016		

Personnel Name:		Sanjay Kandari	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure		
Approved by (Manager C & T)	Gagandeep Kakkar		
Approval date:	03/11/2015		

Appendix 4. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	CROSS	Monitoring Report,	Version 01, dated 31/05/2017	CROSS
	CROSS	Monitoring Report,	Version 02, dated 03/08/2017	CROSS
2	CROSS	ER Calculation Sheet	Version 01, dated 31/05/2017	CROSS
	CROSS	ER Calculation Sheet	Version 02, dated 20/07/2017	CROSS
3	CROSS	Registered PDD	Version 02.1 06/12/2012	Publicly available
4	TUV RHEINLAND	Validation Report	dated 10/02/2012	Publicly available
5	CROSS	Revised PDD	Version 03, dated 12/07/2017	CROSS
6	UNFCCC	AMS.I.E – “Switch from Non-Renewable Biomass for Thermal Applications by the User”	Version 04	Publicly available
7	IPCC	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book	Web Link	Publicly available
8	UNFCCC	Kyoto Protocol (1997)	Web Link	Publicly available
9	UNFCCC	Monitoring Report Form (CDM-MRFORM)	Version 05.1	Publicly available
10	UNFCCC	CDM Project Standard	Version 09	Publicly available
11	UNFCCC	Standard: Sampling and surveys for CDM project activities and programme of activities	Version 06	Publicly available
	UNFCCC	Guidelines for sampling and surveys for CDM project activities and programme of activities	Version 04	Publicly available
12	UNFCCC	CDM Validation and Verification Standard	Version 09 EB 65 Annex 04	Publicly available
13	UNFCCC	Glossary “CDM terms”	Version 08	Publicly available
14	CROSS	Biogas basic record set: - Biogas application form - End user agreement for CER ownership - Completion certificate - Online monitoring solution	-	CROSS
15	CROSS	Sample survey monitoring sheets for the year 2014, 2015, 2016 and 2017	-	CROSS
16	CROSS	Non-project household survey sheets for the year 2014, 2015, 2016 and 2017	-	CROSS
17	CROSS	Training Records: - Training conducted for end user - Training conducted for Mason - Training conducted for staffs Training conducted for Village Level Volunteers	-	CROSS
18	CROSS	Village level plant breakdown log sheets maintained by village level volunteers	-	CROSS
19	CROSS	Photographs and end user details for the biogas units constructed during previous monitoring period but not considered for the emission reduction during the previous monitoring periods.	-	CROSS

Appendix 5. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

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

Table 2. CAR from this validation

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

Table 3. FAR from this validation

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

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Document information

Version	Date	Description
01.0	23 March 2015	Initial publication.
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