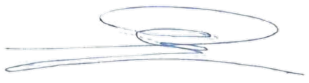
Validation report form for CDM project activities

(Version 04.0)

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

BASIC INFORMATION	
Title of the project activity	19.2 MWp Solar Power Project by HZL at Debari and Dariba, Rajasthan
Scale of the project activity	☒ Large-scale ☐ Small-scale
Version number of the validation report	02
Completion date of the validation report	26/06/2019
Version number of the PDD to which this report applies	02
Date when PDD was uploaded for global stakeholder consultation	22/12/2017 – 20/01/2018- Global Stake holder consultation period.
Project participants	M/s Hindustan Zinc Limited
Host Party	India
Applied methodologies and standardized baselines	ACM0002- Grid-connected electricity generation from renewable sources --- Version 19.0
Mandatory sectoral scopes	01
Conditional sectoral scopes, if applicable	NA
Estimated amount of annual average GHG emission reductions or GHG removals by sinks	24,054 tCO_2e / annum
Name and UNFCCC reference number of the DOE	LGAI Technological Center, S.A. (Applus+ Certification). UNFCCC reference number: **E-0032**
Name, position and signature of the approver of the validation report	Juan Sendín Caballero, LGAI Technological Center, S.A. (Applus+ Certification) B.U. Managing Director 

SECTION A. Executive summary

The main purpose of this project activity is to generate clean form of electricity through renewable solar energy source. M/s Hindustan Zinc Limited (HZL) is the promoter of the project activity. The project activity involves installation of 4.8 MWp (DC) solar power project at Villages: Dariba, Tehsil- Railmagra, Dist- Rajsamand, Rajasthan and 14.4 MWp (DC) Solar power project at Debari, Dist- Udaipur, Rajasthan. The project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 24,054 tCO_2e per year, thereon displacing 24,919 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by thermal/fossil fuel based power plant. The power generated from the project activity will be utilized for captive consumption.

The details of the project and the state of installation are mentioned in the table:

Project Promoters' Name	Capacity in MW	Commissioning Date	Connection with Grid	State	Usage of Electricity
M/s Hindustan Zinc Limited.	4.8 MWp (DC)	26/03/2017	Indian Grid	Rajasthan	Captive use
	14.4 MWp (DC)	25/03/2017			

The project activity is the installation of an environmentally safe and sound technology since there are no GHG emissions associated with the electricity generation. The design lifetime of the solar project is 25 years (As per the Manufacturer specifications). The same is acceptable to the assessment team.

Validation Scope: The scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology ACM0002/ Version 19.0, "Grid-connected electricity generation from renewable sources". The validation was based on the requirements in the CDM Validation and Verification Standard for the project activities (VVS version 02)

The validation is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design document.

Once Applus+ Certification receives the PDD, it has been made publicly available on the UNFCCC website, which initiates a 30 days global stakeholder consultation (GSC) process. The details of the GSC are included in this report.

Validation Process: The project assessment is based on the "CDM Project Cycle Procedure for project activities version 02.0 and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the CDM project activity are appointed.

Once the project is made available for the global stakeholder consultation process, the members of the assessment team carried out:

I A desk review of the project design documentation;
II Follow-up interviews with project stakeholders;
III The resolution of outstanding issues and the issuance of the final validation report and opinion.

The prepared validation report and other supporting documents then undergo an internal quality control at the HQ (Accredited office) before being submitted to the CDM-EB.

Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGAI Technological Center S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGAI Technological Center S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGAI Technological Center S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.
The four qualification levels for team members that are assigned by formal appointment rules are as present ed below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

The detail regarding the assessment team is provided below in Appendix 2/B.1 and B.2 of this report

Document review

The Project Design Document submitted by the Client was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in Appendix 3 of this report.

Follow-up interviews

A site visit is conducted by Applus+ Certification performed interviews, telephone conferences, and physical site inspection with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in section C.2 and C.3 of this report

Resolution of Clarification and Corrective Action Request

The objective of this phase of the validation was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification positive conclusion on the project design document. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the validation process, the concerns raised and responses given are summarized in Appendix 4 below.

The final PDD version 02 submitted by PP serves as the basis for the final assessment presented. Additional changes to the project during the validation process are not considered to be significant with respect to the main CDM objectives. The two CDM main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country

Internal quality control

As final step of a validation of the final documentation including the validation report and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform

Conclusion

Applus+ Certification has performed a validation of the “19.2 MWp Solar Power Project by HZL at Debari and Dariba, Rajasthan”. The validation was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria, e.g. ACM0002 version 19, 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 Applus+ Certification 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 Applus+ Certification for registration with the UNFCCC.

Applus+ Certification has received a confirmation from the host Party that the project activity assists it in achieving sustainable development.

By displacing fossil fuel-based electricity with electricity generated from a renewable source, the project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. An analysis of the investment demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of annual emission reductions of 24,054 tCO_2e per year, thereon displacing 24,919 MWh/year amount.

The validation has been performed following the requirements of the latest version of the the "CDM Validation and Verification standard for project activities version 02.0 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.

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.	LA/TE	OR	DAS	SUKANTA	TRUE QUALITY CERTIFICATION PRIVATE LIMITED	YES	YES	YES	YES

B.2. Technical reviewer and approver of the validation report

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	EI	Xue	Denny	Applus+ Certification
2.	Approver	IR	Caballero	Juan Sendin	Applus+ Certification

SECTION C. Means of validation

C.1. Desk/document review

The details of the document observed during the validation process are listed below in Appendix 3 of this report.

C.2. On-site inspection

Duration of on-site inspection: 19/01/2018 to 20/01/2018				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Assessment team checked the implementation of the project, Baseline emission, and emission reduction calculation, technical description of the project and Onsite Monitoring practice.	The project is located in Village- Dariba and Debari, Dist- Rajsamand and Udaipur, State- Rajasthan, India	19/01/2018 to 20/01/2018	Mr. Sukanta Das

C.3. Interviews

No.	**Interviewee**			**Date**	**Subject**	**Team member**
	Last name	**First name**	**Affiliation**			
1.	Singh	Jorawar	Site In-charge-Debari	19/01/2018	As explained in C.2 above	Mr. Sukanta Das
2	Lal	Nathu	Villager-Debari	19/01/2018	Local Stakeholder consultation	Mr. Sukanta Das
3	Pal	Surendra	Site In-charge-Dariba	20/01/2018	As explained in C.2 above	Mr. Sukanta Das
4	Singh	Chetan	Villager-Dariba	20/01/2018	Local Stakeholder consultation	Mr. Sukanta Das

C.4. Sampling approach

The assessment team didn't apply any sampling approach for the project activity. The site visit was conducted for the complete solar project implemented in the locations/site as mentioned in the PDD

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**
Demonstration of prior consideration of the CDM	00	00	00
Identification of project type	00	00	00
Description of project activity	00	03	00
Application and selection of methodologies and standardized baselines	00	00	00
- Application of methodologies and standardized baselines	00	01	00
- Deviation from methodology and/or methodological tool	00	00	00
- Clarification on applicability of methodology, tool and/or standardized baseline	00	00	00
- Project boundary, sources and GHGs	00	00	00
- Baseline scenario	00	00	00
- Demonstration of additionality	00	01	00
- Estimation of emission reductions or net anthropogenic removals	00	01	00
- Monitoring plan	00	01	00
Start date, crediting period type and duration	00	00	00

Environmental impacts	00	00	00
Local stakeholder consultation	00	01	00
Sustainable development co-benefits	00	00	00
Approval	00	01	00
Authorization	00	00	00
Modalities of communication	00	01	00
Global stakeholder consultation	00	00	00
Others (please specify) - 1. ODA declaration	01	00	00
Total	01	10	00

SECTION D. Validation findings

D.1. Demonstration of prior consideration of the CDM

Means of validation	Assessment team checked UNFCCC web site and also the acknowledgement email as received by project participant from UNFCCC regarding receivable of prior consideration notification and publication of the same.
Findings	No findings raised during the course of Validation
Conclusion	Assessment team checked the UNFCCC web site for prior consideration notification and found that the same was uploaded on UN web site dated 17/04/2017. https://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html Moreover, assessment team also checked the acknowledgement email sent by UNFCCC to project participant regarding receivable of prior consideration notification and publication of the same. Assessment team also checked the email notification sent to DNA by project participant regarding prior consideration for the present CDM project activity. As per Section 4.1 of the "CDM Project Cycle Procedure for project activities version 02.0, if the start date of the project is after 2nd August 2008, "*the project participants shall notify the designated national authority (DNA) of the host Party of the project activity, if the DNA exists, and the secretariat in writing of the commencement of the project activity and their intention to seek the CDM status for the project activity, or, through a DOE, publish the PDD for global stakeholder consultation within 180 days of the start date of the project activity*" The Start date of the project activity is 03/12/2016 (date of EPC (=Engineering, Procurement, Construction) Contract with Larsen &Turbo (Manufacturer) as per the glossary of CDM terms and in accordance to start date definition for CDM project activity), and the prior notification is dated 17/04/2017 which is within 180 days of project start date. Hence, assessment team confirm that the prior consideration clause as per Section 4.1 of the "CDM Project Cycle Procedure for project activities version 02.0 has been fulfilled.

D.2. Identification of project type

Means of validation	Assessment team checked the UNFCCC web site/Glossary of CDM terms regarding project type definition for CDM project activity.
Findings	No findings raised during the course of Validation
Conclusion	The project activity is power generated from the Solar power project and the output will be utilized for captive consumption. Since the project is renewable energy generation and hence falls under following: Sectoral Scope : 01 - Energy industries (renewable / non-renewable sources) **Project Type: Type-I - Renewable Energy Projects** Project Category: ACM0002: Grid-connected electricity generation from renewable sources- Version 19.0 (EB 100) The project activity aims to harness solar energy through installation of PV with total installed capacity of 19.2 MWp. Assessment team observed that the capacity of the project is above 15 MW Type I small scale project activity and thus assessment team confirms that the project is large scale project activity. The

	technology being employed is well proven, safe & sound. No technology transfer to host party is envisaged due to project activity.

D.3. Description of project activity

Means of validation	Assessment team checked the Initial PDD as received for GSC period, EPC contract with the Manufacturer, Commissioning Certificate (3rd party document), Power Wheeling agreement to confirm the description of the project activity.
Findings	CAR 03, CAR 04 and CAR 05 were raised during the course of Validation and closed successfully. Please refer Appendix 4 of this report for the detail closure of the CAR.
Conclusion	The main purpose of this project activity is to generate clean form of electricity through renewable solar energy source. M/s Hindustan Zinc Limited (HZL) is the promoter of the project activity. The project activity involves installation of 4.8 MWp (DC) solar power project at Villages: Dariba, Tehsil- Railmagra, Dist- Rajsamand, Rajasthan and 14.4 MWp (DC) Solar power project at Debari, Dist- Udaipur, Rajasthan. The project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 24,054 tCO_{2e} per year, thereon displacing 24,919 MWh/year amount of electricity from the generation-mix of power plants connected to the Indian grid, which is mainly dominated by thermal/fossil fuel based power plant. The power generated from the project activity will be utilized for captive consumption. The details of the project and the state of installation are mentioned in the table:-

Project Promoters' Name	**Capacity in MW**	**Connection with Grid**	**State**	**Usage of Electricity**
M/s Hindustan Zinc Limited.	4.8 MWp (DC)	Indian Grid	Rajasthan	Captive use
	14.4 MWp (DC)			

The project activity is the installation of a new grid-connected renewable power plant/unit and this is not a CPA that has been excluded from a registered CDM PoA as a result of erroneous inclusion of CPAs.

