




**Validation report form for renewal of CDM programme of activities period  
(Version 02.0)**

**BASIC INFORMATION**

<b>Title and UNFCCC reference number of the programme of activities (PoA)</b>	Renewable Energy PoA in India UNFCCC PoA Ref.No-6161
<b>Number and duration of the next period</b>	02 24/09/2019 to 23/09/2026
<b>Version number of the validation report</b>	02
<b>Completion date of the validation report</b>	02/01/2020
<b>Version number of PoA-DD to which this report applies</b>	10.1
<b>Coordinating/managing entity (CME)</b>	Emission Reduction Services Private Limited
<b>Host Parties</b>	India
<b>Applied methodologies and standardized baselines</b>	Selected Methodology: AMS- I.D version 18 – “Grid connected renewable electricity generation” Selected standardized baseline: N/A
<b>Mandatory sectoral scopes</b>	Sectoral scope : 1- Energy industries (renewable - / non-renewable sources
<b>Conditional sectoral scopes, if applicable</b>	NA
<b>Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next programme of activities period</b>	Not Applicable <sup>1</sup>
<b>Name and UNFCCC reference number of the DOE</b>	Earthood Services Pvt. Ltd. (ESPL) UNFCCC ref. No of the DOE - E-0066
<b>Name, position and signature of the approver of the validation report</b>	 Dr. Kaviraj Singh Managing Director

<sup>1</sup> This is not applicable since the estimated annual average of GHG emission reductions would be defined at specific CPA level.

## SECTION A. Executive summary

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Earthood Services Pvt. Ltd. (hereafter referred to as ESPL) has been contracted by Emission Reduction Services Private Limited to perform a validation of renewal of crediting period of the “Renewable Energy PoA in India” (UNFCCC Ref. No. 6161), hereafter referred to as “the programme of activity”.

The assessment was performed in accordance with the CDM VVS for PoA version 02.0 and the CDM PS for PoA version 02.0 including an assessment of:

- An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period at the time of requesting renewal of crediting period;
- The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period.

The main objective of validation of renewal of crediting period as provides an independent third party assessment of validity of the updated sections of the PoA DD of project that has opted for a renewal of the crediting period. The validation assessment of the baseline of programme of activity, estimated GHG emission reductions or net anthropogenic GHG removals, the monitoring plan and the crediting period using the valid version of the approved baseline and monitoring methodology. The assessment team has, based on the instructions in the VVS for PoA version 02.0 /2.1/ employed a risk-based and step-wise approach when conducting the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

The validation has been performed the identification whether the PP has updated sections of the PoA DD relating to the baseline, estimated GHG emission reductions or net anthropogenic GHG removals, the monitoring plan and the crediting period using the valid version(s) of the approved baseline and monitoring methodology.

Therefore, the validation report is based on the assessment of the project design document undertaken through project stakeholder consultations, application of standard auditing techniques. The validation process consisted of the following three phases:

1. Desk review of the project design and baseline and monitoring plan;
2. Follow-up interview with project stakeholders;
3. Resolution of outstanding issues and the issuance of the final validation report and opinion.

In the course of the validation, 01 Corrective Action Request (CAR) and 1 Clarification Request (CL) and No Forward Action Request (FAR), was raised in relation to all relevant CDM requirements. Until issuance of this version of validation report, the raised CAR and CL were successfully closed.

Based on the review of the revised PoA DD and additional background documents, the subsequent follow up interviews, together with the review of comments by Parties and Stakeholders, have provided, ESPL with sufficient evidence to confirm that the project has satisfied the stated criteria.

The validation covered all project components and issues that need to be validated for the renewal of crediting period as a CDM project. ESPL hereby confirms that the project correctly applied the baseline and monitoring methodology AMS-I.D. (Version 18.0) /2.4/ and meets the relevant UNFCCC requirements for the renewal of the crediting period.

ESPL hereby requests the renewal of crediting period of the project. Provided that the project is implemented and maintained as designed within the 2<sup>nd</sup> crediting period (7 years, 24/09/2019 - 23/09/2026).

**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	Interview(s)	Validation findings
1.	Team Leader and Local Expert	O R	Ahirwar	Vivek Kumar	Climensys	Y	NA	Y	Y
2.	Technical Expert and Methodology Expert	O R	Ahirwar	Vivek Kumar	Climensys	Y	NA	Y	Y

**B.2. Technical reviewer and approver of the validation report for renewal of PoA period**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Gautam	Ashok	Central Office
2.	Expert to TR	IR	Gautam	Ashok	Central Office
3.	Approver	IR	Singh	Kaviraj	Central Office

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

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The PoA Project Design Document submitted by the co-ordinating and managing entity 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 documents reviewed or referenced is available in Appendix 3 of this report.

**C.2. On-site inspection**

A complete desk review of the submitted PoA-DD (version 01, dated 21/08/2019) /1/ and supportive evidences have been checked by the Validation team.

In addition, audit team has conducted calls/interviews (telephonic) with CME on different topics as mentioned under section C.3 of this report.

Based on the calls/interviews, PoA-DD review, as well as the review of UNFCCC procedures and guidelines, ESPL Validation team has proceeded to skip the site visit. As per para 184 of CDM validation and verification standard for programmes of activities version 02 /10/, Validation team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation.

- By review of PoA-DD;
- By taking follow up actions by conducted interview with CME, to gather information about knowledge of project design, current situation via telephonic call and e-mail communication. Cross-checked evaluation under the scope of all information and references provided in PoA-DD. Details of interviewees, topics covered and additional information presented in the below section "C.3 - Interviews".

Validation team has also checked the site visit requirements mentioned in the VVS for PoA Version 02 /10/ and concluded that no-site visit is required. The justification for the site visit requirements of VVS PoA Version 02 /10/ have been mentioned below.

<b>VVS PoA Version 02 Requirements</b>	<b>Validation team Justification</b>
<b>Para 29 (b)</b> (b) Follow-up actions (e.g. on-site inspection and telephone or e-mail interviews), including:  (i) Interviews with relevant stakeholders in the host country, such as personnel with knowledge of the PoA design and implementation;  (ii) Cross checks between the information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted;	Validation team has done the follow-up actions by:  1. telephonic call and e-mail conversations of CME. 2. Cross checks between information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted.
<b>Para 183</b> It is mandatory for the DOE to conduct an on-site inspection at validation for the proposed CPA if:  (a) Its estimated annual average of GHG emission reductions or net anthropogenic GHG removals is more than 100,000 t CO <sub>2</sub> eq; or  (b) There is pre-project information that is relevant to the requirements for inclusion of the CPA and may not be traceable after the inclusion.	The validation team has not considered the site visit as mandatory due to the following reasons which are in line with the VVS PoA Version 02 /10/ Requirements  For the PoA to be renewed, this is not applicable as the estimated annual average of GHG emission reductions would be defined at specific CPA level.  Also there is no pre-project information that is relevant to the requirements for renewal of the PoA and may not be traceable after the renewal.  Hence for the proposed PoA, it is not mandatory to conduct the site visit.

