




Validation report form for post-registration changes for CDM programme of activities

(version 01.0)

VALIDATION REPORT ON POST-REGISTRATION CHANGES (PRCs)

Title and reference number of the programme of activities (PoA)	"Improved Cookstoves Program for Zambia" UNFCCC Reference # PoA 8060
Process track	<input checked="" type="checkbox"/> Prior approval <input type="checkbox"/> Issuance <input type="checkbox"/> Renewal of crediting period
Version number of the validation report on PoA PRCs	02
Completion date of the validation report on PoA PRCs	09/11/2015
Version number of PoA-DD and/or CPA-DD applicable to this validation report	PoA-DD , Version 11 8060-0001 - CPA-DD, Version 11 8060-0002 – CPA-DD, Version 02 8060-0003 – CPA-DD, Version 02 8060-0004 – CPA-DD, Version 02
Type(s) of PoA 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 PoA <input checked="" type="checkbox"/> Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline <input type="checkbox"/> Types of changes specific to afforestation and reforestation activities <input type="checkbox"/> Changes to the programme design of a registered PoA <input checked="" type="checkbox"/> Changes to project design of generic component project activities or specific-case component project activities
Coordinating/managing entity (CME)	C-Quest Capital Malaysia Global Stoves Limited (CQC)
Host Party(ies)	Zambia
Sectoral scope(s)	3 : Energy demand
Selected methodology(ies)	AMS-II.G. ver. 3 - Energy efficiency measures in thermal applications of non-renewable biomass
Selected standardized baseline(s), where	-

applicable	
Name of DOE	KBS Certification Services Pvt. Ltd.
Name, position and signature of the approver of the validation report on PoA PRCs	 Kaushal Goyal Managing Director KBS Certification Services Pvt. Ltd.

SECTION A. Executive summary

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This PoA and CPAs involves the promotion and distribution/installation of fuel-efficient improved cooking stoves (ICS) in Zambia. The ICS disseminated through this programme will replace the prevailing inefficient three-stone fires or traditional pot support, with stoves that combust wood more efficiently and improve thermal transfer to pots, thus saving fuel and lowering greenhouse gas emissions.

KBS has been contracted by C-Quest Capital Malaysia Limited to perform validation of the permanent changes in registered PoA-DD and CPA-DDs of registered CDM PoA 'Improved Cookstoves Program for Zambia' and UNFCCC Reference No. 8060, according to the procedure detailed in CDM VVS, CDM PS and CDM PCP. The purpose of a validation is to have an independent third party assessment of the permanent changes in registered PoA-DD and CPA-DDs. In particular, the level of accuracy and/or completeness in the proposed revision of the PoA-DD and CPA-DDs, and the conformity with approved monitoring methodology applicable to the project activity.

The following permanent changes are proposed in the registered PDD:

- The sampling approach in the registered PoA-DD and CPA-DDs has been proposed to change from 'multi stage sampling' to 'simple random sampling' in the revised PoA-DD and CPA-DDs. The sampling procedures with reference to sampling frame, sampling method and sample size has also been revised, inline to the proposed 'sample random sampling', accordingly.
- Type of cook stove to be distributed in CPA (8060-0001) has been changed from EcoZoom Dura to TLC Rocket Stove in line with other implemented CPAs under the PoA. Due to the difference in thermal efficiency of cook stove (EcoZoom Dura has thermal efficiency of 38% and TLC Rocket Stove has thermal efficiency of 25.66%), the number of ICS to be distributed has been increased. Accordingly, number of ICS to be distributed under CPA (8060-0001) has been increased within the Small scale threshold ($180 \text{ GWh}_{\text{th}} / \text{annum}$).
- There are few other minor changes proposed, as stated below, to make the PoA-DD and CPA-DDs consistent with the onsite implementation, and to further clarify the information given in the DDs (PoA-CPA);
 - Registration card
 - Serial number of ICS

Furthermore, we confirm that:

- (a) the proposed revision points have been described, and an assessment has been provided to substantiate the reasons for each of the proposed revision points of the registered PDD, using objective evidence;
- (b) the proposed revision of the PoA-DD and CPA-DDs ensures that the level of accuracy and completeness in the monitoring and verification process is not reduced as a result of the revisions;
- (c) the proposed revision of the monitoring plan is in accordance with the approved monitoring methodology (AMS-II.G. Version03) applicable to the project activity whilst ensuring the conservativeness of the emission reductions calculation;
- (d) verification has commenced and prior approval of CDM EB is requested on proposed permanent changes in accordance with CDM VVS and CDM PS;
- (e) the information included in the latest PDD template(VVS track) is materially the same as the information in the registered PDD. The changes that are the subject of the request for approval are in track change.