The technical details were checked by the assessment team from the technical manual as available with the PP from the manufacturers (2nd party) and also during the onsite physical verification. The details are as below:

The technical specifications of project activity of 4.8 MWp by M/s Hindustan Zinc Limited are as follows[1]:

Sr. No.	Particulars	Capacity
1.	Technology used	4.8 MW DC Polycrystalline
2.	Rating of each module	315 Wp
3.	Angle from horizontal from which array is installed	20 degree
4.	Number of modules	15,240 nos.
5.	Make of modules	Phono-solar
6.	Number of PCU's installed	4 nos, 1000 KW each
7.	Make of PCU	ABB India Ltd.
8.	Status of installation	100 % completed
9.	Date of commissioning	26/03/2017
10	Lifetime of project	25 years[2]

[1] Technical specifications has been sourced from commissioning certificate of the project activity
[2] As per RRECL Tariff order and as per DPR of the project activity

The technical specifications of project activity of 14.4 MWp by M/s Hindustan Zinc Limited are as follows:

Sr. No.	Particulars	Capacity
1.	Technology used	14.4 MW DC Polycrystalline
2.	Rating of each module	315 Wp
3.	Angle from horizontal from which array is installed	20 degree
4.	Number of modules	45,740 nos.
5.	Make of modules	Phono-solar
6.	Number of PCU's installed	12 nos, 1000 KW each
7.	Make of PCU	ABB India Ltd.
8.	Status of installation	100 % completed
9.	Date of commissioning	25/03/2017
10	Lifetime of project	25 years[3]

The commissioning of the project activity is already achieved as confirmed by the assessment team during the validation site visit.

The detail of commissioning is below:

Project Promoters' Name	**Capacity in MW**	**Commissioning Date**	**Connection with Grid**	**State**	**Usage of Electricity**
M/s Hindustan Zinc Limited.	4.8 MWp (DC)	26/03/2017	Indian Grid	Rajasthan	Captive use
	14.4 MWp (DC)	25/03/2017			

Assessment team also checked that the Geographical coordinates using GPS meter and Google earth Software during onsite visit and found that Latitude and Longitude as mentioned in the PDD are correct. The details are as below:

Geo coordinates of Dariba site: 24°57'33.4"N 74°07'00.4"E
Geo coordinates of Debari site: 24°35'55.7"N 73°49'16.0"E

Assessment team checked the timeline of the project activity. The detail are as below:

Sr No.	Particulars	Date	Documents check
1	Detailed Project Report submitted by third party	15/07/2015	DPR dated 15/07/2015 is checked by the assessment team
2	Board Decision (=Investment decision date) for the Project activity	30/06/2016	Board note dated 30/06/2016 to confirm the investment decision date
3	Stakeholder Consultation	18/11/2016	Local stakeholder consultation documents

[3] As per RRECL Tariff order and as per DPR of the project activity

				(Attendance sheet, Minutes of Meeting etc are checked)
		4	Contract between HZL and L&T for project development	03/12/2016	EPC contract is checked.
		5	Publication of PDD for Global Stakeholder Consultation	22/12/2017	DOE uploaded for GSC process
		6	Host Country Approval	15/04/2019	HCA as received from Host country DNA is checked.
	The project activity description, capacity limitation and de-bundling criteria are checked and found correct by the assessment team. The PDD mentions all the criteria of CDM requirements and PDD template requirements for Large scale project activity properly and thus assessment team confirms that the description as mentioned in the PDD version 02 is correct and appropriate.				

D.4. Application and selection of methodologies and standardized baselines

D.4.1. Application of methodologies and standardized baselines

Means of validation	The assessment team has validated the documentation referred to in the PDD and verified the documentation content for verifying the justification of the applicability of the methodology and confirmed that the documentation referred to in the PDD is correctly quoted and interpreted. The assessment team has also cross-checked the information provided in the PDD with the documentation other than from the PDD based on the local and sectoral knowledge of the assessment team. Following documentation has been reviewed by the assessment team: 1. Site visit 2. Interview with the concerned person mentioned in this report 3. Technical detail analysis of the power plant from the documents submitted by the manufacturer. The assessment of the project's compliance with the applicability criteria of ACM0002 version 19 are documented in detail in section B.2 of the PDD.
Findings	CAR 10 was raised during the course of validation and closed successfully. Please refer Appendix 4 of this report for the detail closure of the CAR.
Conclusion	Assessment team checked that during the GSC period ACM0002 version 17 was used in the Initial PDD version 01 as the latest version of the Methodology available. However, during the Course of Validation the methodology version 17 is expired and thus PP used the latest version of the Methodology i.e. ACM0002 version 19. The PDD sections are revised as per the requirement of ACM0002 version 19 and thus the same is acceptable to the assessment team.

D.4.2. Deviation from methodology and/or methodological tool

Means of validation	Assessment team checked the initial PDD version 01 and revised PDD version 02.
Findings	No findings raised during the course of Validation
Conclusion	No deviation from methodology and/or methodological tool is envisaged for the project activity.

D.4.3. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	ACM0002 version 19 and PDD version 02 is checked by the assessment team
Findings	No NC (= Non conformity) was raised during the validation process
Conclusion	All the tools/methodology are mentioned as per the latest version available in UN web page and found correct. The detail applicability condition is described below: Applicability 1: The project activity is installation of a new grid connected solar

	power plant (Option 1 (A)) at a site where no renewable power plant was operated prior to the implementation of the project activity (Greenfield plant) and hence this criterion is applicable. Applicability 2: The proposed project activity is an installation of a new grid connected solar power plant and hence this condition is met. The option (a) of applicability criteria 2 is applicable as project is renewable energy power plant/unit. Applicability 3: The project is installation of new solar energy-based electricity generation plants (not a hydro power plant). Hence this criterion is not applicable. Applicability 4: The project is solar power project and thus the criterion is not applicable to this project activity. Applicability 5: The project is solar power project and thus the criterion is not applicable to this project activity. Applicability 6: The project is solar power project and thus the criterion is not applicable to this project activity. Applicability 7: The project activity is installation of a new grid connected solar power project and does not involve switching from fossil fuel to renewable energy and hence this criterion is not relevant to the project activity. & This is a solar power plant and not a biomass fired plant and hence this applicability criterion is not applicable to the project activity. Applicability 8: The project activity is a new grid connected solar power plant and not a retrofits, replacement or capacity additions and therefore this criterion is not applicable to the project activity. Applicability 9: Please refer below **Applicability conditions of "Tool to calculate the emission factor for an electricity system"** • OM, BM and CM are estimated using the tool for calculating baseline emissions. • The project activity is grid connected and thus emission factor is calculated and thus OM, BM and CM are estimated using the tool for calculating baseline emissions. • The project activity is located in India, a non-Annex I country. Therefore, tool is applicable for the project activity. • The project is a solar power project and there is no involvement of biofuels. Therefore, this criterion is not applicable for the project activity. LGAI Technological Center S.A. (Applus+ Certification) confirms that the application of the baseline methodology is transparent and conservative and confirms that the chosen baseline and monitoring methodology i.e. ACM0002 version 19.0 is applicable to the project activity.

D.4.4. Project boundary, sources and GHGs

Means of validation	The project boundary as depicted in the PDD version 01 is checked during the validation site visit and also during the interview with the plant official.
Findings	No NC (= Non conformity) was raised during the validation process
Conclusion	The spatial extent of project boundary diagram (including the metering system) referred by the methodology is now mentioned in the PDD as per the requirement of applied methodology and thus the same is acceptable to the assessment team. The below table mentions the emission source:

	Source		Gas	Included?	Justification/Explanation
	Baseline	Grid connected electricity generation.	CO_2	Yes	Main emission source
			CH_4	No	Minor emission source
			N_2O	No	Minor emission source
			Other	No	No other emissions are emitted from the project
	Project	Greenfield Solar Power Project Activity.	CO_2	No	No CO_2 emissions are emitted from the project
			CH_4	No	Project activity does not emit CH_4
			N_2O	No	Project activity does not emit N_2O
			Other	No	Project activity does not emit other forms of GHG emissions

D.4.5. Baseline scenario

Means of validation	The baseline scenario as depicted in the PDD version 01 and version 02 is checked during the validation site visit and also during the interview with the plant official.
Findings	No NC (= Non conformity) was raised during the validation process
Conclusion	Assessment team confirms that being a grid connected solar energy generation project, PP developed the project based on the Methodology ACM0002 version 19.0. As per methodology *if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:* Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system". The project activity involves setting up of solar projects to harness the power of sun to produce electricity and supply for captive consumption. In the absence of the project activity, the equivalent amount of power would have been supplied by the Indian grid, which is fed mainly by fossil fuel fired plants. In the absence of the project activity, the equivalent amount of power would have been drawn from the Indian grid. Hence, the baseline for the project activity is the equivalent amount of power from the Indian grid. As per CDM Validation and Verification Standard for project activities version 02, "where the baseline scenario is not prescribed in the approved methodology, the DOE shall assess the list of identified credible alternatives to the project activity in the PDD selected to determine the most realistic baseline scenario." Thus, PDD should mention the credible alternatives to the project activity in order to determine the most realistic baseline scenario. As the selected large-scale methodology clearly mention the baseline scenario and the same has been opted in this project, therefore, no further analysis on baseline is required. Validation Team, therefore, concludes that the PDD conforms to the guidance given by EB via CDM Validation and Verification Standard for project activities version 02 and thus acceptable to the assessment team.

D.4.6. Demonstration of additionality

Means of validation	The cost of solar panels, electricity tariff, O&M cost, depreciation, de-ration, salvage value and tax rate have been checked with DPR, purchase order, tariff order, Income Tax Act 1961, Power purchase agreement, third party PLF report and financial analysis sheet. During the validation site visit validation team interviewed the personal and confirms that the input parameters considered is appropriate and correct.

Findings	CAR 07 was raised during the validation process and closed successfully. For detail regarding the CAR, please refer APPENDIX 4.
Conclusion	During conceptualization of the project activity, board of directors of the project proponents dated 30/06/2016 considered the CDM revenue to improve the project financials. During the board meeting for board of Directors decided that they would consider CDM revenue for their project activity. In continuation to the board decision, PP issued the respective purchase order for the supply of solar plant. In line with CDM Validation and Verification Standard for project activities version 02.0., the additionality of the Project activity is ascertained in line with the applicable guidance from the UNFCCC. The demonstration of additionality for the proposed Project activity is being carried out in accordance with the additionality tool provided by the UNFCCC i.e. "Tool for demonstration and assessment of Additionality" Version 07.0.0. The tool provides a step-wise approach to demonstrate additionality which is displayed below: **Step 0:** Demonstration whether the proposed project activity is the first-of-its-kind The proposed project activity is not the first-of-its-kind. Hence not applicable. **Step 1:** Identification of alternatives to the project activity consistent with current laws and regulations Alternative 1: The proposed project activity without CDM benefit; Alternative 2: Continuation of the current situation, i.e., electricity will continue to be generated by the existing generation mix operating in the grid. Having regard to the fact that the project activity under consideration is a solar power project, validation team is convinced that there are no other realistic and credible alternatives. Both the alternatives are in compliance with all applicable legal and regulatory requirements as; • the implementation of project activity is a voluntary initiative and is not mandatory or a legal requirement; • the applicable environmental regulations do not restrict the use of solar energy; and • There is no legal requirement on the choice of a particular technology. Assessment team noted that the project fulfils the norms put down by Central Pollution Control Board. As per Central Pollution Control Board (Ministry of Environment & Forests, Govt. of India), final document on revised classification of Industrial Sectors under Red, Orange, Green and White Categories (29/02/2016). The newly introduced White category of industries pertains to those industrial sectors which are practically non-polluting such as Biscuit trays etc. from rolled PVC sheet (using automatic vacuum forming machines), Cotton and woollen hosiers making (Dry process only without any dying/washing operation), Electric lamp (bulb) and CFL manufacturing by assembling only, Scientific and mathematical instrument manufacturing, Solar power generation through photovoltaic cell, wind power and mini hydel power (less than 25 MW). There shall be no necessity of obtaining the "Consent to Establish/Operate'' for White category of industries. Intimation to concerned SPCB / PCC is sufficient. Being a renewable power project it falls under the category of White and thus these projects do not need clearance for Consent to operate and only needs to inform the relative State pollution control board. The same is done for the project and thus it can be confirmed that it follows the local laws of the host country. Due to above categorization of white category and being the renewable in nature, the project activity does not emit any emissions. Thus there is no any other surplus regulatory requirement for the project activity. This is found to be accepted by assessment team. However, of the two alternatives identified, alternative (i) cannot be considered realistic as further analysis in the following paragraph reveals that it is not

economically feasible option. Hence, alternative (ii) alone could be justified as realistic, credible and plausible alternative to the PP.

