



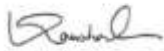
## Validation report form for post-registration changes for CDM project activities

(Version 01.0)

## VALIDATION REPORT ON POST-REGISTRATION CHANGES (PRCs)

<b>Title and reference number of the project activity</b>	Ramanagara Biogas Project, version 02; 10th November 2010
<b>Process track</b>	<input checked="" type="checkbox"/> Prior approval <input type="checkbox"/> Issuance <input type="checkbox"/> Renewal of crediting period
<b>Version number of the validation report on PRCs</b>	01
<b>Completion date of the validation report on PRCs</b>	16/04/2016
<b>Type(s) of PRCs</b>	<input type="checkbox"/> Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline <input checked="" type="checkbox"/> Corrections <input checked="" 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
<b>Version number of PDD to which this report applies</b>	Version 08.1, dated 14/04/2016
<b>Project participant(s)</b>	SKG Sangha
<b>Host Party</b>	India
<b>Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)</b>	Sectoral Scope 01 (Energy industries (renewable - / non-renewable sources) AMS I.E: "Switch from Non-Renewable Biomass for Thermal Applications by the User", version 04 Sectoral Scope 13 (Waste handling and disposal) AMS III.R: "Methane recovery in agricultural activities at household/small farm level", version 02
<b>Name of DOE</b>	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**

&gt;&gt;

The project activity is the installation of biogas plants (digesters) of 2 m<sup>3</sup> or 3 m<sup>3</sup> capacity each for single households having minimum of 2/3 cattle and place to build biogas digester in 4 taluks (Kanakapura, Ramanagara, Channapatna, and Magadi) in Ramanagara District in Karnataka State. 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. Thereby, it avoids the related CO<sub>2</sub> emission from the use of non-renewable biomass.

In the baseline situation, the cattle dung was dumped in the traditional open compost pit which results in decay and leading to methane emissions. Since in the project situation, the dung generated from cattle is used in bio-digester and the methane generated from the digester is burnt in cooking stove, the project also results in avoidance of methane emission.

The project applies for post registration changes with the following changes applied in the revised PDD:

Registered PDD (version 7, dated 12/12/2012)	Revised PDD (version 8.1, dated 14/04/2016)
Start date of crediting period: 01/01/2013	Start date of crediting period: 01/01/2015
Global warming potential of CH <sub>4</sub> : 21	Global warming potential of CH <sub>4</sub> : 25
Minor typos in the PDD	The minor typos in the registered PDD are corrected.

As per the revised PDD, the total emission reductions from the project are estimated to be 5,04,448 tCO<sub>2</sub>e over 10 year crediting period during 01/01/2015 to 31/12/2024, averaging 50,444 tCO<sub>2</sub>e annually.

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 (version 09) and Project Standard (version 09), 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 version 09.0 and constitutes the following steps:

- Desk review of the revised PDD and the relevant documents
- Interviews (03/02/2016)
- 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 fulfillment 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)	Validation findings
1.	Team Leader, Technical Expert, Local Expert	IR	Narendra Kumar	R	Central Office	✓		✓	✓
2.	Technical Expert	IR	Kanal	M.P	Central Office			✓	

**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
2	Manager (Technical & Certification)	IR	Sharma	Chetan	Central Office

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

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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**

Duration of on-site inspection: NA				
No.	Activity performed on-site	Site location	Date	Team member
	NA			

The validation team did not conduct site visit as the no bio-digesters are commissioned during the validation. Moreover, the PRC request is mainly for change in start date of crediting period as the project implementation got delayed. Hence, the validation team has not conducted site visit. However the validation team interviewed PP on 03/02/2016 for checking the reason for delay in the project implementation and the changes that have occurred to the project activity that would result in a less conservative baseline due to the delay in the implementation.