### C.3. Interviews

The site visit for the project location is not conducted by the assessment team, however telephonic interview was conducted and the following stakeholders were interviewed.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Garg	Rohit	Emission Reduction Services Private Limited	16/09/2019	Eligibility of project for RCP validation, Ownership of programme of activity	Vivek Kumar Ahirwar
2.	Aggarwal	Sahil	Emission Reduction Services Private Limited	16/09/2019	Project implementation, applicability of methodology, calculation of EF, Monitoring and calibration procedure	Vivek Kumar Ahirwar

### C.4. Sampling approach

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Not Applicable

### C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
<b>Programme of activities</b>	-	-	-
Compliance with PoA-DD form	CL#1	-	-
Programme of activities period	-	-	-
Coordinating/managing entity and the project participants	-	-	-
Post-registration changes	-	-	-
<b>Generic component project activities</b>	-	-	-
Application and selection of methodologies and standardized baselines	-	CAR#1	-
Validity of original baseline or its update	-	CAR#1	-
Estimated emission reductions or net anthropogenic removals	-	-	-
Validity of monitoring plan	-	-	-
Eligibility criteria for inclusion of CPAs	-	-	-
Others (please specify)	-	-	-
<b>Total</b>	<b>1</b>	<b>1</b>	<b>0</b>

## SECTION D. Validation findings

### D.1. Programme of activities

#### D.1.1. Compliance with PoA-DD form

<b>Means of validation</b>	Validation team checked the updated PoA-DD /1.2/ with latest version of PoA-DD template available on the UNFCCC website (i.e., version 09)/2.5/ and “Instructions for completing this form” mentioned as attachment to PoA-DD form (version 09)/2.5/. All the sections of the PoA-DD are checked for the compliance with the “Instructions for completing this form” mentioned as attachment to the PoA-DD form.
<b>Findings</b>	CL #1 was raised and resolved
<b>Conclusion</b>	Validation team confirm: 1. The updated PoA-DD /1.2/ is completed using the valid version of the applicable PoA-DD form /2.5/ in compliance with para 390 (a) (i) of VVS for PoA Version 02. 2. All the information has been correctly transferred from registered PoA-DD (Version 09, dated 21/09/2012) /1.1/ to the current PoA-DD (Version 10.1, dated 07/12/2019) /1.2/ which is filled in the latest PoA-DD form available in UNFCCC website. Validation team confirms that the transfer of information from the old form to the new form is correct and materially the same as the information in the registered PoA-DD /1.1/ in compliance with para 390 (a) (ii) of VVS for PoA Version 02 /2.1/. 3. PoA-DD is in compliance with the instruction provided in the template.

#### D.1.2. Programme of activities period

<b>Means of validation</b>	The assessment team checked whether the updated PoA DD indicated that the next crediting period commences on the day immediately after the expiration of the current crediting period by means of a document review, use of official sources and interviews with relevant personnel during site visit. The first 7 years renewable crediting period was from 24/09/2012 to 23/09/2019; the Project Participant is applying for a 2 <sup>nd</sup> renewable crediting period, which is 7 years (24/09/2019 – 23/09/2026).
<b>Findings</b>	No non-conformability was observed during assessment for validation of crediting period. Therefore, no finding was raised.
<b>Conclusion</b>	The validation team confirmed that the notification regarding to the request for renewal of Crediting period of the project meets the requirements of paragraph 274 CDM PCP for PoA version 02.0 and the next crediting period of the registered CDM programme of activity commences on the day immediately after the expiration

of the current crediting period. Therefore, CDM requirements stipulated under VVS for PoA Version 02.0 §§412 is satisfied completely.

### D.1.3. Coordinating/managing entity and the project participants

<b>Means of validation</b>	Validation team has checked the names of the coordinating/managing entity and the project participants in the updated PoA-DD with the registered PoA-DD /1.1/.		
	As per the updated PoA-DD/1.2/, the coordinating/managing entity, project participants and parties involved in the programme of activity are:		
	<b>Parties involved</b>	<b>Project participants</b>	<b>Indicate if the Party involved wishes to be considered as project participant (Yes/No)</b>
	India (host Party)	Emission Reduction Services Private Limited (Private Entity)	No
	Switzerland	Swiss Carbon Assets Ltd. (Private Entity)	No
<b>Findings</b>	Switzerland	South Pole Carbon Asset Management Ltd. (Private Entity)	No
	No non-conformability was observed during assessment of details of Project Participant. Therefore, no finding was raised.		
<b>Conclusion</b>	The validation team confirmed that the Coordinating/managing entity in the updated PoA DD are consistent with the actual situation. Therefore, CDM requirements stipulated under VVS for PoA Version 02.0 §§390 a (vi) is satisfied completely.		

### D.1.4. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Corrections	N	N/A	N/A
Inclusion of monitoring plan	N	N/A	N/A
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	N	N/A	N/A
Changes to the programme design	N	N/A	N/A
Addition of CPA inclusion template	N	N/A	N/A
Changes specific to afforestation and reforestation activities	N	N/A	N/A
Change of coordinating/managing entity	N	N/A	N/A

## D.2. Generic component project activities

### D.2.1. Application and selection of methodologies and standardized baselines

<b>Means of validation</b>	Through document review and telephonic interview, the assessment team reassessed the applicability of baseline, monitoring methodology and standardized baseline in the methodology based on the knowledge of the project from the initial validation, subsequent verifications and the confirmation from the PP. The project was originally registered based on methodology AMS I.D. version 17. The updated PoA DD applies methodology AMS I.D. version 18.0/2.4/. This is appropriate because the methodology AMS I.D. version 18.0 is of its latest approved version of methodology applied in the original PoA DD and is valid at the time of submission of the revised PoA DD for the renewal of the crediting period; hence it meets the condition that for renewal of the crediting period, the methodology shall not be changed.
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Following tools referred to by the methodology are also applied:

- Tool to calculate the emission factor for an electricity system – Version 07.0.0, EB 100 annex 4/2.7/

- Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period.” Version 03.0.1, EB 66 annex 47 /2.6/

The methodology and the applied tools are valid as of the finalization of the validation report. The title, reference as well as version number is correctly provided in revised PoA DD/1.2/ for the renewal of the crediting period. The applicability of the baseline and monitoring methodology is justified in the revised PoA DD for the renewal of the crediting period. All applicability conditions are completely and correctly included in the revised PoA DD and the same are demonstrated below :