Validation team is, therefore, convinced that the project developer has taken into consideration all realistic and credible alternatives (having regard to the governing methodologies) including the project being undertaken as a non-CDM activity and continuation of current scenario. The identification of alternatives is in conformity with the guidance given by the tool.

Outcome of Sub-step 1a: All the realistic alternatives for the project activity have been enlisted above.

Sub-step 1b: Consistency with mandatory laws and regulations:

The alternative(s) shall be in compliance with all applicable legal and regulatory requirements, even if these laws and regulations have objectives other than GHG reductions, e.g. to mitigate local air pollution. (This sub-step does not consider national and local policies that do not have legally-binding status.)

Both the alternatives are in compliance with all applicable legal and regulatory requirements as;

- The implementation of project activity is a voluntary initiative and is not mandatory or a legal requirement;
- The applicable environmental regulations do not restrict the use of solar energy; and
- There is no legal requirement on the choice of a particular technology.

Moreover, Outcome of Sub-step 1b: Hence, both the alternatives enlisted above are found to comply with the mandatory laws and regulations taking into account the enforcement of the legislations in the region or country and EB decisions on national and/or sectoral policies and regulations. However, Alternative 2 has been selected as the appropriate baseline alternative for this project activity.

Step 2: Investment analysis

Determine whether the proposed project activity is economically or financially less attractive than at least one other alternative, identified in step 1, without the revenue from the sale of emission reductions credits. To conduct the investment analysis, use the following sub-steps:

Sub-step 2a: Determine appropriate analysis method and Sub-step 2b (Option III): Apply benchmark analysis

a) Suitability of investment analysis, financial indicator and benchmark:
Project developer had demonstrated that the financial returns of the proposed CDM project activity would be insufficient to justify the required capital investment as per CDM Validation and Verification Standard for project activities version 02.0. In the PDD Version 02, PP has adopted a conservative approach to identify the benchmark for the project activity. The project is generating savings in terms of power generated from the Solar PV plant being used for captive purpose. Thus simple cost analysis (Option I) is not appropriate. Also in the absence of the project activity grid electricity would have been the obvious choice for the Project which requires no investment. Hence investment comparison analysis (Option II) is also not appropriate for the project activity. Therefore, benchmark analysis (Option III) is used for the project activity as per project type and decision-making context. Therefore, the Expected return on equity is considered appropriate benchmark. Accordingly, the post-tax Equity IRR has been considered as the relevant financial indicator for the project activity which is acceptable to the assessment team. Moreover, the financial indicator selected by the PP is correct based on the fact that tool do not restrict the PP to either use project IRR or Equity IRR. This is under the prerogative of the PP to select appropriate indicator based on his preferences to know the IRR based on his equity investment or debt investment. The same is thus

	acceptable to the assessment team. Assessment team however checked the Equity IRR calculation and found that input assumptions used for the calculation of Equity IRR are applicable at the time of investment decision of the project and thus is in accordance with the relevant guideline of the tool. "In situations where an investment analysis is carried out in nominal terms and the available IRR benchmarks are in real terms, project participants shall convert the real term values of benchmarks to nominal values by adding the inflation rate. The inflation rate shall be obtained from the inflation forecast of the central bank of the host country for the duration of the crediting period. If this information is not available, the target inflation rate of the central bank shall be used. If this information is also not available, then the average forecasted inflation rate for the host country published by the IMF (International Monetary Fund World Economic Outlook) or the World Bank for the next five years after the start of the project activity shall be used". The investment analysis has been carried out in Nominal terms. Accordingly, default value has been adjusted by adding suitable forecasted inflation rate taken from RBI (Central Bank, India). Project Participant has calculated Benchmark based on WPI mean inflation rate. As per the Tool for the determination and assessment of additionality version 07, and Methodological Tool Investment analysis version 08.0 (EB 97, Annex 8) available to the PP at the time of Investment decision[4], the inflation forecast should be for the duration of the crediting period. However, since RBI provides forecast inflation only for 5 & 10 years, the project investor has calculated benchmark using 10 years durations and the same is considered as Benchmark for the project activity[5]. As per the Tool for the determination and assessment of additionality version 07 the cost of equity is determined by selecting the values provided in the Appendix, i.e. Default values for cost of equity (expected return on equity) is presented below: Appendix A specifies default value of expected return on equity in real terms for Energy Industries (Group 1) in India = 10.73% The Required return on equity (benchmark) was computed in the following manner: Nominal Benchmark[6] = {(1+Real Benchmark)*(1+Inflation rate)}-1 Where: - Default value for Real Benchmark = 10.73% (as per Appendix of EB 97, Annex 8) - Inflation Rate forecast by Reserve Bank of India (RBI) (i.e. Central Bank of India) for India & in case where RBI Inflation forecast was not available, average Inflation rate forecast for India has been sourced from IMF web site. **Benchmark estimation:** Tool for the determination and assessment of additionality, specifies default value of

[4] It is to be noted here that at the time of investment making decision, Methodological Tool for Investment Analysis version 07 (EB 92 Annex 5) was applicable, however Request for Registration can be submitted only till 28/06/2018. Hence PP has used Methodological Tool for Investment Analysis version 08 for which RFR can be submitted till 26/07/2019. Moreover, it is to be noted that assessment team compared the detail of both version 07.0 and version 08.0 of the methodological tool and observed that there is no major difference in both the version except for the change of default value for benchmark calculation. The default value as mentioned in version 07 was 11.10 % for group 1 project in India and Value as mentioned in version 08 is 10.73% for group 1 project in India which is clearly more conservative than version 07 value. Also, as described above since version 07 RFR submission is valid till 26/07/2019 and hence version 08 is used which is appropriate and more conservative for benchmark calculation. Also, the grace period time is 240 days after the issuance of 09.0 (latest investment tool), and hence version 08.0 is applicable.

[5] Since RBI provides inflation forecast only for 5 years and 10 years, hence inflation forecast for 10 years is being considered keeping in view length of crediting period to be 7 years.

[6] As per Fisher Equation, https://en.wikipedia.org/wiki/Fisher_equation

expected return on equity in real terms for Energy Industries (Group 1) in India = **10.73%**

Since RBI publishes the inflation forecast for 5 years and 10 years, PP has considered the maximum 10 year inflation considering the renewable crediting period of total 21 years.

The detail is as below
Inflation Forecast for India as per RBI website[7]:

Project Investor	Inflation Forecast WPI Median value from RBI	Benchmark
M/s Hindustan Zinc Limited.	3.98%	15.14%

Thus benchmark of **15.14%** has been selected for this project activity

b) Parameters and assumptions used:
The project activity is a renewable source of electricity generation and uses the generated electricity for captive purpose using Indian National grid. The key parameters which determine the Equity IRR of the project activity are project cost, PLF and profitability estimates.

Input values used in all investment analysis shall be valid and applicable at the time of the investment decision taken by the project participant which can be clearly validated by the DOE, thus it complies with guidance 10 of EB 97, Annex 88. Key assumptions used for calculating post-tax Equity IRR applicable at the time of investment decision, which is in line with are set out below: In the revised PDD Version 02, the project cost is based on the DPR (Detailed project report). The details of the DPR are as below:
Project cost as per the DPR

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost (In Million)	DPR Date
Debari Site	M/s Hindustan Zinc Limited	14.4 MWp=12 MW AC	698.97	15/07/2015
Dariba site		4.8 MWp=4 MW AC	233.5	15/07/2015

Actual Project cost as per Charter Accountant certificate:

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost (In Million)	EPC Contract
Debari Site	M/s Hindustan Zinc Limited	14.4 MWp=12 MW AC	607.8	03/12/2016
Dariba site		4.8 MWp=4 MW AC	218.5	03/12/2016

DPR has been submitted to validation team. The DPR were available during decision making and financial profitability of the project was decided based on this DPR. Validation team checked the DPR of the project activity and found that consideration of the project cost in revised PDD Version 02 is correct and it is in line with Investment guideline as well as in compliance to CDM Validation and

[7] https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=16696

[8] It is to be noted here that at the time of investment making decision, Methodological Tool for Investment Analysis version 07 (EB 92 Annex 5) was applicable, however Request for Registration can be submitted only till 28/06/2018. Hence PP has used Methodological Tool for Investment Analysis version 08 for which RFR can be submitted till 26/07/2019.

Verification Standard for project activities version 02. Hence, the project cost consideration is justified. Assessment team checked the actual project cost and still the project do not breach the benchmark. The sensitivity analysis below confirms the same. Since the actual cost is considered there is no way the cost can go up and thus the same is assessed to be correct.

In India, infrastructure projects are generally entitled to a debt equity ratio of 70:30. However, depending on the relationship of the client with the bank, its credit rating and collaterals offered, banks consider higher debt equity ratio also. However, no Loan is availed for the project in both the site and thus post tax equity IRR calculation is justified as no debt is involved.

The profitability of the project, which forms the basis for IRR calculation is based on installed capacity, PLF, electricity tariff, O&M cost, depreciation and taxation.

c) Assessment of Plant Load Factor (PLF):

PP considered the Plant load factor from a third party engineering company/DPR, for expected electricity generation estimation. They are contracted by the PPs for this project. PP has submitted the copies of the PLFs estimation report to the assessment team.

PLF as per 3rd party PLF report/Feasibility report

Site Name	**Name of the Investor/Owner/SPVs**	**Project Capacity (MW)**	**PLF (%)= 3rd party engineering company**	**Date**
Debari Site	M/s Hindustan Zinc Limited	14.4 MWp=12 MW AC	18.05%	15/07/2015
Dariba site		4.8 MWp= 4 MW AC	18.05%	15/07/2015

PLF estimation in offer letter is in line with Para 3 (b) Annex 11, EB 48 and acceptable to the assessment team. The deration factor for IRR calculation is sourced from DPR which was available to the PP at the time of investment decision. Moreover as a conservative approach a degradation factor of 0.5% per year is considered from second year onwards. Hence the value is considered correct.