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	IR	Joshi	Akhilesh	Central office	✓	✓	✓	✓

B.2. Technical reviewer and approver of the validation report on PoA 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 and Expert to Technical Reviewer	IR	Pal	Kaushik	Central office
2.	Manager (Technical & Certification)	IR	Pal	Kaushik	Central office

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

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A desk review is undertaken, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

KBS reviewed the PoA-DD and CPA-DDs, using a risk based approach and conducted follow-up interviews. The information in revised PoA-DD and CPA-DDs is reviewed against CDM VVS, CDM PS, Kyoto Protocol requirements, UNFCCC rules, applied methodology and associated interpretations.

List of all documents reviewed or referenced during the validation is included in the Appendix 3 below.

C.2. On-site inspection

The changes proposed by the PP are only related to minor changes proposed, as stated below, to make the PoA-DD and CPA-DDs consistent with the onsite implementation and the sampling approach used for conducting the ex post monitoring survey. Moreover, the change proposed by the PP does not include any project design change. Thus, the validation team confirms that the avoidance of site visit does not affect the validation opinion on the changes proposed by PP.

C.3. Interviews

No.	Telephonic Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Garg	Vineet Kumar	CQC	27/10/2015	Implementation and Operation of the CDM PoA and CPAs, Information flows for generating, aggregating and reporting the distribution database of ICS.	Akhilesh Joshi
2.	Goswami	Tridip Kumar	CQC	27/10/2015	Proposed changes in sampling approach applied for the project activity.	Akhilesh Joshi

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 PoA-DD and/or CPA-DD form(s)	0	0	0
Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline	0	0	0
Corrections	0	0	0
Changes to the start date of the crediting period	0	0	0
Inclusion of a monitoring plan in a registered PoA	0	0	0
Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline	0	0	0
Types of changes specific to afforestation and reforestation project activities	0	0	0
Changes to the programme design of a registered PoA	0	0	0
Changes to project design of generic component project activities or specific-case component project activities	0	0	0
Others (please specify)	0	0	0
Total	0	0	0

SECTION D. Validation findings

D.1. Compliance with PoA-DD and/or CPA-DD form(s)

Means of validation	PP has revised the PoA-DD and CPA-DD (8060-0001) in latest available template version of PoA-DD and CPA-DDs on CDM EB website. Some editing and restructuring of information has been done by PP, due to change of PoA-DD template and CPA-DD template from old version to new version. Validation team checked and confirmed that revised PoA-DD and CPA-DD(8060-0001) are in latest available template version at CDM EB website.
Findings	No finding has been raised.
Conclusion	Validation team confirms that the revised PoA-DD and CPA-DDs are in compliance with the relevant forms and instructions therein. Validation Team confirms that , the material included in the new form(s) under the

VVS track is materially the same as the information in the registered PoA-DD/generic CPA-DD/specific CPA-DD.
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D.2. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline

No temporary deviation envisaged during the PRC validation. Therefore, this section is not applicable.