**C.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	K	Kiran Kumar	SKG Sangha	03/02/2016	Reason for delay in project implementation, Changes occurred to the project	R Narendra Kumar M P Kanal

**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	-	1	-
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	-	1	-
Types of changes specific to afforestation and reforestation project activities	-	-	-
<b>Total</b>	-	2	-

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

<b>Means of validation</b>	The revised PDD (version 08.1, dated 14/04/2016) is filled in the template CDM-SSC-PDD, version 6 which is the valid version at the time of submission for request for registration. 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.
<b>Findings</b>	No findings.
<b>Conclusion</b>	<p>The following is confirmed:</p> <ol style="list-style-type: none"> <li>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.</li> <li>2. All the information has been correctly transferred from registered PDD (version 7)/1/ to the current PDD (version 8.1)/3/ 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/1/</li> <li>3. PDD is in compliance with the instruction provided in the template.</li> <li>4. As per the requirement of PRC, both clean and track change copy of PDD is</li> </ol>

submitted for validation.

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

<b>Means of validation</b>	No such deviation is sought
<b>Findings</b>	NA
<b>Conclusion</b>	NA

**D.3. Corrections**

<b>Means of validation</b>	<p>There are two corrections made in the revised PDD that affects the emission reduction:</p> <ol style="list-style-type: none"> <li>1. In the registered PDD, the Global warming potential (GWP) of methane (CH<sub>4</sub>) is mentioned as 21 which is applicable for the first commitment period. Since the second commitment period is started now, PP has revised the GWP to 25. Though this need not to be reported as PRC as per the EB guidelines, PP has revised PDD along with the change in start date of crediting period which requires prior approval.</li> <li>2. Since the project implementation started only on January 2016, the implementation schedule of the bio-digesters revised in the section B.6.3. Though crediting period starts on 01/01/2015, the actual emission reduction starts only on from 2016.</li> </ol> <p>Due to the above corrections (ie, Change in GWP and Change in implementation schedule), the annual average emission reduction is changed to 50,444 tCO<sub>2</sub>e (from the estimated value in the registered PDD of 54,831 tCO<sub>2</sub>e). Verification team checked the ER calculation sheet and found that the value estimated is correct.</p> <p>Also some minor corrections are done in the PDD which are only typo in the registered PDD. These are verified and fund that the corrections are minor which does not have any impact.</p>
<b>Findings</b>	No findings.
<b>Conclusion</b>	<p>The validation team checked the PDD and ER calculation sheet and confirms the following:</p> <ul style="list-style-type: none"> <li>• The corrections with respect to change in GWP, change in implementation schedule and the BE, PE &amp; ER due to the change in GWP are correctly reported in the PDD</li> <li>• The emission reduction calculation provided in the ER calculation sheet is clear, transparent and correct. Validation team could also calculate the revised emission reduction from the registered ER sheet by just changing the GWP of methane &amp; implementation schedule. Hence it is confirmed that no other changes were made in the ER calculation sheet except the change in GWP of methane.</li> <li>• The revised emission reduction reported in the PDD (ie, 50,444 tCO<sub>2</sub>e) is verified to be correct.</li> <li>• The corrections made in the revised PDD are verified and found to be minor typo which does not have any impact.</li> </ul>

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

<b>Means of validation</b>	PP has requested to change the start date of crediting period from 01/01/2013 to 01/01/2015. The revised PDD in the latest template (i.e. CDM-SSC-PDD-FORM template version 06) is submitted both in track change and clean version. The revised crediting period start date is checked and found that it is postponed to 2 years which is in line with requirement of para 280 of project standard, version 9. However, the demonstration confirming the para 280.a&b is not submitted.
<b>Findings</b>	CAR-01 is raised
<b>Conclusion</b>	<p>Since the change in crediting period start date is more than one year, PP have provided the demonstration that no changes have occurred to the project activity that would result in a less conservative baseline, and that substantive progress has been made by the project participants to start the project activity.</p> <p>As discussed with the PP, the delay in project implementation caused because of</p>

	non-availability of funding and the PP could get the funding only on December 2015. This confirmed through verifying the ERPA which is signed only on 17/12/2015. Also, PP has confirmed that no changes have occurred to the project activity that would result in less conservative baseline. It is also verified from the PP, that there is no design changes have occurred to the project activity and hence no other changes are reported in the revised PDD except the start date of the crediting period. So, due to the delay in project implementation, no other changes have occurred to the project activity that would result in less conservative baseline. Hence, the verification team conclude that the project fulfils the requirement of para 280 of project standard, version 9.
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**D.5. Inclusion of a monitoring plan to a registered project activity**