D) Assessment of Electricity Tariff:

Tariff rate as per actual Electricity Bills and Annual Reports
Tariff rate as per actual Electricity Bill/ DPR

Site Name	**Name of the Investor/Owner/SPVs**	**Tariff Rate (as per DPR/Last 3 year Annual Report)**	**Tariff Rate (as per Electricity Bills)**
Debari Site	M/s Hindustan Zinc Limited	3.75	6.80
Dariba site		3.75	6.80

Validation team assessed the tariff and found that same value was available during decision making and in conformity with guidance tool for Investment analysis. Furthermore, assessment team has also checked the actual tariff as per the electricity bills for further substantiation as these values are available during the validation stage. IRR is still below benchmark with the consideration of Wheeling Agreement signed which is valid for total operational lifetime of the project.

e) Assessment of O& M cost:

O&M as per Feasibility Report

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	O&M (In Million) (Without tax)	Date
Debari Site	M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	6	15/07/2015
Dariba site		4.8 MWp= 4 MW AC	2	15/07/2015

The actual O&M agreements were also signed for individual PP and the values are mentioned in the below table. The IRR is still below the benchmark

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	O&M (In Million) (Without tax)	Date
Debari Site	M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	5.70	03/12/2016
Dariba site		4.8 MWp= 4 MW AC	1.90	03/12/2016

The DPR has been used in the financial calculation as same was available during decision making and hence applicable. According to Investment guideline, the cost should be based on the input parameters available at the time of decision making and the PP has submitted offer letter supporting this consideration. Therefore, considering the above assessment, validation team concluded that the O&M cost considered from respective DPR in the computation of financial indicator is in conformity with guidance.

F) Assessment of Tax computation:

The project developer has adopted book depreciation rates as per Schedule XIV of the Companies Act, 1956 for computing book profit and Income Tax Act 1961 stipulated for income tax calculation, which are in conformity with the accepted accounting principles adopted by the company and income tax laws in the host country. The block of assets has been computed for depreciation purpose as per the accepted accounting principles. Tax liability has been calculated as per the income tax rules and the rulings given. In computing the income tax liability, the project developers have considered Tax holiday (u/s 80IA of the Income Tax Act, 1961). Accelerated depreciation on plant and machinery is also sourced from IT act. The tax rates assumed corresponds to the tax rate prevailing at the time of taking decision (conformity to Investment guidelines). Hence, these assumptions are appropriate during decision making context.

g)Cross checking parameters:

Name of the parameter	DOE assessment
Project Cost	The details of the proposed project activity are given below.

Name of the Investor	Project Capacity (MW)	Project Cost (In Million)	Project cost in Million per MW
M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	698.97	58.24
	4.8 MWp= 4 MW AC	233.5	58.37

The project cost has been considered from DPR and previous 3 years Annual Reports which was available at the time decision made for the project activity.

The DOE has also checked the actual cost of the each project site from the Purchase order and also confirm the same from the certificate of Licensed Charter account and found that, the reduction in project cost is within the range of sensitivity analysis. Since the comparison is done with actual project cost and hence, increase of the same in future is not possible. Thus, the project activity is additional with actual project cost.

Site Name	Name of the Investor	Project Capacity (MW)	Project Cost (In Million)- Actual from PO	Project Cost (In Million) per MW- Actual from PO
Debari	M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	607.80	50.65
Dariba		4.8 MWp= 4 MW AC	218.5	54.63

The difference in actual project cost for different project site is due to time difference, manufacturer, different EPC contractor, negotiation skills of individual PP etc.
The assessment team also checked the respective state tariff orders and found that project cost considered for project is found to be appropriate.
Based on sectorial scope expert and local knowledge, the project cost considered as per DPR for the proposed project activity is found to be appropriate for Solar PV projects. Also since the actual cost is available to DOE and IRR is still within benchmark and thus the same is acceptable.
The IRR as per the assumption from the Detailed project Report is as follows:

Site Name	Name of the Investor	Project Capacity (MW)	Project Cost (In Million)	IRR	Benchmark
Debari	M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	698.97	5.11 %	15.14%
Dariba		4.8 MWp= 4 MW AC	233.50	5.08 %	15.14%

The IRR as per the actual project cost is defined as below:

Site Name	Name of the Investor	Project Capacity (MW)	Actual project cost as per the CA Certificate	IRR	Benchmark

Debari	M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	607.80	6.68 %	15.14%
Dariba		4.8 MWp= 4 MW AC	218.5	5.82 %	15.14%

As described above actual project cost with benchmark, the project is still additional. Since the comparison is done with actual project cost, the increase of the same in future is not possible. Thus assessment team is of the opinion that project is still additional with the consideration of actual project cost for the project activity.

O&M cost and Escalation in the operational expense =5(%)-Standard practice in India

The details of the proposed project activity are given below.

Name of the Investor	**Project Capacity (MW)**	**O&M (In Million)**
M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	6
	4.8 MWp= 4 MW AC	2

The O&M cost has been considered from Detailed Project Report and was available at the time decision made for the project activity. The DOE has also checked the actual O&M contract for each project site and found the changes in O&M cost is within threshold limit. Thus the project activity is additional with actual O&M cost.

Site Name	**Name of the Investor**	**Project Capacity (MW)**	**O&M (In Million) (Without tax)- Actual**
Debari	M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	5.70
Dariba		4.8 MWp= 4 MW AC	1.90

The assessment team also checked the respective state tariff orders and found that O&M cost and its escalation considered for project is found to be appropriate.
IRR value as per the assumptions from the Feasibility Report is as below:

Name of the Investor	**Project Capacity (MW)**	**O&M (In Million)**	**IRR**	**Bench mark**
M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	6	5.11 %	15.14%
	4.8 MWp= 4 MW AC	2	5.08 %	15.14%

IRR value based on the actual O&M agreements signed is as below:

Site Name	Name of the Investor	Project Capacity (MW)	O&M (In Million) (Without tax)-Actual	IRR	Bench mark
Debari	M/s Hindustan Zinc Limited	14.4 MWp = 12 MW AC	5.70	5.21 %	15.14%
Dariba		4.8 MWp = 4 MW AC	1.90	5.18 %	15.14%

Even after consideration of Actual O&M cost, the project activity is additional. Benchmark for the project as described above along with actual O&M value, the project is still additional.

Based on sectoral scope expert and local knowledge, the project O&M cost and its escalation considered as per DPR for the proposed project activity is found to be appropriate for Solar PV projects. Also since the O&M cost is available to DOE and IRR is still within benchmark and thus the same is acceptable.

Tariff

The Tariff rate has been considered from DPR and previous 3 years Annual Report and the same was available at the time decision made for the project activity

The DOE has also checked the actual PPA for each project site and found there are no changes in tariff rate and is within threshold limit. Thus the project activity is additional with actual Tariff rate.

Site Name	Name of the Investor	Project Capacity (MW)	Tariff Rate as per DPR	Tariff Rate at present
Debari	M/s Hindustan Zinc Limited	14.4 MWp = 12 MW AC	3.75	6.8
Dariba		4.8 MWp = 4 MW AC		

IRR value as per the DPR cost and actual cost as per Annual Report:

Site Name	Name of the Investor	Project Capacity (MW)	Tariff Rate (as per actual electricity bill)	IRR	Bench mark
Debari	M/s Hindustan Zinc Limited	14.4 MWp = 12 MW AC	6.80	13.64%	15.14%
Dariba		4.8 MWp	6.80	13.60%	15.14%

		= 4 MW AC			

PLF

The details of the proposed project activity are given below.

Name of the Investor	Project Capacity (MW)	PLF (%)
M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	18.05 %
	4.8 MWp= 4 MW AC	18.05 %

Validation team assessed the Detailed Project Report. Same report has been used in the financials and the emission reduction calculation. PLF estimation by 3rd party engineering company is in line with Para 3 (b) Annex 11, EB 48 and acceptable to the assessment team.

The PLF has been taken from the Detailed project report (= DPR), and the same has been checked and found that PLF considered for the project activity in within the range of sensitivity analysis and found to be appropriate.
IRR against actual PLF value are as follows:

Name of the Investor/Owner/SPVs	Project Capacity (MW)	PLF (%)	IRR	Bench mark	Breaching Value
M/s Hindustan Zinc Limited	14.4 MWp	20.7%	6.92 %	15.14%	098.03%
	4.8 MWp	20.7%	6.88 %	15.14%	908.55%

IRR for PLF value as per the 3rd party report, Annex 11 EB 48

Name of the Investor	Project Capacity (MW)	PLF (%)	IRR
M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	18.05 %	5.11%
	4.8 MWp= 4 MW AC	18.05 %	5.08%

Tax Rates

Income tax rate (%)	30.00%
MAT (Minimum Alternate tax) (%)	33.00%
Service Tax (%)	15.00%

The above table shows the tax rate considered for individual project Owner and the same is found suitable.
Assessment team noted that the project developer has adopted book depreciation rates as per Schedule XIV of the Companies Act, 1956 for computing book profit and Income Tax Act 1961 stipulated for income tax calculation, which are in conformity with the accepted accounting principles adopted by the company and income tax laws in the host country i.e. INDIA. Tax liability has been calculated as per the income tax rules and the rulings given. In computing the income tax liability, the project developers have considered Tax holiday (u/s 80IA of the Income Tax Act, 1961). Accelerated depreciation on plant and machinery is also sourced from IT act. The tax rates assumed corresponds to the tax rate prevailing at the time of taking decision. Hence, these assumptions are appropriate during decision making context and thus acceptable to the assessment team.

	NO further assessment is required as the Values are directly procured from Income Tax Act, 1961 which is standard guideline for Tax value in India.

Sensitivity analysis:

The Guidance on Investment analysis requires the robustness of the conclusion arrived at to be proved through a sensitivity analysis by varying the critical assumptions to a reasonable variation. The project developer has identified Plant Load Factor (PLF), Project cost, Electricity tariff and O&M cost as critical assumptions. These critical parameters constitute more than 20% of either total project costs or total project revenues. The sensitivity analysis reveals that even under more favourable conditions, the IRR without CDM revenue would not cross the benchmark return as given in the following table:

Sensitivity Analysis of 12 MW (AC):

	Equity IRR without CDM		**Benchmark (Equity IRR)**	
Final Results	**5.11%**		**15.14%**	
Sensitivity Analysis	**Equity IRR**			
Variation %	**-10%**	**Normal**	**10%**	**Breaching Value**
PLF	**3.74%**	**5.11%**	**6.38%**	**98.03%**
O&M	**5.32%**	**5.11%**	**4.93%**	**-798.97%**
Project Cost	**6.32%**	**5.11%**	**4.08%**	**-52.78%**
Tariff Rate	**3.74%**	**5.11%**	**6.38%**	**98.03%**

Sensitivity Analysis of 4 MW (AC):

	Equity IRR without CDM		**Benchmark (Equity IRR)**	
Final Results	5.08%		15.14%	
Sensitivity Analysis	**Equity IRR**			
Variation %	**-10%**	**Normal**	**10%**	**Breaching Value**
PLF	3.72%	5.08%	6.35%	98.55%
O&M	5.28%	5.08%	4.90%	-803.92%
Project Cost	6.29%	5.08%	4.04%	-52.92%
Tariff Rate	3.72%	5.08%	6.35%	98.55%

The results of sensitivity analysis show that even with a variation of +10% & -10% in project cost, O&M cost, PLF and Tariff Rate Equity IRR is significantly lower than the benchmark. And it is evident from the results given above; the project remains additional even under the most favourable conditions.

Probability to breach the benchmark:
Sensitivity Parameter 1 : PLF
PLF considered in financials for is as per Third Party DPR in line with **"Guidelines for the reporting and validation of Plant load factors" stated in EB48 Annex11 option 3(b)**. The estimated PLF has been compared from real PLF achieved by the plant after commissioning, and was found that even after 10% increase in estimated PLF, the equity IRR of the project is well below the benchmark value and breaches at 98% which is highly unlikely scenario.
Sensitivity Parameter 2 : O&M

The sensitivity analysis reveals that O&M will breach the benchmark at negative values and is hypothetical case. Since the O&M cost is subject to escalation (as evidence by the O&M agreement) and also subject to inflationary pressure, any reduction in the O&M costs is highly unlikely. The O&M price breaches the benchmark in negative value and thus the same is highly unlikely to happen.

Sensitivity Parameter 3 : Project Cost

The estimated project cost has been compared with real project cost since the project cost is finalized as per the Purchase Order and company balance sheet. It was observed that even with actual project cost, equity IRR of the project is 6.68% and 5.82% respectively which is well below the benchmark value.
The project cost breaches at -52% which is highly unlikely scenario.

