




**Validation report form for post-registration changes for
CDM project activities
(Version 03.0)**

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Catalytic abatement of N ₂ O in Nitric Acid Plant of Shiraz Petrochemical Company (UNFCCC reference number: 8249)
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	01
Completion date of the validation report	11/06/2020
Type(s) of PRCs	<input checked="" type="checkbox"/> Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents ¹ <input type="checkbox"/> Corrections <input type="checkbox"/> Changes to the start date of the crediting period <input type="checkbox"/> Inclusion of a monitoring plan <input type="checkbox"/> Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents <input type="checkbox"/> Changes to the project design <input type="checkbox"/> Changes specific to afforestation and reforestation project activities
Version number of PDD to which this report applies	Version 11, Dated 04/12/2019
Project participants	Shiraz Petrochemical Company Mehr Renewable Energies Company Climate Protection Finance AG
Host Party	Iran
Applied methodologies and standardized baselines	AM0028 / version 05.1.0 "Catalytic N ₂ O destruction in the tail gas of nitric acid or caprolactam production plants"
Mandatory sectoral scopes	Sectoral Scope (5): Chemical industries
Conditional sectoral scopes, if applicable	NA
Name and UNFCCC reference number of	Carbon Check (India) Private Ltd.

¹ Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

the DOE	(E-0052)
Name, position and signature of the approver of the validation report	Vikash Kumar Singh, Compliance Officer 

SECTION A. Executive summary

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Purpose, general description and location of the project activity:

The Project Participant, Climate Protection Finance AG, has commissioned the DOE, Carbon Check (India) Private Ltd. (CC IPL) to perform an independent validation of the post registration changes of the CDM Project Activity "Catalytic abatement of N₂O in Nitric Acid Plant of Shiraz Petrochemical Company" in Islamic Republic of Iran (hereafter referred to as "Project Activity").

The objective of the project activity is to reduce the emission of Nitrous Oxide (N₂O), which is a greenhouse gas, from tail gas of Nitric Acid production process in the Nitric Acid Plant of Shiraz Petrochemical Company (SPC) by installing a catalytic N₂O abatement system. N₂O is an undesired by-product of ammonia oxidation reaction (to produce nitric acid). The project activity includes installation of a DeN₂O-DeNO_x unit at the tail gas of nitric acid plant, which is decomposing N₂O and NO_x by chemical reaction over a catalytic bed to N₂ and O₂. This abatement unit utilizes a catalytic bed to decompose N₂O to its elements N₂ and O₂, thereby reducing GHG emissions. The plant utilizes Natural Gas as fuel for heating the tail gas and some ammonia to decompose NO_x emissions, which results in some project emissions. In the baseline scenario Nitrous Oxide (an undesired by product) of ammonia oxidation reaction (to produce nitric acid) and was released to atmosphere in absence of any regulation to restrict N₂O emissions in Iran.

PP proposes the following temporary deviations from the registered monitoring plan and the applied methodology:

The temporary deviation has been applied to the monitoring plan during the third monitoring period (23/09/2017 to 22/09/2018), for the period 21/11/2017 to 28/04/2018 (inclusive of both days). For the monitoring parameter "N₂O concentration at the inlet of the N₂O destruction facility" (C_{N₂O}), the data recording system did not record the continuously measured N₂O concentration in the inlet tail gas, properly. In absence of any other alternative monitoring arrangements being proposed, PP has voluntarily decided to apply zero baseline emissions for this period applying most conservative approach in line with paragraph 231 (b) (i) of CDM PS for project activities, version 02.

According to paragraph 1 (b) of Appendix 1 and 231 (b) of CDM PS for project activities, version 02, this deviation does not require prior approval from the CDM Executive Board. Therefore, CC IPL concludes that the change is addressed in a transparent and conservative manner in the revised MR and the revised ER calculation spreadsheet. CC IPL concludes that the change meets all relevant requirements of the UNFCCC for CDM project activities including the PS and VVS. CC IPL, therefore, requests the approval of post-registration changes of the project activity in issuance track.