D.3. Corrections

Means of validation	<p>Following corrections have been made in the registered PoA-DD and CPA-DDs -</p> <ol style="list-style-type: none"> 1) PP has made corrections in the PoA-DD and CPA-DDs, in order to bring clarity in the ICS registration process, by replacing "Registration Card" with "Registration process" throughout the revised PoA-DD and CPA-DDs. Registration of fuel efficient ICS can either be done in a hard copy or an electronic copy and information has been inserted under Section A.2 of revised PoA-DD^{/03/} and Section A.3 of revised CPA-DDs^{/04/}. The validation team reviewed the screen shots of electronic registration records^{/06/} and also the process of electronic registration for cook stove using ODK (Open Data Kit, an app based system for electronic devices e.g., mobiles) and found them appropriate for the registration purpose. 2) PP has removed reference to EcoZoom Dura stove as mentioned in section A.6 of PoA-DD, since different type of stove were implemented under first CPA. The validation team reviewed the screen shots of electronic registration records^{/06/} and confirmed the same. 3) PP has made corrections in Part 1, Section C, on the procedure to avoid double counting and record keeping system for each CPA under the PoA. The validation team reviewed the screen shots of electronic registration records^{/06/} and confirmed the same. 4) PP has redefined j as "days since registration of the ICS" instead of days since installation or distribution of the ICS" under Part II Section B.6.3 (under equation of $N_{y,i,j}$). The revised definition of j is in line with description of parameter $t_{y,j}$ under Part II Section B.7.1 (parameters to be monitored). <p>The assessment confirms that corrected information is actual reflection of actual project information and does not affect any provision of the applied methodology in any manner, as a result, is in accordance with the applied methodology.</p>
Findings	No finding has been raised.
Conclusion	<p>The validation team confirms</p> <ul style="list-style-type: none"> ✓ The corrected information is an accurate reflection of actual project information; ✓ The corrected parameters are in accordance with the applied methodology and registered monitoring plan. <p>Considering the proposed changes have been identified prior to the verification through a standalone contract, these are submitted as part of request for prior approval to CDM EB.</p>

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

No changes in start date of crediting period envisaged during the PRC validation. Therefore, this section is not applicable.

D.5. Inclusion of a monitoring plan in a registered PoA

Monitoring plan is already included in registered PoA during validation. Therefore, this section is not applicable.

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

Means of validation	Revised the sampling method applied in the monitoring plan from multi stage sampling to simple random sampling method.
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	<p>PP has applied the simple random sampling approach for conducting the ex post monitoring survey according to the Guideline for “Sampling and surveys for CDM project activities and programmes of activities”, Version 03.0 (EB 75, Annex 08)^{17/}. The population of the project activity is homogeneous based on the fact that, all the consumers are from same community and region. Multistage sampling is difficult to implement and not a cost effective method for the project developer.</p> <p>Therefore, simple random sampling is chosen to replace the existing sampling method. Accordingly, sampling frame, sampling method and sample size calculation of monitoring plan is revised with information correlated with simple random sampling. The explanation provided by the PP is deemed sufficient and validation team confirms that revised sampling approach complies with the methodology and sampling guidelines and is suitable for the project activity population.</p>
Findings	No finding has been raised.
Conclusion	<p>The validation team confirms that the revised monitoring plan does not reduce the level of accuracy of the monitoring compared with the requirements contained in the registered POA-DD.</p> <p>The same version of the methodology has been considered by the PP. However, a more recent version for Standard for “Sampling and surveys for CDM project activities and programmes of activities” (version 04.1)^{16/} has been consistently used. The proposed changes do not lead to any deviation from the applied methodology/tools.</p> <p>The validation team confirms that -</p> <ul style="list-style-type: none"> ✓ The permanent changes are unlikely to lead to a reduction in the accuracy of the calculation of emission reductions. ✓ The permanent changes proposed in the revised POA-DD, CPA DDs and corresponding ER sheets do not affect the application of the applied methodology in any manner.

D.7. Types of changes specific to afforestation and reforestation activities

No changes specific to afforestation and reforestation activities envisaged during the PRC validation. Therefore, this section is not applicable.

D.8. Changes to the programme design of a registered PoA

No changes in programme design of registered PoA envisaged during the PRC validation. Therefore, this section is not applicable.