Sensitivity Parameter 4 : Tariff Rate

The actual Tariff Rate has been determined based upon the Electricity bills and Annual Reports. Even with actual tariff rate, the equity IRR comes out to be 13.64% which is well below the benchmark value. The Tariff Rate breaches at 98.03% which is highly unlikely scenario.

Assessment team also confirmed the breaching values for individual parameters and thus confirms that the project is still additional

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Project Cost	Actual Project Cost	Variation	Breaching Value for Project cost
Debari	M/s Hindustan Zinc Limited	14.4 MWp = 12 MW AC	698.97	607.8	15%	-52.78%
Dariba		4.8 MWp = 4 MW AC	233.5	218.5	15%	-52.92%

Site Name	Name of the Investor/Owner/ SPVs	Project Capacity (MW)	DPR O&M Cost	Actual O&M Cost from PO	Variation in OM cost	Breaching value for OM Cost
Debari	M/s Hindustan Zinc Limited	14.4 MWp= 12 MW AC	6	5.70	5%	-798.97%
Dariba		4.8 MWp= 4 MW AC	2	1.90	5%	-803.82%

Site Name	Name of the Investor/Owner/SPVs	Project Capacity (MW)	Tariff Rate as per DPR	Actual Tariff Rate from Electricity Bill	Variation in Tariff Rate	Breaching value for tariff Cost
Debari	M/s Hindustan Zinc Limited	14.4 MWp= 12 MW	3.75	6.8	81.33%	98.03 %

		AC				
Dariba		4.8 MWp= 4 MW AC	3.75	6.8	81.33%	98.55 %

Common Practice analysis:

The common practice analysis is proved by following points as per the requirement of Methodological tool "Common Practice", version 03.1 EB84, Annex 7[9]:

1. Applicable Geographical Area (Para 9): The Rajasthan state has been considered as the applicable geographical area for this project. PP had considered the state Rajasthan as geo-graphical area due to regulatory regime since applicable power tariff structure for renewable energy projects is unique for all the states across national boundary of India; which is based on Electricity Act 2003 (EA 2003), section 82 which clearly mentions "Every State Government shall, within six months from the appointed date, by notification, constitute for the purposes of this Act, a Commission for the State to be known as the (name of the State) Electricity Regulatory Commission" Appropriateness of the same has been checked and confirmed from EA 2003 (*http://www.cercind.gov.in/08022007/Act-with-amendment.pdf/40/*).

Furthermore, following significant points on the State specific policy & regulatory framework on the renewable energy projects with special emphasis to solar power projects have been validated:

- Electricity Act 2003 (EA 2003) has changed the legal and regulatory framework for the renewable energy sector in India. The EA 2003 mandates policy formulation to promote renewable sources of energy by the federal government, the State governments and the State Electricity Regulatory Commissions (=SERCs) within their jurisdictions.

- The Electricity Act 2003 introduced some enabling provisions conducive to accelerated development of grid connected renewable energy sources. Under Section 61(h), promotion of cogeneration and generation of electricity from renewable sources of energy has been made the explicit responsibility of SERCs, which are bound by law to take these considerations into account while drafting their terms and conditions for tariff regulations. Nearly all SERCs have issued their tariff regulations incorporating suitable clauses, which will enable them to provide a preferential treatment to renewable energy (RE) during the tariff determination process. The SERCs determine the tariff for all renewable energy projects across the States, and the state-owned power Distribution Companies (DISCOMs) ensure grid connectivity to the renewable energy project sites.

- EA 2003 has initiated the adoption of the National Tariff Policy, 2006 as one of the key policies, National Tariff Policy (2006) framed under the Section 3 of the EA 2003. As per the excerpt from National Tariff Policy, 2006; pursuant to provisions of section 86(1)(e) of the EA 2003, the Appropriate Commission shall fix a minimum percentage for purchase of energy from such sources taking into account availability of such resources in the region and its impact on retail tariffs. Such percentage for purchase of energy should be made applicable for the tariffs to be determined by the SERCs latest by 01/04/2006.

- As mandated under section 86(1)(e) of the Electricity Act (2003), by 26/06/2012 SERCs had fixed quotas (in terms of % of electricity being handled by the power utility) to procure power from renewable energy sources. The mandate, which is called a Renewable Purchase Specification

[9] https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-24-v1.pdf

(RPS), varies from 0.5% to 14% in various states over varying time-scales. Few states have come out with technology specific RPSs. Besides, the state regulators determine the tariff for all RE projects in the states and ensure connectivity to the grid through extension of power evacuation from the RE project sites

- At present thirteen SERCs have declared preferential feed–in tariffs (FITs) for purchase of electricity generated from solar power projects established in respective states, which varies from state to state in India. All the SERCs have adopted a 'cost plus' methodology to fix the feed–in tariff, which varies across the states depending upon the state resources, project cost and more importantly the tariff regulations of SERCs. Solar power related tariff polices in different states also has difference in regulatory and policy incentives. Several states have implemented fiscal and financial incentives for renewable energy generation, including; energy buy back (i.e. a guarantee from an electricity company that they will buy the renewable power produced); preferential grid connection and transportation charges and electricity tax exemptions

Therefore the investment climate for the renewable energy projects varies from State to State within India due to state specific local policy & regulatory framework as outlined by the State Electricity Regulatory Commissions of the respective state. This difference in investment condition leads to essential distinction among solar energy projects between different States of the host country India.

Thus, the specific geographical area i.e. state of Rajasthan for the common practice analysis of the proposed project activity is considered and thus the same is acceptable to the assessment team.

2. Measure (Para 10): The project activity reduces greenhouse gas emissions by generating electricity using renewable energy source- solar. Therefore, the project activity falls under the following measure:

(b) Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies.

3. Output (Para 11): The project activity produces electricity. Therefore, electricity is considered as output of the project activity.

4. Different Technologies (Para 12): The project activity uses solar energy for producing electricity and hence as per Para 12(a), the technologies which use energy source/ fuel other than solar will be considered as the different technologies for the project activity.

For the concerned project activity, Common Practice Analysis has been carried out for 19.2 MW capacity solar Power Project at Rajasthan which is developed by **M/s Hindustan Zinc Limited**.

Stepwise approach for common practice analysis has been carried out as per Methodological tool "Common Practice", version 03.1 EB84, Annex 7:

Step (1): Calculate applicable capacity or output range as +/-50% of the total design capacity or output of the proposed project activity.

Range	**Capacity**	**Unit**
+50%	28.8	MWp
Capacity of the proposed project activity	19.2	MWp
-50%	9.6	MWp

Since the project activity is 19.2MWp= 16 MW AC, the output range of +/- 50% has been considered as 28.8 MWp (Higher range for comparison) to 9.6 MWp (Lower range for Comparison) which is assessed to be correct.

Step (2): Identify similar projects (both CDM and non-CDM) which fulfil all of the following conditions:

(a) The projects are located in the applicable geographical area;
(b) The projects apply the same measure as the proposed project activity;
(c) The projects use the same energy source/fuel and feedstock as the proposed project activity, if a technology switch measure is implemented by the proposed project activity;
(d) The plants in which the projects are implemented produce goods or services with comparable quality, properties and applications areas (e.g. clinker) as the proposed project plant;
(e) The capacity or output of the projects is within the applicable capacity or output range calculated in Step 1;
(f) The projects started commercial operation before the project design document (CDM-PDD) is published for global stakeholder consultation or before the start date of proposed project activity, whichever is earlier for the proposed project activity.

Identification of the similar projects (CDM and non-CDM) is carried out as per sub-steps of Step (2) as follows:

a) Assessment team noted that as the projects are located in Rajasthan state of India, therefore, projects in the geographical area of Rajasthan have been chosen for analysis. Each state have different policies regarding renewable energy, hence Rajasthan state is considered as geographical region for common practise analysis. The distinction from choosing the state to entire geographical boundary is already explained above in the report and thus the applied geographical area is acceptable to the assessment team.

b) Assessment team noted that the project activity is a green-field solar power project and uses measure (b) “Switch of technology with or without change of energy source including energy efficiency improvement as well as use of renewable energies”. Therefore, projects applying same measure (b) are candidates for similar projects.

c) Assessment team confirms during the site visit that the energy source used by the project activity is solar. Hence, only solar energy projects have been considered for analysis.

d) Assessment team confirms during the site visit that the project activity produces electricity; therefore, all power plants that produce electricity are candidates for similar projects.

e) Since the project activity is 19.2 MWp, the output range of +/- 50% has been considered as 28.8 MWp (Higher range for comparison) to 9.6MWp (Lower range for Comparison) which is assessed to be correct.

f) The start date of the project activity is 03/12/2016. Therefore projects, which have started commercial operation before 03/12/2016, have been considered for analysis.

In total there were 19 power plants in the state of Rajasthan that had started commercial operation before the start date of the project and that are within the applicable output range which has been confirmed from the published data. Thus N_{solar} is accepted as 19.
Numbers of Similar projects identified, which fulfil above-mentioned conditioned are **N_{solar}= 18**

Assessment team checked the below sources which are considered to determine the similar projects.

State wise commissioning status of grid connected Solar Power Projects (As on

31.03.2017)- MNRE, India and Publically available data for solar projects in Rajasthan till March 2017[10].
http://mnre.gov.in/file-manager/UserFiles/state-wise-commissioned-grid-connected-solar-power-projects.htm
List of Solar Projects in Rajasthan (RRECL- Website) as on 31.10.2015. The projects of having capacity of 9.6 MW to 28.6 MW was being considered from publically available data till Oct 2016
http://energy.rajasthan.gov.in/content/dam/raj/energy/rrecl/pdf/Activities/Solar/4.37%20Details%20of%20commissioned%20Solar%20Projects.pdf
Both the above sources are third party Govt data from the state of Rajasthan and thus the value is considered appropriate.

Step (3): Within the projects identified in Step 2, identify those that are neither registered CDM project activities, project activities submitted for registration, nor project activities undergoing validation. Note their number N_{all}.

CDM project activities, which have got registered or are under validation have been excluded in this step. The list of the power plants identified is provided to the DOE. After excluding the registered and under validation projects the total number of projects.
N_{all} = 3

Step (4): Within similar projects identified in Step 3, identify those that apply technologies that are different to the technology applied in the proposed project activity. Note their number N_{diff}.

As per the tool on Common Practice, the project activities have been separated from the different technologies on the basis two criteria:

1. Size of Installation – Assessment team confirms that as the proposed project activity is a large scale project and applies large scale methodology i.e. AMC0002 therefore **small scale projects** i.e. with capacity below or equal to 15 MW are considered as different projects.

2. Investment climate on the date of the investment decision – The solar projects developed under different phases and different batches of National Solar Mission (NSM) can considered as different technology projects, since National Solar Mission have different target and the investment scenario is different. For proposed project activity, there are no any different technology projects considered out of similar identified projects.

Hence, projects where either of the conditions is satisfied those projects are counted for calculating Ndiff projects.

Thus, $N_{diff} = 0$

Step (5): Calculate factor $F=1-N_{diff}/N_{all}$ representing the share of similar projects (penetration rate of the measure/technology) using a measure/technology similar to the measure/technology used in the proposed project activity that deliver the same output or capacity as the proposed project activity.

Calculate $F = 1-N_{diff}/N_{all}$
$F = 1-(0/3) = 1$

As per methodological tool “common practise” version 03.1, the proposed project activity is a “common practice” within a sector in the applicable geographical area if the factor F is greater than 0.2 and Nall - N_{diff} is greater than 3.