<b>Sr.No</b>	<b>Criteria</b>	<b>Means of verification</b>	<b>Conclusion</b>
1	This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass : (a) Supplying electricity to a national or a regional grid; or  (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	Programme of Activity consists of renewable energy generation unit (hydro, wind, solar PV) that supplies electricity to regional grid.	Criteria (a) fulfilled
2	As per Appendix table 1 of AMS.I D version 18 is applicable for following project types: a. Project supplies electricity to a national/regional grid b. Project supplies electricity to an identified consumer facility via national/regional grid (through a contractual arrangement such as wheeling)	The electricity generated by the project being supplied to national grid.	Criteria (a) fulfilled
3	This methodology is applicable to project activities that  (a) install a Greenfield plant);  (b) involve a capacity	PoA is limited to Greenfield projects.	Criteria (a) fulfilled

		<p>addition in (an) existing plant(s);</p> <p>(c) involve a retrofit of (an) existing plant(s); or</p> <p>(d) Involve a rehabilitation of (an) existing plants(s)/unit(s); or</p> <p>(e) Involve a replacement of (an) existing plant (s).</p>		
	4	<p>Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:</p> <ul style="list-style-type: none"> <li>• The programme of activity is implemented in an existing reservoir with no change in the volume of reservoir;</li> <li>• The programme of activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the programme of activity, as per definitions given in the Project emissions section, is greater than 4 W/m<sup>2</sup>;</li> <li>• The programme of activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m<sup>2</sup>.</li> </ul>	<p>A hydro SSC-CPA that comprises a reservoir will have a power density greater than 10 W/m<sup>2</sup>, as per eligibility criteria no.12 in section K of the PoA DD.</p>	<p>Criteria are not relevant to the programme of activity.</p>
	5	<p>If the new unit has both; renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM programme of activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15 MW.</p>	<p>Each SSC-CPA has only renewable components.</p>	<p>Criteria are not relevant to the programme of activity.</p>

	6	Combined heat and power (co-generation) systems are not eligible under this category.	Not applicable, the proposed SSC-PoA does not include combined heat and power systems	A criterion is not relevant to the programme of activity.
	7	In the case of project activities that involve the addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct from the existing units.	Capacity additions are not eligible under the proposed SSC-PoA. The SSC-CPA would only involve green field project activity	Criteria are not relevant to the programme of activity.
	8	In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement unit shall not exceed the limit of 15 MW.	An SSC-CPA will not retrofit or modify an existing facility for renewable energy generation. The SSC-CPA would only involve green field project activity,	Criteria are not relevant to the programme of activity.
	9	In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS-I.C.: Thermal energy production with or without electricity" shall be explored.	This condition is not applicable to the project activity.	Criteria are not relevant to the programme of activity.

	<table><tr><td>10</td><td>In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.</td><td>This condition is not applicable to the project activity.</td><td>Criteria are not relevant to the programme of activity</td></tr></table>	10	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.	This condition is not applicable to the project activity.	Criteria are not relevant to the programme of activity
10	In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.	This condition is not applicable to the project activity.	Criteria are not relevant to the programme of activity		
	<p>The applied methodology refers to latest available versions of the following tools;</p> <p><b>1. Tool to calculate the emission factor for an electricity system</b> The revised PoA DD refers and correctly applies the latest version of tool to calculate the emission factor for an electricity system, version 07.0/2.7/.Also the CME has referred the CEA Baseline CO<sub>2</sub> Emission Database version 14 dated Dec 2018 /3.1/ which was the latest available database at the time of PoA DD submission for RCP validation of the programme of activity for sample calculation. The locations of Programme of Activities includes entire geographical region of India. As per CEA Baseline CO<sub>2</sub> Emission Database/3.1/, the geographic and system boundaries of PoA are clearly identified; information on the characteristics of the grid is available. Thus, the tool is applicable for the programme of activity. CME has define the emission factor calculation method as per tool to calculate the emission factor for an electricity system, version 07.0/2.7/ and based on this approach emission factor will define at CPA-DD level and latest available CEA database.</p> <p><b>2. Tool for the demonstration and assessment of additionality</b> This tool is not required to be applied during validation of renewal crediting period.</p> <p>The assessment team has validated the documentation referred to in the PoA DD and verified the documentation content for verifying the justification of the applicability of the methodology and confirmed that the documentation referred to in the PoA DD is correctly quoted and interpreted. The assessment team has also crosschecked the information provided in the PoA DD with the documentation other than from the PoA DD based on the local and sectoral knowledge of the assessment team.</p> <p>Thus all the applicability conditions of the applied methodology are confirmed in line with paragraphs 68 of VVS for PoA version 02.0. Based on the above discussion, the validation team confirms that the proposed programme of activity meets all the applicability conditions and all other stipulations of the selected methodology AMS I.D Version 18.0.</p>				
<b>Findings</b>	CAR #1 was raised and resolved.				
<b>Conclusion</b>	The validation team confirms that the project meets each of the applicability conditions of the methodology; it also meets all the other stipulations and limitations mentioned in the other sections of the applied methodology; the continued validity of the baseline is assessed and the emissions which would be resulted from the baseline scenario are updated at the start of the 2 <sup>nd</sup> crediting period, as per the requirements of AMS-I.D, version 18.0. Therefore, CDM requirements stipulated under VVS for PoA Version 02.0 §96 is satisfied completely.				

### D.2.2. Validity of original baseline or its update

<b>Means of validation</b>	In according to VVS for PoA version 02.0 §382, The assessment team reviewed the updated PoA DD/1.2/, and evaluated whether Coordinating/managing entity assess and incorporate the impact of national and/or sectoral policies and circumstances existing at the time of requesting renewal of the crediting period on the current baseline GHG emissions, without reassessing the baseline scenario. Where data and parameters used for determining the original baseline that was determined ex ante (and not monitored during the crediting period) are no longer valid, the assessment team identified whether PP update such data and parameters in accordance with the Methodological Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period".
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ESPL confirms that there have been no changes in the relevant national and/or sectoral regulations on implementation of projects to generate electricity from wind energy and sell to NEWNE grid (which is now a part of Integrated Indian grid) since the previous crediting period.

On the other hand, the baseline scenario for installation of renewable energy projects to generate electricity and sell to state/national grid is still valid according to methodology AMS-I.D, version 18.0

As demonstrated in the registered PoA DD, the baseline scenario for the Project is continuous operation of the existing power plants to meet electricity demand. As per AMS-I.D., version 18.0 §§ 19, "The baseline scenario is that the electricity delivered to the grid by the programme of activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid." The baseline for the Project remains the same as that in the revised PoA DD.

In the absence of programme of activity, the same amount of electricity would otherwise have been generated by the operation of some grid connected fossil fuel based power plants or newly added generation sources into NEWNE grid (Now part of Indian grid).

A verifiable description of the baseline scenario has been included in the final revised PoA DD.

The information presented in the PoA DD has been validated by an initial document review of all data. Further confirmation has been made based on the telephonic interviews and a review of information from similar projects and/or technologies. The sources referenced in the PoA DD have been quoted correctly.