<b>Means of validation</b>	Inclusion of monitoring plan to a registered project activity is not sought.
<b>Findings</b>	NA
<b>Conclusion</b>	NA

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

<b>Means of validation</b>	No changes in the monitoring plan, monitoring methodology or standardized baseline is not sought
<b>Findings</b>	NA
<b>Conclusion</b>	NA

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

<b>Means of validation</b>	No change in the project design is sought.
<b>Findings</b>	Nevertheless CAR-02 is raised & closed
<b>Conclusion</b>	NA

**D.8. Types of changes specific to afforestation and reforestation project activities**

<b>Means of validation</b>	It is not afforestation or reforestation project activity.
<b>Findings</b>	NA
<b>Conclusion</b>	NA

**SECTION E. Internal quality control**

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**

KBS Certification Services Pvt. Ltd. has been contracted by SKG Sangha to undertake independent validation of the post registration changes of the CDM Project activity "Ramanagara Biogas Project, version 02; 10th November 2010" and UNFCCC Reference Number 8936 as described in the revised PDD, version 08, dated 14/04/2016 to ensure that the post registration changes meet all relevant requirements of the UNFCCC for CDM project activities including CDM VVS. The request is to perform the independent and objective validation on PDD for the change in start date of crediting period from 01/01/2013 to 01/01/2015.

Validation methodology and process:

The validation has been performed as described in the VVS, version 09.0, and consists of the following steps:

- Review of the Registered PDD, version 7.0 dated 12/12/2012
- Desk review of the revised PDD, version 8.1 dated 14/04/2016, and the relevant documents
- Interviews dated 03/02/2016
- Preparation of the Validation Report, version 01, dated 16/04/2016

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 confirms that the revised emission reduction is estimated to be estimated to be 5,04,448 tCO<sub>2</sub>e over 10 year crediting period during 01/01/2015 to 31/12/2024, averaging 50,444 tCO<sub>2</sub>e annually.

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

## Appendix 1. Abbreviations

Abbreviations	Full texts
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CL	Clarification Request
CO <sub>2</sub> e	Carbon dioxide equivalent
DOE	Designated Operational Entity
ERPA	Emission Reduction Purchase Agreement
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
GWP	Global Warming Potential
KBS	KBS Certification Services Pvt. Ltd.
KP	Kyoto Protocol
MP	Monitoring Plan
PDD	Project Design Document
PRC	Post Registration Change
PCP	Project Cycle Procedure
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard



## Appendix 2. Competence of team members and technical reviewers

<b>Personnel Name:</b>		<b>Narendra Kumar</b>	
<b>Qualified to work as:</b>			
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"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>	<b>Technical Area</b>		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermalelectricity 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		

<b>Personnel Name:</b>		<b>M.P. Kanal</b>	
<b>Qualified to work as:</b>			
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"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>	<b>Technical Area</b>		
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		

## Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	SKG Sangha	Registered PDD	Version 7, dated 12/12/2012	Publically available
2	TUV Nord	Validation Report	Dated 18/12/2012	Publically available
3	SKG Sangha	Revised PDD with post registration changes (submitted for validation)	Version 8, dated 16/01/2016	SKG Sangha
	SKG Sangha	Revised PDD with post registration changes (final)	Version 8.1, dated 14/04/2016	SKG Sangha
4	SKG Sangha	ER Calculation Sheet	Version 8.1, dated	SKG