[10] The source does not provide the COD dates, however the list of eligible projects are being identified from the same source as it provides list of solar projects commissioned till 31/03/2017 and hence the latest available source of information. The list of identified projects are being crosschecked from the second source and all the projects falling in the identified range have been included for further consideration.

	Thus if both conditions are fulfilled, then project activity will be a common practise otherwise, the project activity is treated as not a common practise. **Outcome of Common Practise analysis:** As, i. F = 1; is greater than 0.2 ii. N_{all} - N_{diff} = 3; is not greater than 3 The project activity does not satisfy second condition. Hence, project activity is not a common practice. The above discussions show that solar power development is not a common practice and the project activity is not financially attractive; hence the project activity is additional and the assessment team considers the approach and calculations acceptable as per the requirements in the methodological tool.

D.4.7. Estimation of emission reductions or net anthropogenic removals

Means of validation	The emission reduction sheet, CEA database and PDD version 2 is checked by the assessment team
Findings	CAR 06 was raised during the validation process. The revision in the PDD leads to the closure of CARs. Please refer appendix 4 of this report.
Conclusion	The baseline emissions as discussed in section B.6.1 will include emissions that would have occurred in the absence of the project activity. The emission reduction calculation has been done as per the LSC methodology ACM0002 version 19. **Baseline Emission:** As per the approved consolidated Methodology ACM0002 version 19.0: Baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid- connected power plants. The baseline emissions are to be calculated as follows: **$BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$** Where: BE_y = Baseline emissions in year y (t CO_2/yr) $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr) $EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO_2/MWh) The grid emission factors are calculated as the weighted average of the operating margin (0.75) & build margin (0.25) values. The value of combined margin is sourced from Baseline CO_2 Emission Database, Version 12, published by Central Electricity Authority (CEA), Government of India. This is the version available to the PP at the time of PDD submitted to DOE for web-hosting purpose and hence thus version 12 is used for emission factor value. CEA calculates the data based on Tool to Calculate the Emission Factor for an Electricity System", Ver. 7.0. No further assessment is required for grid emission calculation as the ex-ante value is sourced directly from the Govt. of India database. $EG_{PJ,y}$ is calculated based on capacity (Checked from the manufacturer specification), PLF= sourced from 3rd party DPR thus fulfilling the requirement of Para 3 (b), Annex 11 EB 48 and 8760 (365*24) annual hours. Moreover as a conservative approach a degradation factor of 0.5% per year is considered from second year onwards. The estimation is thus considered appropriate. Moreover, $EG_{PJ,y}$ is a monitoring parameter and the actual value will be obtained during the verification of the project activity. **Emission factor**

	$EF_{grid,CM,y}$= 0.9653 t CO_2/MWh. This value is fixed ex-ante for the crediting period. BE_y = 24,919 x 0.9653 = 24,054 tCO_2 **Project Emission:** As per the approved consolidated ACM0002 version 19.0: "For most renewable energy power generation project activities, PE_y = 0. However, some project activities may involve project emissions that can be significant. These emissions shall be accounted for as project emissions by using the following equation: **$PE_y = PE_{FF,y} + PE_{GP,y} + PE_{HP,y}$** Where: PE_y = Project emissions in year y (t CO_2e/yr) $PE_{FF,y}$ = Project emissions from fossil fuel consumption in year y (t CO_2/yr) $PE_{GP,y}$ = Project emissions from the operation of dry, flash steam or binary geothermal power plants in year y (t CO_2e/yr) $PE_{HP,y}$ = Project emissions from water reservoirs of hydro power plants in year y (t CO_2e/yr) The detail is as follows: $PE_{FF,y}$ = Project emissions from fossil fuel consumption in year y (t CO_2/yr) = The project utilizes renewable fuel and thus there is no Consumption of fossil fuel envisaged for the project activity. Thus the parameter is considered zero for project emission calculation. $PE_{GP,y}$ = Project emissions from the operation of dry, flash steam or binary geothermal power plants in year y (t CO_2e/yr)= This parameter is not applicable as the proposed project is Solar power project and hence considered zero for project emission calculation. $PE_{HP,y}$ = Project emissions from water reservoirs of hydro power plants in year y (t CO_2e/yr)= This parameter is not applicable as the proposed project is Solar power project and hence considered zero for project emission calculation. As the project activity is the installation of a new grid-connected Solar PV Power plant and does not involve any project emissions from fossil fuel, operation of dry, flash steam or binary geothermal power plants, and from water reservoirs of hydro power plants. Therefore $PE_{FF,y}$, $PE_{GP,y}$, $PE_{HP,y}$ are equal to zero and thus, PE_y = 0. **Leakage Emission:** Leakage emission is not applicable as per the requirement of ACM0002 version 19.0. **Net Emission reduction:** *Emission Reductions are calculated as follows:* **$ER_y = BE_y – PE_y$=** 24,054 tCO_2 - 0= 24,054 tCO_2

D.4.8. Monitoring plan

Means of validation	Assessment team checked the monitoring practice onsite and also checked the guideline of RERC (http://rerc.rajasthan.gov.in/)
Findings	CAR 08 was raised during the validation process. The revision in the PDD leads to the closure of CARs. Please refer appendix 4 of this report
Conclusion	Assessment team checked the monitoring practice onsite and also checked the guideline of respective State electricity regulatory commission. The detail analysis is as below: **Parameters determined ex-ante:** Baseline emission factor of INDIAN Grid is establish ex-ante based on Tool to calculate the grid emission factor, using a combined approach consisting 75 %

operating margin and 25 % build margin. The emission coefficient from official data published in Central Electricity Authority (CEA) CO_2 Baseline database version 12 available to the project participant at the time of submission of PDD for global stakeholder's consultation process. CEA is an official source of Ministry of Power, Government of India have worked out baseline as CO_2 baseline database. The assumption were verified by the validation team and found to be correct.

Parameters determined ex-post:

The parameters monitored ex-post involves net electricity supplied to the grid (calculated from electricity exported and imported) to the INDIAN grid by the project activity.

As per the PDD Version 02, Joint Energy Meter Reading Report signed by HZL as well as O&M partner will be the source of data during verification. The DOE will use the same source for verification of emission reductions.

In accordance with the methodology requirement, net electricity supplied by the project activity (As the project is captive) is obtained from Joint Energy Meter Reading Report signed by HZL as well as O&M partner which provide input values of export and import (used for calculation of $EG_{PJ,y}$ by the project activity and forms the basis for emission reduction calculation. Electricity export to the grid and import from the grid is metered by main and check tri-vector energy meters at both the site of the project. The main meter reading is taken jointly on a fixed day of every month for the preceding month at the delivery point and signed by the representatives of HZL and O&M personnel.

In the event of failure of main meter, the check meter will be used in monitoring the electricity data. The agency is experienced in the monitoring system and is managing O&M of numerous other solar farm projects. The validation team therefore is of the opinion that the project participant through the O&M agency is capable of implementing the monitoring plan in the context of the project activity. The monthly electricity supplied by the project activity in the JMR report is cross checked with daily generation reports. As per para 68 of ACM0002 version 19, $EG_{facility,y=}$ $EG_{PJ,y}$ and $EG_{PJ\_Add,y}$ should be determined as per "TOOL05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation". As per the tool for captive use the Net electricity exported is cross checked with records for sold electricity **where relevant.** For the present project activity the project is utilizing the power for its own usage in there mining unit and thus there is no records of Sold electricity. Hence the cross check criteria are not applicable for the present project. However, to be on conservative side PP is/will cross check the data on the JMR sheet with the daily generation log sheets from the CMS. Assessment team checked the process and found it appropriate.

Calibration of all the meters is done by state electricity board officials as per the industry standards. However, the calibration will be done once in a 5 year[11] for all the project activity. The energy meter recording the export and import from the grid at substation is under the control and supervision of state electricity board officials. Similarly O&M contractor is responsible for monitoring of the generation data at CMS.

The meter details are as follows:

Particular	Meter Serial No.	Accuracy Class	Calibration Date	Validity
Dariba Site				
Main Meter	17009491	0.2 s	09/03/2017	08/03/2022
Check Meter	17009509	0.2 s	09/03/2017	08/03/2022
Debari Site				

[11] http://powermin.nic.in/whats_new/pdf/Metering_Regulations.pdf, page 12

	Main Meter	17009470	0.2 s	10/03/2017	09/03/2022
	Check Meter	17009488	0.2 s	10/03/2017	09/03/2022
	It is reported that the data will be kept for 2 years following the end of the crediting period or till the last issuance of VERs for the project activity whichever occurs later. The responsibilities and authorities of project management, data handling and recording, measurement methods and QA/QC procedure have been systematically established and formalized and the same was verified during the site visit.				

D.5. Start date, crediting period type and duration

Means of validation	Assessment team checked the Initial PDD for crediting period type and duration and EPC (=Engineering, Procurement, Construction) contract for the validation of Start date of the project activity
Findings	No NC (= Non conformity) was raised during the validation process
Conclusion	The start date of the project activity as mentioned in the PDD version 02 is 03/12/2016. As per the definition of Start date of the project activity *"For a CDM project activity (non-A/R) or CPA (non-A/R), the date on which the project participants commit to making expenditures for the construction or modification of the main equipment or facility (e.g. a wind turbine), or for the provision or modification of a service (e.g. distribution of energy-efficient light bulbs, change of transport management system), for the CDM project activity or CPA. Where a contract is signed for such expenditures (e.g. for procurement of a wind turbine), it is the date on which the contract is signed*" Assessment team checked the EPC contract signed between Larsen and Turbo (Manufacturer) and project participant dated 03/12/2016 and thus approve the start date of the project activity as because the start date of the project meet the creteria "*commit to making expenditures for the construction or modification of the main equipment or facility"*. Project participant has chosen renewable crediting period of the project activity and thus the duration is 7 years which can be renewed twice. The same is thus acceptable to the assessment team.

D.6. Environmental impacts

Means of validation	The guideline provided by MOEF is checked by the assessment team http://envfor.nic.in/legis/eia/so1533.pdf
Findings	No NC (= Non conformity) was raised during the validation process
Conclusion	The project activity is expected to have positive impacts and no significant adverse environmental impacts are foreseen. Since, the project activity is an electricity generation from renewable source (i.e. solar energy) therefore no negative impact are envisaged. There is no mandatory legal requirement for carrying out an environmental impact assessment in the host country. The Ministry of Environment and Forests (MoEF), Government of India (GOI) notification[12] dated 14/09/2006 regarding the requirement of Environment Impact Assessment (EIA) studies states that any project developer in India needs to file an application to the Ministry of Environment and Forests (including a public hearing and an EIA) in case the proposed industry or project is listed in a predefined list. The list includes thirty nine project activities that require EIA studies. The solar power projects are not included in this list and thus an EIA study is not required.

D.7. Local stakeholder consultation

Means of validation	The local stakeholder consultation MOM, attendance sheet is checked by the assessment team. During the validation site visit assessment team also interviewed some of the stakeholder present during the meeting with PP.
Findings	Assessment team raised concern regarding the stakeholder consultation meeting

[12] http://envfor.nic.in/legis/eia/so1533.pdf

	and supporting document. The detail of the same is mentioned as CAR 09 in this report and the same is closed successfully. Please refer Appendix 4 of this report
Conclusion	As per the CDM requirements, it is necessary to invite the relevant stakeholders, before the validation process starts. Moreover, the start date of the project is 03/12/2016 and stakeholder consultation meeting took place on 18/11/2016 for both the project site which is before the start date of the project activity which fulfill the requirement of Para 107 of CDM project standard for the project activities version 02. The DOE checked the relevance of the dates during the validation site visit. All the stakeholders have been invited through public notice (dated 10/11/2016) to attend the stakeholders meeting. The local stakeholders' consultation meeting was attended by local persons including local villagers, local vendors and technology suppliers. The stakeholders identified by the project participant were local villagers who are the major population of the particular area, local communities and gram panchayet (Village head), Solar Panel supplier, project proponent representatives, O&M Team and other people involved in the project. Validation team verified the list of participants who attended the stakeholder meeting and feedback questionnaire and confirms the stakeholders identified are relevant. The validation team also verified the minutes of meeting to note that no negative comments were received and the same was cross checked with the information obtained during follow up interviews with the stakeholder's. Moreover, as per Para 133 of CDM Validation and Verification Standard for project activities version 02, DOE enquired with the MOEF (Host country DNA) via email regarding any stakeholder comments received for this particular project activity. DOE waited for 14 days and no comments received from MOEF (= DNA). Based on the guideline and directive of Para 133, DOE concluded that Stakeholder consultation is in line with the requirement of this Para 133 and hence conclude that Local stakeholder consultation was conducted properly. Thus Validation team is of the opinion that the stakeholder meeting was adequate and appropriate.