The steps from the Methodological Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" as per CDM VVS for PoA version 02.0 were applied to assess the continued validity of the baseline and/or to update the baseline at the renewal of a crediting period:

#### **Step 1: Assess the validity of the current baseline for the next crediting Period**

The CDM PS for PoA (version 02.0) requires assessing and incorporating the impact of new relevant national and/or sectoral policies and circumstances existing at the time of requesting renewal of the crediting period on the current baseline GHG emissions, without reassessing the baseline scenario. The validity of the current baseline is assessed using the following Sub-steps:

##### **Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies**

Following relevant mandatory national & sectoral policies in India are prevailing:

- The Electricity Act, 2003 /5.2/
- National Electricity Policy, 2005 /5.3/
- Tariff Policy, 2006 /5.4/

ESPL has confirmed that the current baseline as described in the registered PoA DD is in compliance with the relevant mandatory national & sectoral policies as listed above, there are no national or local laws or regulations that entail the installation of renewable energy project in India.

Based on the experience, there are no relevant mandatory national and/or sectoral policies forbidding equivalent electricity generated by the programme of activity is supplied to the Indian grid which is current baseline of the programme of activity. Therefore, baseline scenario remains unchanged and is in compliance with all the relevant mandatory national and/or sectoral policies.

##### **Step 1.2: Assess the impact of circumstances**

The assessment team has confirmed that the baseline scenario as identified at the time of validation of the programme of activity was the electricity delivered to the grid by the programme of activity would have otherwise been generated by the operation of grid connected power plants and by the addition of new generation sources into the grid.

Thus, assessment team has confirmed that the programme of activity was a voluntary investment which intends to replace equivalent amount of electricity at grid from renewable source. The investment does not lead to any continued baseline practice for the PP within their scope whereas the continued operation of the programme of activity would continue to replace equivalent amount of electricity at grid. Hence, the same baseline as identified in the previous crediting period is still valid for the project.

Therefore, the assessment of the changes in market characteristics is not required for the renewal of the project's crediting period under CDM.

Furthermore, the assessment team has verified that the PP has considered the latest available CO<sub>2</sub> Baseline Database (CEA database, version 14)/3.1/ at the time of requesting renewal of the crediting period for establishing the baseline emission factor, which itself considered all the new circumstances. Hence, the new circumstances do not have an impact on the baseline emission.

As per the requirement of the sub-step, it has been assessed that there were no impact of circumstances existing at the time of requesting renewal of the crediting period on the current baseline scenarios.

**Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested**

This sub-step has to be applied if the baseline scenario identified at the validation of the project activity was the continuation of use of the current equipment(s) without any investment. Since this is not the case with the project activity under consideration, hence this condition is not applicable.

The assessment team able to conclude that an investment is not the most likely scenario for the renewal crediting period under consideration.

**Step 1.4: Assessment of the validity of the data and parameters**

The CEA emission factor calculated ex-ante for the 1<sup>st</sup> crediting period needs to be updated, as per the valid and latest version of "Tool to calculate the emission factor for an electricity system" Version 07.0.0 /2.7/, the most recent information available should be used to update the emission factor for the 2<sup>nd</sup> crediting period. Hence, the emission factor is updated accordingly and appropriately described in the following section D.4 of this report.

**Conclusion on step 1:**

ESPL confirm that the current baseline is still valid as per methodology AMS-I.D., version 18.0. However the grid emission factor needs to be updated for the subsequent crediting period.

**Step 2: Update the current baseline and the data and parameters**

**Step 2.1: Update the current baseline**

As discussed above the baseline scenario of the programme of activity is still sustained in the second crediting period, hence reassessment of baseline scenario is not required. The baseline emission factor is updated as per the latest version of CEA CO<sub>2</sub> baseline database available at the time of PoA DD submission for renewal. The approved baseline methodology has been correctly applied to identify a complete list of realistic and credible baseline scenarios, and the identified baseline scenario most reasonably represents that would occur in the absence of the proposed CDM programme of activity. ESPL considers the baseline scenario is realistic and credible.

In regard to requirement of VVS for PoAs version 02.0. §§119, ESPL is able to

	<p>confirm the following statements:</p> <ul style="list-style-type: none"> <li>a) All the assumptions and data used by the Coordinating/managing entity are listed in the PoA DD, including their references and sources;</li> <li>b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA DD;</li> <li>c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence, and can be deemed reasonable;</li> <li>d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PoA DD;</li> <li>e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario, and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM programme of activity.</li> </ul> <p><b>Step 2.2: Update the data and parameters</b></p> <p>The baseline emission factor will be updated ex-ante, as described in section D.4 of this report. The parameters described under step 1.4 were properly updated considering the latest versions of methodology AMS-I.D., version 18.0.</p>
<b>Findings</b>	CAR #1 was raised and resolved.
<b>Conclusion</b>	<p>The validation team confirms that there have been no changes in the relevant national and/or sectoral regulations on installation of wind, solar and hydro power project for exporting electricity to power grid since the previous crediting period.</p> <p>On the other hand, the baseline scenario for the project remains the same as that in the registered PoA DD as “Electricity delivered to state grid by the Project that would otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid”.</p> <p>The assessment of continued validity of the current baseline scenario and update of the baseline emissions are complied with Methodological Tool “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period version 03.0.1” as per VVS for PAs version 02.0.</p> <p>In line with PS version 09.0§§283, the demonstration of the validity of the original baseline or its update does not require a reassessment of the baseline scenario, but rather an assessment of the GHG emission reductions that would have resulted from that scenario.</p>

### D.2.3. Estimated emission reductions or net anthropogenic removals

<b>Means of validation</b>	<p>The calculation of the emissions reductions exactly follow the procedures described in the methodology AMS-I.D., version 18.0 and relevant tool, e.g. the “Tool to calculate the emission factor for an electricity system”.</p> <p>The GHG emission reductions are calculated applying the updated version of methodology AMS I.D version 18.0</p> <p><b>Baseline Emissions:</b> As per the paragraph 22 of the methodology: “Baseline emissions include only CO<sub>2</sub> emissions from electricity generation in power plants that are displaced due to the programme of 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:  <math display="block">BE_y = EG_{PJ,y} \times EF_{grid,y}</math> Where:  <math>BE_y</math> = Baseline emissions in year y (t CO<sub>2</sub>)</p> <p><math>EG_{PJ,y}</math> = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM programme of activity in year y (MWh)</p>
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$EG_{PJ,y} = EG_{PJ, facility,y}$  ( for Greenfield projects paragraph 26 AMS I.D )

Where,

$EG_{PJ, facility,y}$  = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)

$EF_{grid,y}$  = Combined margin CO<sub>2</sub> 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<sub>2</sub>/MWh)

The baseline emissions equivalent to tCO<sub>2</sub> due to the project have been calculated as the product of the net electricity supplied to the grid and the grid emission factor as per the combined margin approach described in the 'Tool to calculate the emission factor for an electricity system' . The power produced will be exported to the Indian grid. Hence, the grid emission factor and the corresponding baseline emissions have been calculated for the Indian grid.