SECTION B. Validation team, technical reviewer and approver

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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/document review	On-site inspection	Interviews	Validation findings

1.	Team Leader/ Technical Expert	IR	Agarwalla	Sanjay Kumar	CC IPL	X	X	X	X
2.	Local Expert	IR	Mehrani	Neda	CC IPL		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	Anand	Amit	CC IPL
2.	Technical expert to Technical Reviewer	IR	Nesari	R V	CC IPL
3.	Approver	IR	Singh	Vikash Kumar	CC IPL

SECTION C. Means of validation

C.1. Desk/document review

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

C.2. On-site inspection

Duration of on-site inspection: 06/01/2019 to 07/01/2019				
No.	Activity performed on-site	Site location	Date	Team member
1.	An assessment of the implementation and operation of the registered project activity as per the registered PDD	SPC plant, Shiraz, Iran	06/01/2019 to 07/01/2019	Sanjay Kumar Agarwalla, Neda Mehrani
2.	A review of information flows for generating, aggregating and reporting the monitoring parameters	SPC plant, Shiraz, Iran	06/01/2019 to 07/01/2019	Sanjay Kumar Agarwalla, Neda Mehrani
3.	Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD	SPC plant, Shiraz, Iran	06/01/2019 to 07/01/2019	Sanjay Kumar Agarwalla, Neda Mehrani
4.	A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources	SPC plant, Shiraz, Iran	06/01/2019 to 07/01/2019	Sanjay Kumar Agarwalla, Neda Mehrani
5.	A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology and corresponding tool(s), where applicable	SPC plant, Shiraz, Iran	06/01/2019 to 07/01/2019	Sanjay Kumar Agarwalla, Neda Mehrani
6.	A review of calculations and assumptions made in determining the GHG data and emission reductions	SPC plant, Shiraz, Iran	06/01/2019 to 07/01/2019	Sanjay Kumar Agarwalla, Neda Mehrani
7.	An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters	SPC plant, Shiraz, Iran	06/01/2019 to 07/01/2019	Sanjay Kumar Agarwalla, Neda Mehrani

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Ahadi	Mohammad	Mehr	06/01/2019	Project implementation	Sanjay Kumar

		Sadegh	Renewable Energy	to 07/01/2019	and operation management, monitoring procedure, data and information flow, QA/QC Procedures CER calculation and completeness of monitoring report	Agarwalla, Neda Mehrani
2.	Bazdar	Elahe	Mehr Renewable Energy	06/01/2019 to 07/01/2019	CER calculation and completeness of monitoring report	Sanjay Kumar Agarwalla, Neda Mehrani
3.	Madadi	Mohammad	SPC	06/01/2019 to 07/01/2019	Project implementation and operation, monitoring procedure, data and information flow, QA/QC Procedures	Sanjay Kumar Agarwalla, Neda Mehrani
4.	Babak	Dehghanpur		06/01/2019 to 07/01/2019	Project implementation and operation, monitoring procedure, data and information flow, QA/QC Procedures	Sanjay Kumar Agarwalla, Neda Mehrani
5.	Faramarzi	Zarir	SPC	06/01/2019 to 07/01/2019	Plant operation and maintenance	Sanjay Kumar Agarwalla, Neda Mehrani
6.	Golab Fetoosh	Mohammad Hadi	SPC	06/01/2019 to 07/01/2019	Operation and Maintenance of monitoring instrument including calibration	Sanjay Kumar Agarwalla, Neda Mehrani
7.	Karami	Abdolmarim	SPC	06/01/2019 to 07/01/2019	Operation and Maintenance of monitoring instrument including calibration	Sanjay Kumar Agarwalla, Neda Mehrani
8.	Ghanbari	Darab	SPC	06/01/2019 to 07/01/2019	Plant operation and maintenance	Sanjay Kumar Agarwalla, Neda Mehrani
9.	Sherafati	Keivan	SPC	06/01/2019 to 07/01/2019	Plant operation and maintenance	Sanjay Kumar Agarwalla, Neda Mehrani
10.	Parisai	Mohammad Sadegh	SPC	06/01/2019 to 07/01/2019	Plant operation and maintenance	Sanjay Kumar Agarwalla, Neda Mehrani
11.	Talebshokr	Farzad	SPC	06/01/2019 to 07/01/2019	Shift operator and log recording	Sanjay Kumar Agarwalla, Neda Mehrani

