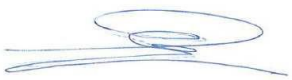
Validation report form for renewal of crediting period for CDM project activities

(Version 01.0)

VALIDATION REPORT FOR RENEWAL OF CREDITING PERIOD (RCP)	
Title of the project activity	12 MW hydropower plant in Bhandardara in Maharashtra, India
Reference number of the project activity	0430
Number and duration of the next crediting period	Crediting Period No.: 03 Duration: 27/07/2015 - 26/07/2022 (first and last days included)
Version number of the validation report for RCP	03
Completion date of the validation report for RCP	24/07/2016
Version number of PDD to which this report applies	09.0
Project participant(s)	- Dodson Lindblom Hydro Power Private Limited (DLHPPL) - Statkraft Markets GmbH
Host Party	India
Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)	Sectoral scope : 01, Energy Industries (renewable/non-renewable sources) Selected Methodology: AMS-I.D. - Grid connected electricity generation, version 18.0 Selected standardized baseline: N/A
Estimated annual average GHG emission reductions or net anthropogenic GHG removals in the next crediting period	35,042 tCO_2e
Name of DOE	LGAI Technological Center, S.A. (Applus+)
Name, position and signature of the approver of the verification and certification report	Juan Sendin Caballero  LGAI Technological Center S.A (Applus+) B.U. Systems Certification Area Manager

SECTION A. Executive summary

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LGAI Technological Center, S.A. (hereafter referred to as Applus+ LGAI) has been contracted by Dodson Lindblom Hydro Power Private Limited (DLHPPL) to perform a validation of renewal of crediting period of the "12 MW hydropower plant in Bhandardara in Maharashtra, India" in India (Ref. No. 0430, hereafter referred to as "the project activity").

The assessment was performed in accordance with the CDM VVS version 09.0 and the CDM PS version 09.0 including an 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 main objective of validation of renewal of crediting period as provides an independent third party assessment of validity of the updated sections of the PDD of project that has opted for a renewal of the crediting period. The validation assessment of the baseline of project 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 version 09.0 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.

In an E-mail/3.3/ sent on 24/01/2015 to the CDM Registration and Issuance Team of UNFCCC, the project participants expressed their intention to request a renewal of crediting period for the project activity in accordance with the CDM PCP version 09.0.

In response to this mail ; the PP has received acceptance confirmation email/3.4/ on26/01/2015 from UNFCCC secretariat for the same; which has been verified by validation assessment team and found to be correct and accepted accordance to CDM PCP version 09.0§§443.

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.

The validation has been performed the identification whether the PP has updated sections of the PDD 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, 10 Corrective Action Request (CAR) and 1 Clarification Request (CL) and No Forward Action Request (FAR), were raised for the Project PDD (version 09, dated 16/07/2016) /1.7/ 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 PDD (version 09, dated 16/07/2016)/1.7/ and additional background documents, the subsequent follow up interviews, together with the review of comments by Parties and Stakeholders, have provided,Applus+ LGAI 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. Applus+ LGAI hereby confirms that the project correctly applied the baseline and monitoring methodology AMS-I.D. (Version 18.0) /2.3/ and meets the relevant UNFCCC requirements for the renewal of the crediting period.

Applus+ LGAI hereby requests the renewal of crediting period of the project. Provided that the project is implemented and maintained as designed, the project is expected to achieve annual average emission reduction of 35,042 tCO_2e within the 3rd crediting period (7years, 27/07/2015 - 26/07/2022).

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validationfindings
1.	Team Leader /Technical / Financial Expert	OR	Ahirwar	Vivek Kumar	GCEES	Y	Y	Y	Y
2.	Auditor in Training	OR	Bharti	Ashish	GCEES	Y	Y	Y	Y

Note: IR: Internal Resources, EI: External Individuals, OR: Outsourced Resource.

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

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	Shen	Meng (Simon)	Applus+ LGAI
2.	Technical reviewer in Training	IR	Rodrigo Vega	Natalia	Applus+ LGAI
3.	Approver	IR	Caballero	Juan Sendín	Applus+ LGAI

Note: IR: Internal Resources, EI: External Individuals, OR: Outsourced Resource.

