




**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	Solar Power Project by Fortum FinnSurya Energy Pvt Ltd UNFCCC Reference Number: 10404
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	02
Completion date of the validation report	21/09/2019
Type(s) of PRCs	<input type="checkbox"/> Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents ¹ <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 <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	04
Project participants	Fortum FinnSurya Energy Private Limited
Host Party	India
Applied methodologies and standardized baselines	ACM0002- Grid-connected electricity generation from renewable sources - Version 17.0
Mandatory sectoral scopes	Sectoral Scope 1: Energy Industries (renewable - /non-renewable sources)
Conditional sectoral scopes, if applicable	NA
Name and UNFCCC reference number of	Earthood Services Private Limited

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-0066
Name, position and signature of the approver of the validation report	 Dr. Kaviraj Singh Managing Director

SECTION A. Executive summary

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The main purpose of this project activity is to generate clean form of electricity through renewable solar energy source. Fortum Finnsurya Energy Private Limited is the promoter of the project activity. The project activity has an installed capacity of 100 MW (AC) (125 MWp) solar power project at Thirumani, Tumkur, Karnataka. The annual average of electricity generation and emission reduction over 7 years of crediting period is 181,417 MWh/year and 177,371 tCO₂e per year.

Project is operational, and the assessment team verified this during the site visit. The assessment team confirms that the total emission reduction achieved under this monitoring period 06/11/2017 to 01/04/2019 (including both days) is 262,088 tCO₂e.

Scope of validation

The scope of the services provided by Earthood Services Private Limited for the project is to perform validation of the project activity for the Post registration changes. The scope of validation is to assess the claims and assumptions made in the project design document (PDD) against the UNFCCC criteria, including but not limited to, CDM PS, CDM VVS, applied methodology and other relevant rules and requirements established for CDM project activities.

Validation process

The validation process is undertaken by validation team and involves the following;

- the desk review of documents and evidences submitted by the project participant in context of the reference CDM rules and guidelines issued by CDM EB,
- undertaking site visit, interview or interactions with the representative of the project participant,
- reporting audit findings with respect to clarifications and non-conformities and the closure of the findings, as appropriate and
- preparing a draft validation report complying with the CDM requirements

Conclusion

ESPL has performed the PRC validation of the CDM PA "Solar Power Project by Fortum FinnSurya Energy Pvt Ltd" having UNFCCC Ref. Number 10404 for the monitoring period 06/11/2017 to 01/04/2019 (including both days).

The review of the PDD, supporting documentation and subsequent follow-up actions (onsite visit and interviews) have provided Earthood with sufficient evidence to determine the fulfilment of stated criteria.

Earthood is of the opinion that the project activity meets all relevant requirements of CDM, meets host country criteria and has correctly stated geo-coordinates of the project activity. Therefore, the project is being recommended to CDM EB for post registration changes approval in issuance track.

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/document review	On-site inspection	Interviews	Validation findings
1.	Team Leader	EI	Takarkhede	Atul	Central Office	Y	Y	Y	Y
2.	Technical Expert (TA1.2)	EI	Takarkhede	Atul	Central Office	Y	Y	Y	Y
3.	Methodology Expert	IR	Garg	Shreya	Central Office	Y	N	N	Y
4.	Local Expert	IR	Garg	Shreya	Central Office	Y	N	N	Y
5.	Verifier	IR	Garg	Shreya	Central Office	Y	N	N	Y

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	Gupta	Anshika	Central Office
2.	TA expert to TR	IR	Gupta	Anshika	Central Office
3.	Approver	IR	Singh	Kaviraj	Central Office

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

The validation is performed primarily as a document review of the publicly available Registered CDM PDD, Version 3 dated 21/12/2017. The assessment is performed by a validation team using a validation protocol. The validation of information provided in the PDD is performed using the source of information provided by the project participant. Additionally, the cross checks are performed for information provided in the PDD using information from sources other than the validation sources, the validation team's onsite visit, sectoral or local expertise and, if necessary, independent background investigations.

C.2. On-site inspection

Duration of on-site inspection: 24/07/2019				
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 or any approved revised PDD;	Thirumani, Tumkur, Karnataka, India	24/07/2019	Dr. Atul Takarkhede

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Gupta	Rajendra	Plant Manager, Fortum	24/07/2019	Project implementation	Dr. Atul Takarkhede
2.	Devaraj	Gopalkrishna	EHS Manager, Fortum			
3.	Veladandi	Kiran Kumar	Plant Manager, Fortum			

C.4. Sampling approach

No sampling approach was followed by the assessment team.