D.8. Sustainable development co-benefits

Means of validation	The creteria is a voluntary initiative. As the project Host country approval clearly mentions that project activity contributes to Sustainable development in India (= Host country) no further study is thus required.
Findings	No NC (= Non conformity) was raised during the validation process
Conclusion	The creteria is a voluntary initiative. As the project Host country approval clearly mentions that project activity contributes to Sustainable development in India (= Host country) no further study is thus required.

D.9. Approval

Means of validation	The Approval is provided by the Indian DNA (Ministry of Environment and Forest, Govt of India). Assessment team checked the HCA supplied by the project participant and also cross checked the same from the web site (http://www.cdmindia.gov.in/). The HCA confirms the approval of Indian DNA which is the party to Kyoto protocol and confirms that project is vide by the guideline of CDM
Findings	CAR 01 was raised during the validation of the project and closed successfully. Please refer Appendix 4 of this report for the detailed closure of the CAR.
Conclusion	Assessment team confirms that the project is approved from Indian DNA and thus the same is in line with VVS version 02. The HCA confirms that 1. The Party is a Party to the Kyoto Protocol 2. Participation is voluntary; 3. the proposed project activity contributes to the sustainable development of the country; 4. HCA refers to the precise proposed project activity title in the PDD being

	submitted for registration. 5. HCA is unconditional with respect to above items and thus acceptable to the assessment team.

D.10. Authorization

Means of validation	The Authorisation is provided by the Indian DNA (Ministry of Environment and Forest, Govt of India). Assessment team checked the HCA supplied by the project participant and also cross checked the same from the web site (http://www.cdmindia.gov.in/). The HCA confirms the authorisation of Indian DNA which is the party to Kyoto protocol and confirms that project is vide by the guideline of CDM
Findings	No NC (= Non conformity) was raised during the validation process
Conclusion	Assessment team confirms that the project is authorised from Indian DNA and thus the same is in line with CDM Validation and Verification Standard for project activities version 02: The HCA confirms that • the Party is a Party to the Kyoto Protocol • Participation is voluntary; • the proposed project activity contributes to the sustainable development of the country; • HCA refers to the precise proposed project activity title in the PDD being submitted for registration. HCA is unconditional with respect to above items. • The project activity is in line with sustainable development policies of the country and national regulation / policy on Environmental Protection, Electricity and Non- Conventional Energy. Nevertheless in the Host Country Approval, it is stated that the project participant (PP) has to comply with the following conditions: • PP shall not sell the CERs to any agency /company/ organization which purchases the CERs using ODA Funds • PP shall inform the national CDM Authority regarding all transaction details of CERs including the name and address of the party to which CERs were sold within 30 days of transfer of the CERs • PP shall furnish expeditiously any information, during the lifetime of the project as requested by the National CDM Authority. • PP shall obtain all statutory clearances and other approvals as required from the competent authorities for setting up of the project • All transaction shall be subject to supervision of the Executive Board of the CDM, under the authority and guidance of the COP/MOP • This approval is not transferable. The authority reserved the rights to revoke this Host Country Approval if the conditions stipulated in this approval are not complied with to the satisfaction of the National CDM Authority. All the above conditions are met and same is checked by the assessment team from the host country approval number 13008/81/2017-CC -dated 15/04/2019 and found correct.

D.11. Modalities of communication

Means of validation	Assessment team checked the MOC supplied by the project participant and found that the latest form applicable in the UNFCCC web site is used and signing authority has the power to sign the same on behalf of PP
Findings	Assessment team raised concern regarding the MOC signing and supporting document. CAR 02 is thus raised during the validation process and closed successfully. Please refer Appendix 4 of this report for the detail closure of the CAR.
Conclusion	Assessment team checked the signed MOC document dated 14/08/2019. The project participant M/s Hindustan Zinc Limited to act as focal point for the project activity. Assessment team also checked the power of Attorney in the name of Mr. Jayaraman to act as focal point and Signatory on behalf of M/s Hindustan Zinc Limited. The same is as per the requirement of CDM Validation and Verification

	Standard for project activities version 02 and thus assessment team confirm that the MOC is correct and accurate.

D.12. Global stakeholder consultation

Means of validation	Assessment team checked the GSC home page for the project. https://cdm.unfccc.int/Projects/Validation/DB/19QZILM7KQLVC75IUIYPDKWD91TZTP/view.html
Findings	No GSC comment received for the project activity.
Conclusion	No GSC comment received for the project activity.

SECTION E. Internal quality control

As final step of a validation of the final documentation including the validation report and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform

SECTION F. Validation opinion

Applus+ Certification has performed a validation of the "19.2 MWp Solar Power Project by HZL at Debari and Dariba, Rajasthan". The validation was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria, e.g. ACM0002 version 19, 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 Applus+ Certification 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 Applus+ Certification for registration with the UNFCCC.

Applus+ Certification has received a confirmation from the host Party that the project activity assists it in achieving sustainable development.

By displacing fossil fuel-based electricity with electricity generated from a renewable source, the project results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. An analysis of the investment demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of annual emission reductions of 24,054 tCO_2e per year, thereon displacing 24,919 MWh/year amount.

The validation has been performed following the requirements of the latest version of the CDM Validation and Verification Standard for project activities version 02 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
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CEA	Central Electricity Authority
CL	Clarification request
CM	Combined Margin
CMS	Central Monitoring system
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
EB	Electricity Board
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming potential
PP	Project Participant
PPA	Power purchase agreement
PLF	Plant Load factor
RBI	Reserve Bank Of India
RERC	Rajasthan Electricity Regulatory commission.
SERC	State Electricity regulatory commission

Appendix 2. Competence of team members and technical reviewers

1. Mr. Sukanta DAS, has done M. SC in (Electronics and Photonics) and M. Tech in (Energy technology) from Tezpur Central University/ Indian Institute of technology Bombay in India. He is a certified lead auditor for ISO 14001 EMS LA and ISO 9001 QMS LA from International registry for Certified Auditors (IRCA) and Certified Lean Management practitioner from Quality Council of India (QCI). He has more than Nine (9) years of working experience at TUV NoRD/ Re-consult/CRA/ Applus+ Certification under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/ CDM Lead Assessor in TUV NoRD and was involved in more than 100 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1, 13 technical areas

1.2/1.1/13.1. Currently he is associated with True Quality Certifications Private Limited and is empanelled with Applus+ Certification to carry out GHG audit.

2. Hanshen (Denny) Xue (Master Degree in Environmental Engineering, Bachelor Degree in Thermal Engineering) is an Auditor appointed by LGAI Technological Center S.A. (Applus+ Certification) for the GHG project assessment. He is based on Shanghai. He has 1.5 years of work experiences in CDM project development. Before he joined LGAI Technological Center S.A. (Applus+ Certification), he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	NA	Contract of the project participant with the DOE	Contract document signed between PP and DOE	Project participant
2	NA	PLF assessment study report for the project activity	Detailed DPR from Lahmeyar International annex 11 EB 48) dated 15/07/2015	Project participant
3	NA	Technical specifications of solar Panels generators from manufacturers	Technical specifications of solar Panels as provided by L&T	Project participant
4	NA	Board decision for serious CDM consideration	Board meeting dated 30/06/2016 for investment into the project.	Project participant
5	NA	Intimation to UNFCCC	Prior consideration emails for the project. Also checked from UN web site https://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html	Project participant
6	NA	Webhosted PDD for GSC comment- version 01 PDD version 02 based on which opinion is provided	22/12/2017 20/06/2019	Project participant
7	NA	Financial Calculation sheet- version 02	20/06/2019	Project participant
8	NA	Emission reduction calculation sheet- version 01 Emission reduction calculation sheet- version 02	22/12/2017 20/06/2019	Project participant

9	NA	DPR for the project activity	DPR dated 15/07/2015	Project participant
10	NA	The operational lifetime of the project activity from the manufacturer(=Technical specifications)	Manufacturer technical specifications	Project participant
11	NA	The stakeholder consultation process documents: · List of attendee · Minutes of meeting · Feedbacks from the stakeholders	MOM and attendance sheet of the meeting	Project participant
12	NA	ACM 0002 version 19:, EB 100 "Grid-connected electricity generation from renewable sources	UNFCCC CDM web site	UNFCCC
13	NA	RERC Order http://rerc.rajasthan.gov.in/TariffOrders/Order216.pdf RBI: Reserve Bank of India www.rbi.org.in Ministry of Environment and forest: www.envfor.nic.in UNFCCC www.cdm.unfccc.int CEA: Central electricity authority www.cea.nic.in Income tax act 1961 http://law.incometaxindia.gov.in/DIT/	Reference link is provided.	Independent Search
14	NA	Tools/ guidelines used in the project activity · Clarification on national	UNFCCC CDM web site	UNFCCC

		and/or sectoral policies Para 27 EB 55 · Guidelines for the reporting and validation of Plant Load Factor Annex 11 EB 48 · Guidelines on the demonstration and assessment of Prior Consideration of the CDM EB 62 Annex 13 · Tool to determine the remaining lifetime of the project activity in line with Annex 15 EB 50 · Tool to calculate project or leakage CO2 emissions from fossil fuel combustion, Version 2, EB 41 · Tool to calculate the emission factor for an electricity system version 07 · Glossary of CDM terms version 09		
15	NA	Letter of ODA from the PP	ODA letter dated 10/07/ 2018	Project Participant
16	NA	Host country approval	HCA letter dated 15 /04/2019	Project Participant
17	NA	Modalities of Communication	MOC dated 14/08/2019	Project Participant
18	NA	Commissioning Certificates for the project activity	**Capacity in MW** / **Commissioning Date** 4.8 MWp (DC) / 26/03/2017 14.4 MWp (DC) / 25/03/2017	Project Participant
19	NA	EPC contract signed between PP and Manufacturer	03/12/2016	Project participant

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

Table 1 CLs from this validation

CL ID	01	**Section no.**	CDM REQUIREMENT-OTHERS	**Date:** 23/01/2018
Description of CL				
The Project Participant is requested to provide documentation to confirm there is no public funding of the proposed CDM project activity.				
Project participant response				**Date:** 19/06/2019
NO ODA Declaration is being submitted by the PP confirming no public funding involvement.				
Documentation provided by project participant				
No ODA Declaration				
DOE assessment				**Date:** 24/06/2019
The ODA declaration dated 10/07/2018 is checked by the assessment team. The project activity is not receiving any public funding for the implementation of the project activity and thus the same is acceptable to the assessment team. CL is thus closed.				