SECTION C. Means of validation

C.1. Desk review

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The Project Design Document submitted by the Project Participant 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

Duration of on-site inspection:24/09/2015				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Status of the project activity and any modifications with respect to the registered PDD.	Bhandardara village, Akola Taluk, Ahmednagar district, Maharashtra state, India	24/09/2015	Vivek Kumar Ahirwar and BhartiAshish
2.	Applicability to the latest methodology		24/09/2015	Vivek Kumar Ahirwar and BhartiAshish
3.	National and local policies and changes (if any)		24/09/2015	Vivek Kumar Ahirwar and BhartiAshish
4.	Baseline of the project and its updates (if any)		24/09/2015	Vivek Kumar Ahirwar and BhartiAshish
5.	The lifetime of the project activity		24/09/2015	Vivek Kumar Ahirwar and BhartiAshish
6.	Emission Factors and their updates(if any)		24/09/2015	Vivek Kumar Ahirwar and BhartiAshish
7.	Monitoring plan and changes (if any)		24/09/2015	Vivek Kumar Ahirwar and BhartiAshish

C.3. Interviews

No.	**Interviewee**			**Date**	**Subject**	**Team member**
	Last name	**First name**	**Affiliation**			
1.	Jadav	R.V.	Deputy General Manager, DLHPPL	24/09/2015	Status of the project activity and any modifications with respect to the registered PDD.	Vivek Kumar Ahirwar and BhartiAshish
2.	Gurao	B.T.	Plant Manager, DLHPPL	24/09/2015	Applicability to the latest methodology.	Vivek Kumar Ahirwar and BhartiAshish
3.	Garade	V.K.	Senior Engineer, DLHPPL	24/09/2015	National and local policies and changes Baseline of the project and its updates	Vivek Kumar Ahirwar and BhartiAshish
4.	Sarakte	A.L.	Shift Engineer, DLHPPL	24/09/2015	The lifetime of the project activity Emission Factors and their updates Monitoring plan and changes.	Vivek Kumar Ahirwar and BhartiAshish

C.4. Clarification requests, corrective action requests and forward action requests raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	01	02	-
Application of baseline and monitoring methodology and standardized baseline	-	02	-
Validity of original baseline or its update	-	01	-
Estimated GHG emission reductions or net anthropogenic GHG removals	-	03	-
Validity of monitoring plan	-	02	-
Crediting period	-	-	-
Project participants	-	-	-
Others (please specify)	-	-	-
Total	01	10	-

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	In according to VVS version09.0§§435, the assessment team cross-checked and compared the revised PDD by employing the valid Project design document form listed in UNFCCC website. Besides, the validation team compared the information transferred to the valid version of the PDD with that in the registered PDD. The final PDD (Version 09 dated 16/07/2016) /1.7/ used the latest valid version of the applicable Project design document form (version 07.0) /2.7/ at UNFCCC website. The final PDD is complete and meet all relevant requirements of instructions for filling out the Project design document form (version 07.0) for CDM project activities and "Clean development mechanism project standard" (version 09.0) /2.2/. The project activity has an installed total capacity of 12 MW foot of dam hydropower plant project to export clean power to state electricity grid owned and operated by Maharashtra State Transmission Company Ltd (MSTCL. The project was implemented and equipment installed as described in the registered PDD (UNFCCC ref. no 0430). This was verified during the site visit performed by the assessment team on 24/09/2015. This is the Validation of renewal of crediting period of project activity and it covers the crediting period starting from 27/07/2015 up to 26/07/2022. The start date of this crediting period is after the end date of the last crediting period. The project activity (BH-1) is constructed at the foot of a hill adjacent to the Bhandardara dam. BH-1 was originally built by the GOMID with a single hydropower generating unit of 10 MW in 1984. The generating unit at BH-1 was commissioned in 1986 and entered commercial operation in 1987. After operating for eight years, a mishap occurred which severely damaged the entire plant and the plant ceased to operate. The damaged equipment was beyond use and could not be used and hence disposed as scrap. The accident had caused such damage that entire plant had to be constructed newly. The operation of this plant was awarded on a lease, own, operate and transfer basis to DLHPPL. The total project capacity of the project activity was verified as 12 MW. During the site visit, the project participant provided the Commissioning Certificates /3.1/ as an evidence of the date of commissioning. Based on the examination of these commissioning certificates and the on-site inspection of project activity, the assessment team has confirmed that the project activity has installed and operated as per the registered PDD/1.1/ and the technical characteristics of the hydro plant were also found to be consistent with the specification in the registered PDD/1.1/. During the site visit, it was confirmed that all physical features of the proposed CDM project activity are implemented in accordance with the registered PDD. No events or situations that may impact the applicability of the methodology occurred during this monitoring period, which was confirmed by checking the operational logbook and interviewing the PP. There were no changes in the project activity from the previous crediting period. Based review of the PPA/3.2/ signed with the DLHPPL, it is confirmed that the project has been connected with the NEWNE regional Grid of India (Northern grid is