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	0	0	0
Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	0	0	0
Corrections	0	1	0
Changes to the start date of the crediting period	0	0	0
Inclusion of a monitoring plan	0	0	0
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents	0	0	0
Changes to the project design	0	0	0
Changes specific to afforestation and reforestation project activities	0	0	0
Others (please specify)	0	0	0
Total	0	1	0

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

Means of validation	The guideline for completing CDM form version 11 for project activity is checked by the assessment team. The project activity was registered with CDM PDD Form version 08 ^{1/} however for Post Registration changes, latest version of PDD Form i.e. version 11 is used. The information from registered PDD to latest version transferred correctly. Additional section A.6. of new PDD form applicable apart from old PDD format were appropriately addressed. Same were checked and found correct. Same has been checked by comparing registered PDD ^{1/} and revised PDD ^{19/} submitted by PP in track changes.
Findings	No findings raised for this compliance
Conclusion	The latest version 11 available in the UNFCCC site is used for revision of PDD for post registration changes and found correct.

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

Means of validation	The post registration changes do not fall under this category.
Findings	The post registration changes do not fall under this category.
Conclusion	The post registration changes do not fall under this category.

D.3. Corrections

Means of validation	Physical on-site inspection was carried out by the validation team to check the implementation status of the project activity, location and the instrumentation installed for the project activity.
Findings	Latitude & longitude mentioned in the registered PDD and MR are not matching with actual Latitude & longitude of the project activity. Post registration changes inline with the applicable guidelines shall be proposed. Also correction in the actual aerial photograph of the project activity is requested.
Conclusion	The geo-coordinates of the project site mentioned in the registered PDD and MR submitted was found incorrect during onsite visit of validation team. CAR 01 was raised in this regard. PP submitted revised PDD with correct geo-coordinates of the. Validation team checked the same and found correct. Revised MR was also submitted by PP with correct geo-coordinates. This editorial permanent change does not have any impact on project design, baseline, scale of project and additionally assumptions and hence accepted by validation team.

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

Means of validation	The post registration changes do not fall under this category.
Findings	The post registration changes do not fall under this category.
Conclusion	The post registration changes do not fall under this category.

D.5. Inclusion of a monitoring plan

Means of validation	The post registration changes do not fall under this category.
Findings	The post registration changes do not fall under this category.
Conclusion	The post registration changes do not fall under this category.

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	The post registration changes do not fall under this category.
Findings	The post registration changes do not fall under this category.
Conclusion	The post registration changes do not fall under this category.

D.7. Changes to the project design

Means of validation	The post registration changes do not fall under this category.
Findings	The post registration changes do not fall under this category.
Conclusion	The post registration changes do not fall under this category.

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

Means of validation	The post registration changes do not fall under this category.
Findings	The post registration changes do not fall under this category.
Conclusion	The post registration changes do not fall under this category.

SECTION E. Internal quality control

The draft validation report that is prepared by validation team is reviewed by an independent technical review team (one or more members) to confirm if the internal procedures established and implemented by Earthood were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable CDM rules/requirements. The technical review team is collectively required to possess the technical expertise of all the technical area/sectoral scope the project activity relates to. All team members of technical review team are independent of the validation team.

During the technical review process additional findings may be identified or the closed-out findings may be opened, which needs to be satisfactorily resolved before the request for issuance is submitted to UNFCCC. The independent technical reviewer may either approve the report as such or reject/return the same in such case providing the comments/findings/issues that needs to be resolved by the validation team. The decision taken by the Technical Reviewer is final and is authorized on behalf of Earthood Services Private Limited.

SECTION F. Validation opinion

ESPL was contracted by Fortum FinnSurya Energy Private Limited for PRC validation of the project activity 10404 "Solar Power Project by Fortum FinnSurya Energy Pvt Ltd". The validation was performed on the basis of rules and requirements defined by UNFCCC for the CDM project activities.

ESPL has performed a PRC validation of the "Solar Power Project by Fortum FinnSurya Energy Pvt Ltd" UN 10404. The validation was performed on the basis of UNFCCC criteria and host country 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 ESPL with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by ESPL for approval of Post Registration changes.

The validation has been performed following the requirements of the latest version of the CDM VVS version 2.0 for the project activity and on the basis of the contractual agreement. The single purpose of this report is its use during the registration process as part of the CDM/UNFCCC project cycle.