The emission factor will be calculated as per Tool to calculate the emission factor for an electricity system'. Version 07.0.0. "The Emission Factor calculation process presented transparently and conservative manner in PoA DD. CME will calculate emission factor based on Tool to calculate the emission factor for an electricity system'. Version 07.0.0 at the time of CPA inclusion or renewale of crediting period of CPAs.

As per the Tool to calculate the emission factor for an electricity system Version 07.0.0 /2.5/, "Regional or national average default values can be used for calculation of CO<sub>2</sub> Emission Factor if values are reliable and documented in regional or national energy statistics / energy balances". The CEA is the sole authority for publication of such data in India and hence, accepted.

The baseline emissions for the programme of activity have been calculated as per AMS I.D. Version 18.0 §§ 22.

ESPL confirms that all data sources and assumptions are appropriate and calculations are correct, applicable to the proposed CDM programme of activity and will result in a conservative estimate of the emission reductions.

Estimation of Project Emissions (PEy):

As per the paragraph 39 of applied methodology AMS I.D version 18, for the most renewable energy project activities, PEy = 0. Except for:

- a) Emissions related to the operation of geothermal power plants (e.g. non-condensable gases, electricity/fossil fuel consumption);
- b) Emissions from water reservoirs of hydro power plants."

Any of the conditions mentioned is not applicable for the programme of activity, hence PEy = 0.

Estimation of Leakage Emissions (LEy):

As per the paragraph 42 of AMS I.D version 18, The only renewable projects that consider leakage are biomass sourced from dedicated plantations, which is not the case of the programme of activity, thus leakage emissions are zero(LEy = 0).

Emission reductions:

Emission reductions are calculated as follows:

$ER_y = BE_y - LE_y - PE_y$ ,

where

$ER_y$  = Emission reductions in year y (tCO<sub>2</sub>)

$BE_y$  = Baseline Emissions in year y (tCO<sub>2</sub>)

$LE_y$  = Project emissions in year y (tCO<sub>2</sub>)

$PE_y$  = Leakage emissions in year y (tCO<sub>2</sub>)

As discussed above PEy=0 and LEy=0 , hence

$ER_y = BE_y - 0 - 0$

	$ER_y = BE_y$ $ER_y = EG_{PJ, facility, y} \times EF_{grid, y}$
<b>Findings</b>	CAR #1 was raised and resolved.
<b>Conclusion</b>	<p>The validation team has assessed the calculations of project emissions, baseline emissions, leakage emissions and emission reductions. Corresponding calculations have been carried out based on calculation spreadsheets. The parameters and equations presented in the PoA DD, as well as other applicable documents, have been compared with the information and requirements presented in the methodology and respective tools. The assessment team has compared all the formulae to ensure consistency between those presented in the calculation files and in the PoA DD, methodology, and tools. This is found to be correct.</p> <p>In general, ESPL is able to confirm the following:</p> <ul style="list-style-type: none"> <li>➤ All assumptions and data used by the Coordinating/managing entity are listed in the PoA DD and/or supporting documents, including their references and sources;</li> <li>➤ All documentation used by the Coordinating/managing entity as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA DD;</li> <li>➤ All values used in the PoA DD are considered reasonable in the context of the proposed CDM programme of activity;</li> <li>➤ The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, and leakage emissions;</li> <li>➤ All estimates of the baseline, project and leakage emissions can be replicated using the data and parameter values provided in the PoA DD.</li> </ul> <p>The validation team confirms that the baseline, the estimated GHG emission reductions in the final updated PoA DD comply with the applicable requirements in the section 8.2.4 PS for PoA version 02.0/2.2/, and the valid version of the methodology applicable to the registered CDM programme of activity.</p>

#### D.2.4. Validity of monitoring plan

Means of validation	The assessment team reviewed the updated PoA DD, checked whether the PoA DD update the monitoring plan section in accordance with all relevant applicable requirements in the CDM PS for PoA. Also verified whether the PoA DD list all data and parameters to be monitored, as required by the applied methodology and whether the monitoring plan explained the operational and management structure, responsibilities and institutional arrangement for data collection/archiving, QA/QC procedures.			
	The project applies the approved consolidated monitoring methodology AMS-I.D version 18.0 for grid-connected electricity generation from renewable sources.			
	The monitoring parameter relevant to this programme of activity described in the applied methodology is:			
	$EG_{PJ,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)			
	The registered monitoring plan as described in the revised PoA DD was implemented and followed during previous crediting period. This was checked from the verification records available on the UNFCCC webpage of this project/1.4/. Hence, it can be assured that the monitoring plan of the registered project is in accordance with the applied methodology.			
	Compliance with the requirement of the methodology, for the parameter $EG_{PJ,y}$ to be monitored ex-post during the 2 <sup>nd</sup> crediting period is demonstrated in the table below:			
	<div><div>Revised PoA DD</div><div>Approved Methodology</div></div>	<div>Requirement in the applicable methodology and relevant EB documents</div>	<div>Requirement in the registered monitoring plan in the revised POA DD</div>	<div>Opinion</div>

	<b>Data/Parameter</b>	EG <sub>PJ,y</sub>	EG <sub>PJ,y</sub>	In compliance with the applicable methodology.
	<b>Description</b>	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh)	In compliance with the applicable methodology.
	<b>Measured/Calculated/Default</b>	Directly measured or calculated	Calculated	The electricity production will be measured continuously by a bi-directional energy meter with high accuracy as per government regulation at the interconnection point or sub-station as per agreed PPA. The net electricity production will be calculated by subtracting the electricity exported with the electricity imported by the SSC-CPA. This approach has been described in section I.7.1 of the revised PoA DD, hence accepted.
	<b>Source of data</b>	Not Specified	Measured by electricity meter(s)	This is as per the actual practice on site by the state utility, governed by the PPA signed for this programme of activity. Hence accepted.
	<b>Monitoring equipment</b>	Energy meters	Not Applicable since this is a calculated parameter	This parameter is calculated using the electricity meter. Hence accepted.
	<b>Measuring/Reading/Recording frequency</b>	Hourly measurement and monthly Recording	Recording Frequency: Monthly	The Hourly measurement and monthly Recording is for the directly measured EG <sub>PJ,y</sub> as per the applicable methodology. However this parameter is calculated as justified in the row "Measured/Calculated/Default" above, hence the monthly recording frequency is acceptable since it is as per the actual practice on site by the state utility. Hence accepted.
	<b>Calculation method (if applicable)</b>	Not Applicable	The calculation method is as per Section	This is as per the actual practice on site by the state utility. Hence accepted. The same