C.4. Sampling approach

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Not applicable.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) 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, applied methodologies, standardized baselines or other methodological regulatory documents	-	-	-
Corrections	-	-	-
Changes to the start date of the crediting period	-	-	-

Inclusion of a monitoring plan	-	-	-
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents	-	-	-
Changes to the project design	-	-	-
Changes specific to afforestation and reforestation project activities	-	-	-
Others (please specify)	-	-	-
Total	-	-	-

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	DR, I
Findings	-
Conclusion	Not applicable

D.2. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

Means of validation	DR, I
Findings	-
Conclusion	<p>Temporary deviation has been applied to the monitoring plan during the third monitoring period (23/09/2017 to 22/09/2018), for the period 21/11/2017 to 28/04/2018 (inclusive of both days). For the monitoring parameter "N₂O concentration at the inlet of the N₂O destruction facility" (C_{IN₂O}), the data recording system did not record the continuously measured N₂O concentration in the inlet tail gas, properly. In absence of any other alternative monitoring arrangements being proposed, PP has voluntarily decided to apply zero baseline emission for this period applying most conservative approach in line with paragraph 231 (b) (i) of CDM PS for project activities, version 02. According to paragraph 1 (b) of Appendix 1 and 231 (b) of CDM PS for project activities, version 02, this deviation does not require prior approval from the CDM Executive Board.</p> <p>The validation team further noted that although the PP is not claiming any Baseline emissions for the above downtime of the monitoring equipment for the parameter "C_{IN₂O}", but project emissions have been counted in the calculation of emission reductions. This is again a conservative approach as the project emission component consists of two components as below (and both have been accounted for the stated period):</p> <ul style="list-style-type: none"> i) Project emissions from N₂O not destroyed ii) Project emissions related to the operation of the destruction facility <p>CC IPL confirms that PP has decided to apply zero baseline emissions for the period 21/11/2017 to 28/04/2018 when monitoring data where not properly recorded for the parameter "N₂O concentration at the inlet of the N₂O destruction facility" (C_{IN₂O}). As the PP has applied the most conservative approach for the non-conforming monitoring period, in line with paragraph 284 of CDM VVS for project activities (version 02.0), it does not need to seek approval from the Board for the stated temporary deviation.</p> <p>The validation team took cognizance of paragraph 284, 373 (a) (i) and 374 (a) of CDM VVS for project activities, version 02.</p>

D.3. Corrections

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

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

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.5. Inclusion of a monitoring plan

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.6. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.7. Changes to the project design

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

D.8. Changes specific to afforestation and reforestation project activities

Means of validation	Not applicable
Findings	Not applicable
Conclusion	Not applicable

SECTION E. Internal quality control

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The final validation report passed a technical review before being submitted to the UNFCCC Executive Board. A technical reviewer qualified in accordance with the CCIPL's qualification scheme for CDM validation and verification performed the technical review.

SECTION F. Validation opinion

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Carbon Check (India) Private Ltd. (CC IPL) has performed the validation of the post-registration changes for the registered CDM Project Activity "Catalytic abatement of N₂O in Nitric Acid Plant of Shiraz Petrochemical Company" having UNFCCC reference number 8249. During the third periodic verification, temporary deviations from the registered monitoring plan and the applied methodology has been identified. The post registration changes (PRC) has been validated in line with the requirements of CDM PCP for project activities (version 02.0) /B01-3/, CDM PS for project activities (version 02.0) /B01-2/ and CDM VVS for project activities (version 02.0) /B01-1/. CC IPL confirms that PP has decided to apply zero baseline emissions for the period 21/11/2017 to 28/04/2018 when monitoring data were not properly recorded for the parameter "N₂O concentration at the inlet of the N₂O destruction facility" (C_{I,N₂O}). As the PP has applied the most conservative approach for the non-conforming monitoring period, in line with paragraph 284 of CDM VVS for project activities (version 02.0), it does not need to seek approval from the Board for the stated temporary deviation.