Table 2 CARs from this validation

CAR ID	01	**Section no.**	D.9	**Date:** 23/01/2018
Description of CAR				
In accordance with CDM Project Standard, Version 01.0 (Project Standard), the APPLUS Project Team requires a letter of approval provided by the DNA - National CDM Authority (NCDMA) Ministry of Environment & Forests, for the Party involved in the proposed Project Activity. The APPLUS Project Team requests letter of approval when available, and before the request for registration can be submitted.				
Project participant response				**Date:** 19/06/2019
HCA letter has been submitted				
Documentation provided by project participant				
HCA Letter dated 15/04/2019				
DOE assessment				**Date:** 24/06/2019
Host country Approval having reference number 13008/81/2017-CC dated 15/04/2019 is checked by the assessment team and found correct. Assessment team confirms that the project is authorised from Indian DNA and thus the same is in line with VVS version 02. The HCA confirms that • the Party is a Party to the Kyoto Protocol • Participation is voluntary; • the proposed project activity contributes to the sustainable development of the country; • HCA refers to the precise proposed project activity title in the PDD being submitted for registration. HCA is unconditional with respect to above items. • The project activity is in line with sustainable development policies of the country and national regulation / policy on Environmental Protection, Electricity and Non- Conventional Energy. Nevertheless in the Host Country Approval, it is stated that the project participant (PP) has to comply with the following conditions: • PP shall not sell the CERs to any agency /company/ organization which purchases the CERs using ODA Funds • PP shall inform the national CDM Authority regarding all transaction details of CERs including the name and address of the party to which CERs were sold within 30 days of transfer of the CERs • PP shall furnish expeditiously any information, during the lifetime of the project as requested by the National CDM Authority. • PP shall obtain all statutory clearances and other approvals as required from the competent				

authorities for setting up of the project
- All transaction shall be subject to supervision of the Executive Board of the CDM, under the authority and guidance of the COP/MOP
- This approval is not transferable. The authority reserved the rights to revoke this Host Country Approval if the conditions stipulated in this approval are not complied with to the satisfaction of the National CDM Authority.

CAR is thus closed.

CAR ID	02	**Section no.**	D.11	**Date:** 23/01/2018
Description of CAR				
In accordance with the Project Standard Version 01.0, the APPLUS Project Team requests that the Project Participant submit the Modalities of Communication (MoC) statement. Corrective action is sought and requisite document need to be submitted				
Project participant response				**Date:** 19/06/2019
MOC form duly signed by PP has been submitted				
Documentation provided by project participant				
MOC form				
DOE assessment				**Date:** 24/06/2019
Assessment team checked the signed MOC document dated 14/08/2019. The project participant M/s Hindustan Zinc Limited to act as focal point for the project activity. Assessment team also checked the power of Attorney in the name of Mr. Jayaraman to act as focal point and Signatory on behalf of M/s Hindustan Zinc Limited. The same is as per the requirement of CDM Validation and Verification Standard for project activities version 02 and thus assessment team confirm that the MOC is correct and accurate. CAR is thus closed.				

CAR ID	03	**Section no.**	D.3	**Date:** 23/01/2018
Description of CAR				
In accordance with the Attachment "Instructions for filling out the project design document form for Large-scale CDM project activities" at the end of "Project design document form for large-scale CDM project activities", the APPLUS Project Team has the following observation: 1. The version of tool referred in section A.1 is not provided. 2. The sectoral scope(s) and type of the project activity has not been mentioned in section A.1 of PDD. 3. The terminology "Project Proponent" is not correct as per "Glossary CDM terms". Please check the same throughout the PDD. 4. The document related to technical lifetime is not provided to the DOE for Solar panels Corrective action is sought for the above queries and requisite documents needs to be submitted.				
Project participant response				**Date:** 19/06/2019
1. The Version of tools used in the project activity has been mentioned in Section A.1 of the PDD. *2. The sectoral scope and type of project activity has been mentioned in section A.1 of the PDD.* *3. The requested changes has been made in the PDD Version 02* *4. The lifetime of the project activity has been considered from DPR of the project activity and the same has been submitted to the DOE.*				
Documentation provided by project participant				
PDD Version 02 *DPR of the project*				
DOE assessment				**Date:** 24/06/2019
The revision regarding tools, sectoral scope and type of project now forms the part of section A.1 of the revised PDD version 02. The technical life time is checked from third party DPR and RERC guideline and claim made by PP is found appropriate. CAR is thus closed.				

CAR ID	04	**Section no.**	D.3	**Date:** 23/01/2018
Description of CAR				
During the desk review APPLUS team observed that the geographical map addressing the project activity site is missing in the PDD. Corrective action is sought in this regard.				

Project participant response	**Date:** 19/06/2019
Geographical map of the project activity has been included in the PDD version 02.	
Documentation provided by project participant	
PDD version 02	
DOE assessment	**Date:** 24/06/2019
The geographical map now forms the part of revised PDD version 02. CAR is thus closed.	

CAR ID	05	**Section no.**	D.3	**Date:** 23/01/2018
Description of CAR				
The Section A.3 of the PDD is not in accordance with the GUIDELINES FOR COMPLETING THE PROJECT DESIGN DOCUMENT FORM in following manner. 1. The description of the "Technologies and/or measures" in Section A.3 does not include a list of the facilities, systems and equipment that will be installed by the project activity. The Project Participants are requested to revise the PDD to include the required information.				
Project participant response				**Date:** 19/06/2019
The technical specifications of the project activity has been mentioned in the PDD Version 02.				
Documentation provided by project participant				
PDD Version 02				
DOE assessment				**Date:** 24/06/2019
Revision is carried out in section A.3 of the PDD version 02. CAR is thus closed.				

CAR ID	06	**Section no.**	D.4.7	**Date:** 23/01/2018
Description of CAR				
In order to confirm that Data Source used for calculation of grid emission factor is the latest available data at the time of PDD webhosting, the assessment team request that the Project Participant mention the date of publication of CEA data for Grid Emission Factor in the table in Section B.4 of the PDD. Moreover, Emission reduction sheet is not submitted to the DOE and thus ER calculation is thus reserved. Corrective action is sought for the same.				
Project participant response				**Date:** 19/06/2019
Latest available CEA Database available at time of PDD webhosting and its date has been mentioned in the PDD Version 02 *ER Calculation sheet is submitted with PDD Version 02*				
Documentation provided by project participant				
PDD Version 02 *ER Calculation sheet*				
DOE assessment				**Date:** 24/06/2019
The CEA database detail available to the PP at the time of PDD submission to DOE is now referred by PP in section B.4 of the revise PDD version 02. CAR is thus closed.				

CAR ID	07	**Section no.**	D.4.6	**Date:** 23/01/2018
Description of CAR				
During the desk review of the PDD and onsite visit document verifications, APPLUS team observed following inconsistency in the additionality determination : 1. Following documents are missing and thus the IRR calculation is reserved: a. PLF reports b. Board decision documents c. Project Cost defragmentation d. Administrative expenses- if any e. Offer/purchase order				

f. Insurance letter

g. All other assumptions documents

h. IRR sheets are not provided and thus IRR is reserved.

2. Input assumption details are missing in the PDD.

3. Common Practice supporting documents and detail analysis are missing.

Corrective action is sought in the PDD section B.5 and supporting documentation is requested for further analysis.

Project participant response	**Date:** 19/06/2019

1. *DPR of the project activity has been submitted as a proof for PLF*
2. *Board Resolution of the project activity has been submitted*
3. *Project cost defragmentation is shown in the IRR Sheets*
4. *No Admin expenses has been considered*
5. *DPR of project has been considered as a source for investment analysis*
6. *Insurance letter submitted with PDD Version 02*
7. *IRR Sheets has been submitted with PDD Version 02*
8. *Input assumptions are presented in the PDD Version 02*
9. *Prior Consideration form submitted with PDD Version 02*
10. *CPA sheet has been submitted and the details are mentioned in the PDD Version 02.*

Documentation provided by project participant

1. *DPR of project*
2. *PDD Version 02*
3. *Board resolution dated 30/06/2016*
4. *IRR Sheet of the project*
5. *CPA Sheet*

DOE assessment	**Date:** 24/06/2019

Following are the observations of the DOE:

1. Third party PLF report and DPR (Project cost, Input assumptions) is checked by the assessment team and found correct. CAR is thus closed

2. The IRR sheets are checked and the revised values are sourced with appropriate documents. CAR is thus closed

3. The common practice analysis sheet is checked and found correct by the assessment team. CAR is thus closed

Based on the revision of the IRR sheets and revised PDD, CAR is thus closed.

CAR ID	08	**Section no.**	D.4.8	**Date:** 23/01/2018

Description of CAR

During the document review it was observed that following description is mentioned in section B.7.1 of the PDD

"*The monthly electricity supplied by the project activity in the JMR report is cross checked with other source of data*".

As per the requirement of the methodology the JMR sheets should be cross checked either with the invoice raised (in case of export) or electricity bills (in case of import) which is a third party document.

Other source is not clear to assessment team and please take corrective action as in required.

Project participant response	**Date:** 19/06/2019

Typographical error is regretted. The crosschecking mechanism has been revised in the PDD Version 02 and being a captive project, the net electricity supplied from project will be crosschecked with daily generation reports.

Documentation provided by project participant	
PDD Version 02	
DOE assessment	**Date:** 24/06/2019
The monthly electricity supplied by the project activity in the JMR report is cross checked with daily generation reports. As per para 68 of ACM 0002 version 19, $EG_{facility,y=}$ $EG_{PJ,y}$ and $EG_{PJ\_Add,y}$ should be determined as per "TOOL05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation". As per the tool for captive use the Net electricity exported is cross checked with records for sold electricity **where relevant.** For the present project activity the project is utilizing the power for its own usage in there mining unit and thus there is no records of Sold electricity. Hence the cross check criteria are not applicable for the present project. However, to be on conservative side PP is/will cross check the data on the JMR sheet with the daily generation log sheets from the CMS. Assessment team checked the process and found it appropriate. CAR is thus closed.	

CAR ID	09	**Section no.**	D.7	**Date:** 23/01/2018
Description of CAR				
During the desk review related to stakeholder consultation following observation is made by the APPLUS project team: 1.The stakeholder documentation is also not provided to the DOE Corrective action is this sought for the same.				
Project participant response				**Date:** 19/06/2019
Local Stakeholder documents has been submitted with PDD Version 02 and details has been mentioned in the PDD Version 02				
Documentation provided by project participant				
1. LSHM Notice, attendance sheet and MOM *2. PDD Version 02*				
DOE assessment				**Date:** DD/MM/YYYY
The stakeholder meeting documents are checked and found correct by the assessment team. The stakeholder discussion now forms the part of revised PDD version 02. CAR is thus closed.				

CAR ID	10	**Section no.**	D.4.1	**Date:** 10/05/2019
Description of CAR				
During the desk review it is observed that Methodology as applied during GSC commenting period is no longer valid. Corrective action is sough for the same.				
Project participant response				**Date:** 19/06/2019
The Latest Methodology ACM 0002 version 19 as applicable in the UNFCCC web site is now applied for PDD version 02				
Documentation provided by project participant				
1. PDD Version 02				
DOE assessment				**Date:** 24/06/2019
Assessment team checked section B.2 and other applicable section of the revised PDD and confirm that ACM 0002 version 19 creteria is now applied properly in the revised PDD. CAR is thus closed.				

~~**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~~

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Document information

Version	*Date*	*Description*
04.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the "CDM validation and verification standard for project activities" (CDM-EB93-A05-STAN); • Make editorial improvements.
03.1	11 January 2018	Editorial revision to remove an erroneously included instruction paragraph in section D.2 (Identification of project type).
03.0	31 October 2017	Revision to align with the requirements of the "CDM validation and verification standard for project activities" (version 01.0).
02.0	22 July 2016	EB 90, Annex 3 Revision to include provisions related to automatically additional project activities.
01.0	23 March 2015	Initial publication.

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