			I.7.1 of the registered PoA DD.	formula is mentioned in the registered monitoring plan and PPA as well.
	QA/QC procedures	Measurement results shall be cross-checked with records for sold electricity.	The values EG <sup>PJ,y</sup> mentioned in the Breakup sheets will be cross-checked against values mentioned in the invoice raised on the state utility.	This is in compliance with the applicable methodology.
<p>All the relevant data records will be kept by the Project owner during the crediting period and two years after for DOE's verification. Data management and quality control measures have been confirmed through desk review of the project documents and interview with the PPs representatives. Assessment team confirmed that project is not involve any sampling plan in monitoring of programme of activity parameters hence section I.7.1 in the revised PoA DD is not applicable for this programme of activity.</p> <p><b><u>Implementation of the monitoring plan:</u></b></p> <p>An organizational structure is provided in section B of the revised PoA DD. The functions such as data collection, aggregation, verification, calculation, archiving, as well as the maintenance of equipment's etc. have been defined. Quality assurance and quality control procedures for recording, maintaining and data archiving etc. will be ensured according to CDM EB rules. The calibration of the meter will be implemented as per national standard. An emergency treatment process has been defined in PoA DD when the meter is in malfunction. Data management and quality control system are quoted in PoA DD. The monitoring staffs will be trained based on the training program described in the revised PoA DD.</p> <p>The procedures described in the revised PoA DD have been recognized by the assessment team through document review and interviews with the relevant personnel.</p> <p>It is confirmed that remaining aspects of monitoring plan like monitoring procedure, metering system, calibration procedure, data recording, monitoring role and responsibility and QA/QC procedure as mentioned in the registered POA DD, will remain same during the 2<sup>nd</sup> crediting period.</p> <p>The assessment team is able to confirm that the proposed monitoring plan is feasible within the project design.</p>				
<b>Findings</b>	No non-conformity was observed in this regard. Therefore, no finding was raised			
<b>Conclusion</b>	<p>The validation team confirms that the monitoring plan contains all necessary parameters which have been clearly described in revised PoA DD /1.2/ and that the means of monitoring described in the plan complies with the requirements of the methodology.</p> <p>In conclusion, based on document review and stakeholder interview, together based on local and sectoral expertise, the assessment team confirms that:</p> <ul style="list-style-type: none"> <li>➤ The monitoring plan of the revised PoA DD is in compliance with the requirements of the methodology AMS-I.D version 18.0.</li> <li>➤ Monitoring arrangements described in the monitoring plan of the revised PoA DD are feasible within the project design.</li> <li>➤ The PP's ability to implement the monitoring plan can be guaranteed. The monitoring plan of the revised PoA DD is complied with the registered PoA DD version 09.</li> </ul> <p>The validation team is of the opinion that the Coordinating/managing entity are able to implement the monitoring plan and the emission reductions achieved can be</p>			

reported ex-post for verification.

**D.2.5. Eligibility criteria for inclusion of CPAs**

Means of validation	N o.	Eligibility criterion - Category	Eligibility criterion - Required condition	Supporting evidence for inclusion	Means of validation/Findings/Conclusion
	1	Geographical boundary	Being setup within the geographical boundary of India	The SSC-CPA is being setup in geographical boundary of India as per the details in section A.4.1.2 of the CPA-DD.	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
	2	Double counting	CPA must be uniquely identified with the Geographical co-ordinates of the project location and should not result into double counting	CPA has been uniquely identified as per the details in section A.4.1.2 of the CPADD.	There is no change in this eligibility criteria in compared to the registered PoA-DD /1.1/.  The eligibility criteria is in compliance with the applied methodology i.e. AMS-I.D Version 18.0 and also para 124 of the PS for PoA Version 02.  Validation team has checked the eligibility criteria and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
	3	Technology	be a renewable energy power plant (one of solar, hydro or wind power plant)	SSC-CPA "XYZ" is a "solar/hydro/wind" power plant generating electricity	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
	4	Start date	have a starting date after the validation start of the PoA	PoA validation started at 26/08/11, which is previous to the project start date of the SSC-CPA as elaborated in section A.4.2.1 of the CPA-DD.	There is no change in this eligibility criteria in compared to the registered PoA-DD /1.1/.  The eligibility criteria is in compliance with the applied methodology i.e. AMS-I.D Version 18.0 and also para 124 of the PS

					<p>for PoA Version 02.</p> <p>Validation team has checked the eligibility criteria and found OK.</p> <p>This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.</p>
	5	Compliance with applied methodology	Complies with all applicability conditions listed in the applied methodology AMS I.D Version 18. Such requirements are listed in section I.2 of the PoA-DD.	The methodological requirements as listed in section I.2 of the PoA-DD are met by complying with the eligibility criteria no. 3, 10, 11,12 and 13.	<p>There is no change in this eligibility criteria in compared to the registered PoA-DD /1.1/.</p> <p>The eligibility criteria is in compliance with the applied methodology i.e. AMS-I.D Version 18.0 and also para 124 of the PS for PoA Version 02.</p> <p>Validation team has checked the eligibility criteria and found OK.</p> <p>This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.</p>
	6	Additionality	Demonstrates that it is in compliance with one of the CPA additionality test as described in section C of the PoA-DD.	As per section B.3 of the CPA-DD, the CPA is deemed additional.	<p>The additionality of the CPA will be demonstrated through deemed additional approach that is in line with para 10 b).</p> <p>Validation team has checked the eligibility criteria and found OK.</p> <p>This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.</p>
	7	Local stakeholder consultation	Conducts a local stakeholder consultation	A local stakeholder consultation will conduct at CPA level earliest of the start dates of the CPAs as defined in the "Glossary: CDM Terms" .	<p>There is no change in this eligibility criteria in compare to the registered PoA DD.</p> <p>Validation team has checked the eligibility criteria as per para 64 of PS for PoA version 2 /supportive evendence for each generic CPA and found OK.</p> <p>This criterion was further validated by means of interviews performed with the CME. Therefore,</p>

				criteria complied.
8	Environmental Impact Analysis	Shall show, based on national environmental policies applicable at time of inclusion, whether an environmental impact analysis is required or not. If required, the CPA shall conduct an environmental impact analysis.	"Specification in line with section C of the CPA-DD "	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
9	Diversion of official development assistance	CPA should not result into the diversion of official development assistance	"Justification"	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
10	Target group	not be a capacity addition/retrofit/replacement activity at an existing power plant. In other words the CPA to be included would only comprise of Greenfield renewable energy power plants.	The SSC-CPA is Greenfield project that does not involve a capacity addition/retrofit/replacement at any existing power plant	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
11		export the renewable electricity generated to a relevant and clearly identified grid within the geographical boundary of the host country	The SSC-CPA is connected to "Name of the Grid" Grid, which is relevant and clearly identified grid in the host country India.	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
12		If the power plant is a hydroelectric plant that comprises a reservoir, the power density of the power plant shall be greater than 10 W/m2.	Not applicable, see justification for eligibility criteria 3.	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
13	Small-	Generates electricity	The installed capacity	Validation team has