			14/04/2016	Sangha
5	SKG Sangha & Buyer	Emission Reduction Purchase Agreement (ERPA)	Dated 17/12/2015	SKG Sangha
6	UNFCCC	AMS-III.R - Methane recovery in agricultural activities at household/small farm level	Version 02	Publically available
	UNFCCC	AMS-I.E- Switch from Non-Renewable Biomass for Thermal Applications by the User	Version 04	Publically 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	<a href="http://www.ipccnggip.iges.or.jp">www.ipccnggip.iges.or.jp</a>	Publically available
8	UNFCCC	Kyoto Protocol (1997)	<a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a>	Publically available
9	UNFCCC	CDM Project Standard	Version 09	Publically available
10	UNFCCC	CDM Validation and Verification Standard	Version 09	Publically available
11	UNFCCC	Glossary "CDM terms"	Version 08	Publically available

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

Table 1. CL from this validation

CL ID	xx	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	01	Section no.	D.4	Date:05/02/2016
Description of CAR				
Submit the demonstration confirming that no changes have occurred to the project activity that would result in a less conservative baseline, and that substantive progress has been made by the project participants to start the project activity. (Refer requirement of para 280 of project standard ver 9)				
Project participant response				Date:22/03/2016
Project has been registered at the end of December 2012. Since then SKGS tried to get funding for the project in vain. Because of the uncertainty in the CDM and because of global economical recession SKGS could not get required upfront funding to start the project activity. However, as a culmination of SKGS continued efforts to obtain funding, recently in December 2015 SKGS signed the ERPA and received funding to start the project activity. The units installation activity has been started and few hundreds of units have been already installed. There were no baseline changes or project activity changes that demands the PRC. PP is interested to extend the project start date by 2 years which requires the PRC. No changes were made in the project design. As the IPCC changed the global warming potential of Methane to 25 from 21 for the second commitment period, PP has applied this value.				

<b>Documentation provided by project participant</b>	
<i>ER spread sheet and updated PDD</i>	
<b>DOE assessment</b>	<b>Date:</b> 31/03/2016
<p>The change in crediting period start date is more than one year. So, in accordance with the para 280 of PS, PP have provided the demonstration that no changes have occurred to the project activity that would result in a less conservative baseline, and that substantive progress has been made by the project participants to start the project activity.</p> <p>As discussed with the PP, the delay in project implementation caused because of non-availability of funding and the PP could get the funding only on December 2015. This confirmed through verifying the ERPA which is signed only on 17/12/2015/5/. Also, PP has confirmed that no changes have occurred to the project activity that would result in less conservative baseline. It is also verified from the PP, that there is no design changes have occurred to the project activity and hence no other changes are reported in the revised PDD except the start date of the crediting period. So, due to the delay in project implementation, no other changes have occurred to the project activity that would result in less conservative baseline. Hence, the verification team conclude that the project fulfils the requirement of para 280 of project standard, version 9.</p> <p>CAR-01 is closed.</p>	

<b>CAR ID</b>	02	<b>Section no.</b>	D.7	<b>Date:</b> 05/02/2016
<b>Description of CAR</b>				
<p>In the revised PDD, PP has changed the proposed number of bio-digesters from 7620 to 7270 which falls under the PRC category 'Changes to the project design'. However, in the appendix 6 of revised PDD, the changes regarding the same are not explained. (Refer requirement of para 289.a of project standard ver 9)</p> <p>Also justification for compliance the para 292 of project standard is not provided in the revised PDD.</p>				
<b>Project participant response</b>				<b>Date:</b> 22/03/2016
The number of digesters is now retained as 7620. Hence there is no change in the project design.				
<b>Documentation provided by project participant</b>				
<i>updated revised PDD</i>				
<b>DOE assessment</b>				<b>Date:</b> 31/03/2016
<p>PP has now changed the number of digester back to 7620 which is same as registered PDD. Hence the validation team accepts that there is no change in the project design.</p> <p>CAR-02 is closed.</p>				

Table 3. FAR from this validation

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

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## Document information

Version	Date	Description
01.0	23 March 2015	Initial publication.

<i>Version</i>	<i>Date</i>	<i>Description</i>
Decision Class: Regulatory		
Document Type: Form		
Business Function: Registration		
Keywords: post-registration change, project activities, validation report		