Appendix 1. Abbreviations

Abbreviations	Full texts
AS	Accreditation Standard
BESCOM	Bangalore Electricity Supply Company Limited
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM PCP for PA	Clean Development Mechanism Project Cycle Procedure for Project Activities
CER	Certified Emission Reduction(s)
CL	Clarification Request
CPCB	Central Pollution Control Board
DOE	Designated Operational Entity
DNA	Designated National Authority
EB	Executive Board
Earthood	Earthood Services Private Limited
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GOI	Government Of India
IR	Internal Resource
IPCC	Intergovernmental Panel on Climate Change
MOEFCC	Ministry of Environment, Forests & Climate Change
MR	Monitoring Report
MW	Mega Watt
NTPC	National Thermal Power Corporation
PDD	Project Design Document
PP	Project Participants
PPA	Power Purchase Agreement
QA/QC	Quality Assurance / Quality Control
MP	Monitoring Plan
KSPDCL	Karnataka Solar Power Development Corporation Limited
SEB	State Electricity Board
tCO _{2e}	tonnes of Carbon dioxide equivalent
UNFCCC	United Nations Framework Convention on Climate Change
VCR	Verification and Certification Report

Appendix 2. Competence of team members and technical reviewers

Competence Statement			
Name	Atul Takarkhede		
Education	Ph.D. Environmental Science		
Experience	12 years		
Field	Climate Change and environment		
Approved Roles			
Team Leader	YES		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert	YES (1.2)		
Reviewed by	Shreya Garg	Date	24/04/2019
Approved by	Anshika Gupta	Date	25/04/2019

Competence Statement			
Name	Shreya Garg		
Country	India		
Education	M.Sc. (Climate Science & Policy), TERI University		
Experience	6 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., ACM0002, ACM0012		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2, TA 3.1)		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Gautam	Date	01/03/2018

Competence Statement	
Name	Anshika Gupta
Country	India
Education	M.Sc. (Climate Science & Policy), TERI University
Experience	4 Years +

Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.A., AMS-II.G., ACM0002, AMS-III.A.V.		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	Yes (TA 1.2, TA 3.1)		
Reviewed by	Shreya Garg	Date	12/03/2019
Approved by	Kaviraj Singh	Date	12/03/2019

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	Project Proponent	Registered CDM PDD	Version 3 dated 21/12/2017	Others
2.	Applus Certification	Validation report	Version 2, dated 28/12/2017	Others
3.	UNFCCC	ACM0002: Grid-connected electricity generation from renewable sources	Version 17.0	Others
4.	UNFCCC	CDM project standard for project activities	Version 02	Others
5.	UNFCCC	CDM Validation and Verification Standard for project activities	version 02	Others
6.	Project Proponent	Monitoring Report (Published) Monitoring Report (Final)	Version: 01 Dated: 11/06/2019 Version: 02 Dated: 18/09/2019	PP
7.	Project Proponent	ER sheet (Final)	Version: 01 Dated: 23/08/2019	PP
8.	KSPDCL	Commissioning certificates	02/12/2017 & 05/12/2017	PP
9.	BESCOM	JMR (monthly credit notes) covering monitoring period	-	PP
10.	Project Proponent	Invoices covering monitoring period	-	PP
11.	Project Proponent	O&M reports for controller meter readings (DGR)	-	PP
12.	Project Proponent	Plant Schematic Diagram	Year 2019	PP
13.	UNFCCC	CDM-MR-FORM	version 7.0	Others
14.	CEA	CEA database	Version 11	Others
15.	BESCOM	Calibration certificates for meters of 220/66kV KV substation Calibration certificates for	09/07/2018, 09/08/2018 & 20/12/2018 10/08/2018	PP

No.	Author	Title	References to the document	Provider
		meters of 440/220 KV substation		
16.	Project Proponent	Training records for year 2018 & 2019	-	PP
17.	Project Proponent	Breakdown record for the monitoring period	-	PP
18.	NTPC Ltd. (First Party)	Power Purchase Agreement	21/06/2016	PP
19.	PP	Revised PDD for Post Registration Changes	Version 04 Dated 18/09/2019	PP

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			
NA			
Project participant response			Date: DD/MM/YYYY
NA			
Documentation provided by project participant			
NA			
DOE assessment			Date: DD/MM/YYYY
NA			

Table 2. CARs from this validation

CAR ID	04	Section no.	A	Date : 26/07/2019
Description of CAR				
Latitude & longitude mentioned in the registered PDD and MR are not matching with actual Latitude & longitude of the project activity. Post registration changes inline with the applicable guidelines shall be proposed.				
Also correction in the actual aerial photograph of the project activity is requested.				
Project participant response				Date : 20/08/2019
The correct Latitude and longitude along with the correct aerial photograph of the site is now provided in the MR. Also, the required corrections has been done in the CDM PDD and the same is now provided to the assessment team.				
Documentation provided by project participant				
MR V2 and PDD V4				
DOE assessment				Date: 29/08/2019
PP submitted revised PDD with correct geo-coordinates of the. Verification team checked the same and found correct. Revised MR along with revised PDD for post registration changes was also submitted by PP with correct geo-coordinates. This editorial permanent change does not have any impact on project design, baseline, scale of project and additionally assumptions and hence accepted by verification team.				

Table 3. FARs from this validation

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

NA	
DOE assessment	Date: DD/MM/YYYY
NA	

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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		