The validation was performed on the basis of rules and requirements defined by UNFCCC for the CDM project activities. The review of the MR /1/, ER spread sheet /2/ and subsequent follow-up actions (including interviews), have provided CCIPL with sufficient evidence to determine the fulfilment of stated criteria.

Appendix 1. Abbreviations

Abbreviations	Full texts
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DR	Document review
DOE	Designated Operational Entity
EB	CDM Executive Board
EF	Emission Factor
EI	External individual
FAR	Forward Action Request
FVR	Final verification Report
GHG	Greenhouse gas(es)
I	Interview
IPCC	Intergovernmental Panel on Climate Change
IR	Internal resource
MRE	Mehr Renewable Energies
PDD	Project Design Document
PP	Project Participant
OSV	On Site Visit
QC/QA	Quality control/Quality assurance
RMP	Revised Monitoring Plan
SPC	Shiraz Petrochemical Company
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers



Carbon Check (India) Private Ltd.

Sanjay Agarwalla


has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

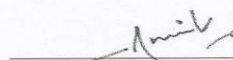
For following functions:

Validator	<input checked="" type="checkbox"/>	Team Leader	<input checked="" type="checkbox"/>	Technical reviewer	<input checked="" type="checkbox"/>
Verifier	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>	Local Expert ¹	<input checked="" type="checkbox"/>

In the following Technical Areas:

TA 1.1	<input checked="" type="checkbox"/>	TA 3.1	<input checked="" type="checkbox"/>	TA 5.2	<input checked="" type="checkbox"/>	TA 9.2	<input checked="" type="checkbox"/>	TA 13.2	<input type="checkbox"/>
TA 1.2	<input checked="" type="checkbox"/>	TA 4.1	<input checked="" type="checkbox"/>	TA 8.1	<input type="checkbox"/>	TA 10.1	<input type="checkbox"/>	TA 14.1	<input type="checkbox"/>
TA 2.1	<input checked="" type="checkbox"/>	TA 5.1	<input checked="" type="checkbox"/>	TA 9.1	<input checked="" type="checkbox"/>	TA 13.1	<input checked="" type="checkbox"/>		


Mr. Vikash Kumar Singh
 Compliance Officer


Mr. Amit Anand
 CEO

Date of Approval
 24/12/2019

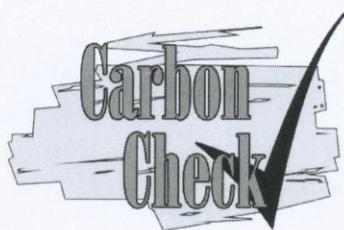
Valid Till
 23/12/2020

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision

¹ India

CARBON CHECK (INDIA) PRIVATE LIMITED
 Registered in India: U74930DL2012PTC232495
 Regd. Off: 2071/38, 2nd Floor, Naiwala, Karol Bagh, New Delhi - 110005
 Corporate off: G 49 & 50, 3rd Floor, Sector - 3, NOIDA (Uttar Pradesh) - 201301
 Tel: +91 120 4373114 | URL: www.carboncheck.co.in
 e-mail: info@carboncheck.co.in



Carbon Check (India) Private Ltd.

Amit Anand

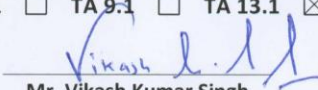
has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 07.0):

For following functions:

Validator	<input checked="" type="checkbox"/>	Team Leader	<input checked="" type="checkbox"/>	Technical reviewer	<input checked="" type="checkbox"/>
Verifier	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>	Local Expert ¹	<input checked="" type="checkbox"/>

In the following Technical Areas:

TA 1.1	<input checked="" type="checkbox"/>	TA 3.1	<input checked="" type="checkbox"/>	TA 5.2	<input type="checkbox"/>	TA 9.2	<input type="checkbox"/>	TA 13.2	<input type="checkbox"/>
TA 1.2	<input checked="" type="checkbox"/>	TA 4.1	<input type="checkbox"/>	TA 8.1	<input checked="" type="checkbox"/>	TA 10.1	<input type="checkbox"/>	TA 14.1	<input checked="" type="checkbox"/>
TA 2.1	<input type="checkbox"/>	TA 5.1	<input type="checkbox"/>	TA 9.1	<input type="checkbox"/>	TA 13.1	<input checked="" type="checkbox"/>		


Mr. Vikash Kumar Singh
Compliance Officer

Date of Approval
24/12/2019

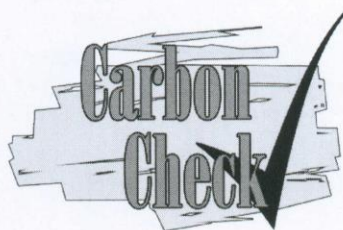
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24/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision

¹ India, South Africa

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Tel: +91 120 4373114 | URL: www.carboncheck.co.in
e-mail: info@carboncheck.co.in



Carbon Check (India) Private Ltd.

Ramchandra Nesari

has been qualified as per CCIPL's internal qualification procedures, in accordance with requirements of Accreditation Standard (version 06.0):

For following functions:

Validator ☐ Team Leader ☐ Technical reviewer ☐
 Verifier ☐ Technical Expert ☒ Local Assessor¹ ☒

In the following Technical Areas:

TA 1.1 ☒ TA 3.1 ☒ TA 5.2 ☒ TA 9.2 ☒ TA 13.2 ☐
 TA 1.2 ☒ TA 4.1 ☒ TA 8.1 ☐ TA 10.1 ☒ TA 14.1 ☐
 TA 2.1 ☐ TA 5.1 ☒ TA 9.1 ☒ TA 13.1 ☒

Mr. Vikash Kumar Singh
Compliance Officer

Mr. Amit Anand
CEO

Date of Approval
24/12/2019

Valid Till
23/12/2020

Revision History of the Document

26/12/2014	Initial Adoption
24/12/2015	Annual Revision
20/01/2016	Interim Revision for office address change
23/12/2017	Annual Revision
24/12/2018	Annual Revision
24/12/2019	Annual Revision

¹ India

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 Corporate off: G 49 & 50, 3rd Floor, Sector - 3, NOIDA (Uttar Pradesh) - 201301
 Tel: +91 120 4373114 | URL: www.carboncheck.co.in
 e-mail: info@carboncheck.co.in

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	MRE	Monitoring report	Version 07.0, 31/07/2020	PP
2	MRE	Emission reduction spread sheet	Version 07.0, 31/07/2020	PP
3	CCIPL	Verification report for 3 rd monitoring period for the CDM project activity 8249	Version 07, 02/08/2020	DOE
B01	UNFCCC	1. Validation and Verification Standard for project activities, version 02.0 2. Project Standard for project activities, version 02.0 3. Project Cycle Procedure for project activities, version 02.0	http://cdm.unfccc.int/	Others
B02	UNFCCC	Applied baseline and monitoring methodology, AM0028 / version 05.1.0 “Catalytic N ₂ O destruction in the tail gas of nitric acid or caprolactam production plants”	http://cdm.unfccc.int/	Others
B03	UNFCCC	CDM PRCV FORM and Instructions for filling out the PRC Validation form, version 03.0	http://cdm.unfccc.int/	Others
B04	UNFCCC	Approved revised PDD (version 11 dated 04/12/2019), and corresponding validation report	http://cdm.unfccc.int/	Others
B05	Web sites	Websites: 1. http://cdm.unfccc.int/	-	Others

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

Table 1. CLs from this validation

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

Table 2. CARs from this validation

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

Table 3. FARs from this validation

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

- - - - -

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none">• Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN);• Make editorial improvements.
02.0	31 October 2017	Revision to align with the requirements in the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Registration Keywords: post-registration change, project activities, validation report		