D.9. Changes to project design of generic component project activities or specific-case component project activities

Means of validation	<p>PP has changed the type of ICS to be distributed in CPA 8060-0001 area from EcoZoom Dura to TLC Rocket Stove in the revised CPA-DDs based on the actual implementation of the project activity. Since the efficiency of the TLC Rocket Stove is less than the EcoZoom Dura Stove, the number of ICS to be distributed for the project activity has been increased within the Small scale threshold of 180 GWh_{th}/annum. The estimated value of CERs remains the same, since there is no change proposed in $f_{NRB,y}$ value for the Po Ana d baseline study Cook stove study.</p> <p>Since the annual energy saving per cook stove is 0.007% and which is less than 5% of SSC threshold, the project is considered additional according to the compliance with eligibility criteria set forth in section D.5 and the definitions outlined in EB 68 Annex 27 paragraph 2 (c).</p>
Findings	No finding has been raised.
Conclusion	<p>The validation team confirms that:</p> <ul style="list-style-type: none"> ✓ The changes in the revised PoA-DD and CPA-DD (8060-0001) are a complete and accurate reflection of the actual project information. ✓ The actual changes comply with the relevant requirements in the Project

	<p>standard related to changes to the project design of included CDM CPA (8060-0001)</p> <ul style="list-style-type: none"> ✓ Revised CPA (8060-0001) is still additional , as annual energy saving per cook stove is less than 5% of SSC threshold (180 GWH_{th} / annum) ✓ Revised number of ICS to be distributed in CPA (8060-0001) is within the small scale threshold. ✓ Revised CPA (8060-0001) meets the eligibility criteria of applied methodology AMS-II.G. Version 10. ✓ The level of accuracy of monitoring is not affected by the proposed changes in the Revised CPA (8060-0001).
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SECTION E. Internal quality control

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Following the completion of the assessment process and a recommendation by the validation team, the validation opinion prepared by Team Leader is independently reviewed by internal Technical Reviewer (TR). 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 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 validation team. The findings can be raised at this stage and project participant must address them within agreed timeline.

The opinion recommended by Technical Reviewer will be signed 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 performed the validation of the post registration changes of the project activity Improved Cookstoves Program for Zambia by C-Quest Capital Malaysia Global Stoves Limited (CQC).

The report is based on the assessment of the revised PDD undertaken through application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidance's and CDM decisions.

The validation was performed on the basis of rules and requirements defined by UNFCCC for the CDM project activities. The review of the revised POA-DD, supporting documentation and subsequent follow-up actions (including onsite visit and interviews), have provided KBS with sufficient evidence to determine the fulfilment of stated criteria.

The summary of proposed and assess changes in as under;

- a) The sampling approach in the registered PoA-DD and CPA-DDs has been proposed to change from 'multi stage sampling' to 'simple random sampling' in the revised PoA-DD and CPA-DDs. The sampling procedures with reference to sampling frame, sampling method and sample size has also been revised, inline to the proposed 'sample random sampling', accordingly.
- b) Type of cook stove to be distributed in CPA (8060-0001) has been changed from EcoZoom Dura to TLC Rocket Stove in line with other implemented CPAs under the PoA. Due to the difference in thermal efficiency of cook stove (EcoZoom Dura has thermal efficiency of 38% and TLC Rocket Stove has thermal efficiency of 25.66%), the number of ICS to be distributed has been increased. Accordingly, number of ICS to be distributed under CPA (8060-0001) has been increased within the Small scale threshold (180 GWH_{th} / annum).

- c) There are few other minor changes proposed, as stated below, to make the PoA-DD and CPA-DDs consistent with the onsite implementation, and to further clarify the information given in the DDs (PoA-CPA);
- Registration card
 - Serial number of ICS

Considering the validation of changes has occurred prior to commencement of verification therefore these would require prior approval from CDM EB. The validation confirms that the implementation of the post registration changes is in line with the applied methodology and all other applicable tools and guidance.

The description in the revised PoA-DD, Version 11 dated 11/09/2015 and revised CPA DDs meets all relevant UNFCCC requirements for the CDM PoA and CPA DDs and correctly applies the selected baseline and monitoring methodology.

This report is the combined assessment opinion for all the changes that are proposed in the POA-DD and request is submitted for prior approval by CDM EB.