		scale threshold	with a capacity below the type I small-scale threshold	of the CPA is "ABC" MW, which is below the type I small-scale threshold of 15MW.	checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
	14	Micro-scale threshold	Has a maximum installed capacity below or equal to 5 MW, in the case CPA is following additionality test a, as described in section C of the PoA-DD. If additionality test b is chosen, this eligibility criteria does not need to be considered	"Justification"	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
	15	Debundling check	The CPA included in the PoA is not a de-bundled component of another CDM programme activity (CPA) or CDM project activity:  CPA shall be deemed to be a de-bundled component of a large scale activity if there is already an activity, which satisfies both conditions (a) and (b) below: <div style="margin-left: 40px;">           (a) Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same technology/measure, and;            (b) The boundary is within 1 km of the boundary of the proposed small-scale         </div>	"Justification"	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.

			CPA, at the closest point.		
	16	Other	have a contract of services and cessation of rights with the CME that governs the CPA's participation in the RE PoA, and comply with the code of conduct of the CME	The CPA implementer contractually ceded its rights to claim and own emission reductions under the Clean Development Mechanism or any voluntary scheme to the coordinating entity of the SSC-PoA.	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
	17	Other	be in line with laws and regulations available at the time of inclusion of the CPA into the PoA.	SSC-CPA Dante is inline with Indian laws and regulations available at the time of inclusion of the SSC-CPA into the SSC-PoA. "Justification"	Validation team has checked the eligibility criteria/supportive evidence for each generic CPA and found OK.  This criterion was further validated by means of interviews performed with the CME. Therefore, criterion complied.
<b>Findings</b>	No non-conformity was observed in this regard. Therefore, no finding was raised				
<b>Conclusion</b>	<ol style="list-style-type: none"> <li>1. Validation team confirm that the eligibility criteria for inclusion of corresponding CPAs in the registered PoA are updated by the CME in accordance with the applicable validation requirements related to the renewal of programme of activities period in the VVS for PoA Version 02.</li> <li>2. The Coordinating and Managing Entity (CME) has outlined clear and unambiguous Eligibility Criteria for the inclusion of a CPA under this PoA. The Eligibility Criteria, listed in section K of the generic part of CPA of PoA-DD has been validated by the validation team with regards to the applicability of the applied methodology AMS-I.D version 18/2.4/ and found in compliance.</li> <li>3. Validation team confirm that the Eligibility Criterias are sufficiently, objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA. Further Validation team confirm that eligibility criteria for the inclusion of CPA have covered the minium eligibility criteria as required by para 124 of PS for PoA Version 02 /2.2/.</li> </ol>				

## SECTION E. Internal quality control

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As final step of a validation of the final documentation including the validation opinion 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. 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**

&gt;&gt;

ESPL has performed a validation of renewal of crediting period of the “Renewable Energy PoA in India” (Ref. No. 6161). The validation was performed on the basis of the updated sections of the PoA DD relating to the baseline, estimated emission reductions and the monitoring plan using the most recent version of baseline and monitoring methodology applicable for the programme of activity.

The final validation opinion was finalized in accordance with the CDM VVS for PoA version 02.0/2.1/ and the CDM PS for PoA version 02.0/2.2/ including the assessment of:

- a) An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period at the time of requesting renewal of crediting period;
- b) The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period.

The review of the project design documentation and the subsequent follow-up interviews have provided ESPL with sufficient evidence to determine the validity of the original baseline and/or its update through an assessment. The project correctly applies the latest baseline and monitoring methodology AMS I.D “Grid connected renewable electricity generation”, version 18.0

The monitoring plan provides for the monitoring of the project’s emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design. It’s ESPL opinion that the Coordinating/managing entity are able to implement the monitoring plan and the emission reductions achieved can be reported ex-post for verification.

In summary, it is ESPL opinion that the programme of activity “Renewable Energy PoA in India” (Ref. No. 6161) in India, as described in the PoA DD, version 10.1 dated 07/12/2019, meets all relevant UNFCCC requirements for the renewal of the crediting period. Hence ESPL submitted the request for renewal of the crediting period of the programme of activity.

## Appendix 1. Abbreviations

Abbreviations	Full texts
ABT	Availability Based Tariff
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PoA	Clean Development Mechanism Programme of Activity
CDM VVS	Clean Development Mechanism Validation and Verification Standard
EB	Executive Board
EF	Emission Factor
EPC	Engineering ,Procurement and Construction
ER	Emission Reductions
CEA	Central Electricity Authority
CER	Certified Emission Reduction
CL	Clarification Request
DOE	Designated Operational Entity
DNA	Designated National Authority
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GOI	Government of India
IPCC	Intergovernmental Panel on Climate Change
JMR	Joint Meter Reading
MP	Monitoring Plan
MR	Monitoring Report
MWh	Megawatt hour
PoA DD	Programme of Activity Project Design Document
PPA	Power Purchase Agreement
PP	Project Participant
PRC	Post Registration Changes
PS	Project Standard
RCP	Renewal Crediting Period
RMP	Revised Monitoring Plan
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

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

Competence Statement	
Name	Vivek Kumar Ahirwar
Country	India
Education	B.E. (Mechanical Engineering) M.Tech (Energy Management)
Experience	10 Years +
Field	Climate Change & Environment
Approved Roles	
Team Leader	YES
Validator	YES

Verifier	YES		
Methodology Expert	ACM0002, AMS.I.D		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert	YES (1.1, 1.2, 13.1)		
Reviewed by	Shreya Garg	Date	11/09/2018
Approved by	Anshika Gupta	Date	11/09/2018

Competence Statement			
Name	Ashok Gautam		
Country	India		
Education	M. Sc. (Environmental Sciences) M. Tech. (Energy & Environmental Management)		
Experience	16 Years +		
Field	Energy, Climate Change & Environment		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-I.A., AMS-I.C., AMS-I.E, AMS-II.D., AMS-II.G., AMS-III.E., AMS-III.H., AMS-III.Q, AMS-III.Z., AMS-III.AV., AM0029, AM0025, AM0056, ACM0001, ACM0002, ACM0004, ACM0012, ACM0006, AM0018, ACM0009, AM0034, AMS.I.B, ACM0003		
Local expert	YES (India)		
Financial Expert	YES		
Technical Reviewer	YES		
TA Expert	YES (TA 1.1, TA 1.2, TA 3.1, TA 13.1)		
Reviewed by	Shreya Garg	Date	23/10/2019
Approved by	Anshika Gupta	Date	23/10/2019

### Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	<b>Basic Documents (Monitoring Report, Project Design Documents, Previous Verification Reports)</b>			
1.1	PP	Registered PoA DD Version 9	Dated 21/09/2012	CME
1.2	PP	Revised PoA DD, version 01	Dated 21/08/2019	CME
		Revised PoA DD, version 10	Dated 01/10/2019	
		Revised PoA DD, version 10.1 (Final)	Dated 07/12/2019	
1.3	TUV SUD	Validation Report of the registered CDM programme of	Dated	Other:

		activity ,Version 7	24/09/2012	UNFCCC
1.4	UNFCCC	CDM Programme of activity view page "Renewable Energy PoA in India " <a href="https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/9L1KB27U456NZAM3O0VSGIFDQWHEX8/view">https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/9L1KB27U456NZAM3O0VSGIFDQWHEX8/view</a>	-	Other: UNFCCC
1.5	Applus+	Verification report for first monitoring period (27/07/2017 to 30/09/2018), Version 02	Dated 02/10/2019	Other: UNFCCC
2.	<b>References and requirements at UNFCCC/IPCC/etc.</b>			
2.1	UNFCCC website	Clean Development Mechanism Validation and Verification Standard for Programme of activity (CDM-VVS for PoA), version 02.0 as per EB 101, Annex 2	Dated 29/11/2018	Other: UNFCCC
2.2	UNFCCC website	CDM Project Standard for Programme of activity (CDM-PS for PoA), version 02.0 as per EB 101, Annex 1	Dated 29/11/2018	Other: UNFCCC
2.3	UNFCCC website	CDM Project Cycle Procedure for Programme of activity (CDM-PCP for PoA), version 02.0 as per EB 101, Annex 16	Dated 29/11/2018	Other: UNFCCC
2.4	UNFCCC website	Applied Methodology, AMS I. D, Version 18 "Grid connected renewable electricity generation"	Dated 28/11/2014	Other: UNFCCC
2.5	CDM EB	PoA DD template form	Version 9	Other: UNFCCC
2.6	CDM EB	Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 03.0.1, EB 66, Annex 47	02/02/2012	Other: UNFCCC
2.7	CDM EB	Tool to calculate the emission factor for an electricity system, Version 7.0.0	31/08/2018	Other: UNFCCC
3.	<b>Project implementation information</b>			
3.1	CEA	CEA CO <sub>2</sub> Baseline Database for the Indian Power Sector Version 14	December 2018	Other
4.	<b>Others</b>			
4.1	CEA	Central Electricity Authority (Installation and Operation of Meters) Regulations - Notified on 17/03/2006 No.502/70/CEA/DP&D - Amendments Notified on 26/06/2010 No.502/6/2009/DP&D/D-I ( <a href="http://www.cea.nic.in/reports/regulation/meter_reg.pdf">http://www.cea.nic.in/reports/regulation/meter_reg.pdf</a> )	17/03/2006	Other: CEA
4.2	Ministry of Power, GOI	The Electricity Act, 2003 ( <a href="http://www.cercind.gov.in/Act-with-amendment.pdf">http://www.cercind.gov.in/Act-with-amendment.pdf</a> )	Dated 26/05/2003	Other
4.3	Ministry of Power, GOI	National Electricity Policy, 2005 ( <a href="https://powermin.nic.in/en/content/national-electricity-policy">https://powermin.nic.in/en/content/national-electricity-policy</a> )	Dated 12/02/2005	Other
4.4	Ministry of Power, GOI	Tariff Policy, 2006 <a href="http://www.orierc.org/documents/National%20Electricity%20Tariff%20Policy.pdf">http://www.orierc.org/documents/National%20Electricity%20Tariff%20Policy.pdf</a>	January 2006	Other

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

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	NA	Section no.	XX	Date :DD/MM/YYYY
<b>Description of FAR</b>				
Not applicable				
<b>Project participant response</b>				<b>Date : 22/06/2019</b>
NA				

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

Table 2. CL from this verification

CL ID	01	Section no.	Front Page	Date :17/09/2019
Description of CL				
Please clarify why the version of DD is not followed by the previously approved version.				
Project participant response				Date : 01/10/2019
CME has updated the version of PoA DD inline with previous approved version of PoA DD.				
Documentation provided by project participant				
Revised PoA DD version 10.				
DOE assessment				Date: 03/10/2019
Validation team access that in revised PoA DD version followed previously approved PoA DD version. CL#1 Closed				

Table 3. CAR from this verification

CAR ID	01	Section no.	I	Date :17/09/2019
Description of CAR				
<ol style="list-style-type: none"> <li>1. PP is requested to demonstrate the validity of the current baseline in accordance to "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period".</li> <li>2. The project boundary is not mentioned in diagram mentioned in section I.4 and also it is not mentioned the metering location of energy monitoring system, please clarify?</li> <li>3. The PP is requested to provide calculation for CM for Hydro and Biomass projects in section I.6.1.</li> <li>4. PP is requested to correct the nomenclature for build margin CO2 emission factor.</li> <li>5. The PP is requested to clarify how the calibration frequency is appropriately changed from 3 years to 5 years?</li> </ol>				
Project participant response				Date : 01/10/2019
<ol style="list-style-type: none"> <li>1. CME has included the Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" Version 3.1 in PoA DD.</li> <li>2. CME has updated the project boundary diagram in section I.4 of the generic CPAs.</li> <li>3. As PoA only included Wind, Solar and Hydro projects CME has included CM calculation in each technology generic CPA.</li> <li>4. CME has updated the nomenclature of build margin CO2 emission factor.</li> <li>5. CME has updated the calibration frequency from 3 year to 5 year based on Central Electricity Authority guideline, same included in PoA DD.</li> </ol>				
Documentation provided by project participant				
Revised PoA DD version 10				
DOE assessment				Date: 03/10/2019
<ol style="list-style-type: none"> <li>1. Validation team confirm that CME has included Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" Version 3.1 in revised PoA DD.</li> <li>2. Validation team confirm that CME has updated the project boundary diagram in section I.4 of the generic CPAs.</li> <li>3. Validation team accepted CME response</li> <li>4. Validation team confirm that CME has updated the nomenclature of build margin CO2 emission factor.</li> <li>5. Validation team accepted CME response.</li> </ol>				
CAR#1 Closed				

Table 4. FAR from this validation

FAR ID	XX	Section No.	XX	Date :
Description of FAR				
NA				
Project participant response				Date :22/06/2019
NA				

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

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**Document information**

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	31 May 2019	Revision to: <ul style="list-style-type: none"><li>• Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN) and version 02.0 of the “CDM project cycle procedure for programmes of activities” (CDM-EB93-A09-PROC);</li><li>• Make editorial improvements.</li></ul>
01.0	29 December 2017	Initial publication.

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Decision Class: Regulatory  
Document Type: Form  
Business Function: Renewal of crediting period  
Keywords: crediting period, programme of activities, validation report

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