Appendix 1. Abbreviations

Abbreviations	Full texts
AMS	Approved Methodology Small Scale
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CERs	Certified Emission Reductions
CL	Clarification Request
CME	Coordinating/Managing Entity
CO ₂ e	Carbon dioxide equivalent
COP	Conference of Parties
CPA	Component Project Activity
CQC	C-Quest Capital Malaysia Global Stoves Limited
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
ICS	Improved cooking stoves
ISO	International Organization of Standardization
IPCC	Intergovernmental Panel on Climate Change
KBS	KBS Certification Services Pvt. Ltd.
KP	Kyoto Protocol
PoA-DD	Programme of Activities- Design Document
PoA	Programme of Activities
PS	CDM Project Standard
PCP	CDM Project Cycle Procedure
QA/QC	Quality Assurance/Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VVS	CDM Validation & Verification Standard

Appendix 2. Competence of team members and technical reviewers

Personnel Name:		Akhilesh Joshi	
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 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		
Manufacturing Industries	TA 4.1 Cement sector		
Approved by (Manager C & T)	Gagandeep Kakkar		
Approval date:	31/12/2014		

Personnel Name:	Kaushik Pal		
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)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
	TA 1.2 Energy generation from renewable energy sources		
Energy Demand	TA 3.1 Energy Demand		
Approved by (Manager C & T)	Gagandeep Kakkar		
Approval date:	31/12/2014		

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
01	CME	Registered PoA-DD Version 10	Web link	CDM EB
02	CME	Registered CPA-DDs – 8060-0001 - CPA-DD, Version 10 8060-0002 – CPA-DD, Version 01.1 8060-0003 – CPA-DD, Version 01 8060-0004 – CPA-DD, Version 01	Web link Web link Web link Web link	CDM EB
03	CME	Revised PoA-DD Version 11	Dated 11/09/2015	CME
04	CME	Revised CPA-DDs – 8060-0001 - CPA-DD, Version 11 8060-0002 – CPA-DD, Version 02 8060-0003 – CPA-DD, Version 02 8060-0004 – CPA-DD, Version 02	Dated 11/09/2015	CME
05	DOE (KBS)	PRC Validation contract between CME (CQC) and DOE (KBS)	Dated 01/10/2015	CME
06	PP (COMACO)	Screen Shots – Electronic Database and Cookstove Registration Steps (using ODK)	-	CME
07	CDM Meth Panel	AMS-II.G. “Energy efficiency measures in thermal applications of non-renewable biomass” (Version 3.0)	Web link	CDM EB
08	UNFCCC	Kyoto Protocol (1997)	Web link	CDM EB
09	CDM EB	Clean development mechanism validation and verification standard (Version: 09.0),	Web link	CDM EB
10	CDM EB	Clean development mechanism project standard (Version: 09.0)	Web link	CDM EB
11	CDM EB	Clean development mechanism project cycle procedure (Version: 09.0)	Web link	CDM EB
12	CDM EB	Project Webpage of POA 8060 “Improved Cookstoves Program for Zambia”	Web link	CDM EB
13	-	Websites Referred	http://cdm.unfccc.int/index.html	others
14	DOE (KBS)	Verification Protocol	Dated 27/10/2015	DOE(KBS)
15	CDM EB	Instructions for filling out the programme	Part of PoA-DD template	CDM EB

		design document form for small-scale CDM programme of activities		
16	CDM EB	Standard for “Sampling and surveys for CDM project activities and programmes of activities” (version 04.1)	Web link	CDM EB
17	CDM EB	Guidelines for sampling and surveys for CDM project activities and programme of activities (version 03.0)	Web link	CDM EB
18	TUV SUD	Validation Report of PoA version 05	Web link	CDM EB
19	TUV SUD	Validation Report of - CPA 8060-0001 – Version 05 CPA 8060-0002 – Version 01 CPA 8060-0003 – Version 01 CPA 8060-0004 – Version 01	Web link Web link Web link Web link	CDM EB
20	Aprovecho Research Center	Testing of Efficiency of TLC Rocket Cook Stove	Report	CQC
21	CME	Revised ER Spreadsheets – 8060-0001 – ER sheet, Version 06 8060-0002 – ER sheet, Version 06 8060-0003 – ER sheet, Version 06 8060-0004 – ER sheet, Version 06	Dated 11/09/2015	CME

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

Table 1. CL from this validation

N/A

Table 2. CAR from this validation

N/A

Table 3. FAR from this validation

N/A

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	5 June 2015	Initial publication.
Decision Class: Regulatory		
Document Type: Form		
Business Function: Registration		
Keywords: post-registration change, programme of activities, validation report		