	part of NEWNE regional gird) in accordance with the description in the registered PDD/1.1/. There are no other sources of GHG emissions attributable to the project activity confirmed during site visit. Therefore, the project boundary was confirmed to be in conformance with the description in the registered PDD/1.1/. The project activity is a small scale project and is not a de-bundled component of the larger project and same has been mentioned in the section A.6 of PDD as accordance to latest PDD template. Validation team has reviewed "Guidelines on assessment of de-bundling for SSC project activities" Version 03, and also carried out Interview during the site visit to confirm the applicability criteria for De-bundling aspect of the project. It is concluded that the small scale project activity is not a de-bundled component of a larger project activity as accordance with the requirements established in VVS version 09.0 §§189. Therefore, Applus+ LGAI confirms that the Project Description in Section A of the final PDD (Version 09)/1.7/ was consistent with the registered PDD/1.1/, the corresponding validation report /1.5/), monitoring reports and corresponding verification reports /1.4/ for the 2nd crediting period.
Findings	**Clarification RequestNo. 1:** CL#1 was raised as the Project Participant was requested to submit some supporting evidence which confirm that the notification has been sent to secretariat of their intention in accordance with the Project cycle procedure. In response, the PP has submitted two emails which confirm that the intimation was sent to CDM Registration and Issuance Team of UNFCCC on 24/01/2015 and the PP has received acceptance confirmation email/3.4/ on 26/01/2015 from UNFCCC secretariat for the same. The same has been verified by validation assessment team and found to be correct and accepted accordance to CDM PCP version 09.0 §§ 443. Hence, CL#1 was closed satisfactorily. **Corrective Action Request No. 1:** CAR#1 is raisedrequestingthe PP to clarifyfollowing: 1. As per Instructions for fillingouttheprojectdesign document form for small-scale CDM projectactivitiesversion 06; followinginformationareneeded to provided in section A.1 of the PDD: A) Briefdescription of thebaselinescenario, as identified in section B.4 below. B) Providetheestimate of annualaverageand total GHG emissionreductions for thechosencreditingperiod C) Confirmthattheproposed CDM projectactivity is not a CPA that has beenexcludedfrom a registered CDM PoA as a result of erroneousinclusion of CPAs 2. It is recommended as per Instructions for fillingouttheprojectdesign document form for small-scale CDM projectactivitiesversion 06-" Do notexceedonepage for thedescription of location." 3. According to PDD of previouscreditingperiodtherearetwo Parties involved in thisproject. The PP is requested to clarifywhythere is onlyonementioned in section A.4 of the PDD. 4. The PP is requested to referencethelatestavailableversion of theprojectstandard in section A.6 of the PDD. In response, the PP has provided revised PDD version 07 dated 29/04/2016 and same was verified by the assessment team as: 1. The PDD is revised as included the brief description of the baseline scenario included and also included about estimate of annual average and total GHG emission reductions and confirm that the CDM project activity is not a CPA, it can be confirm from UNFCCC project view page. Same was checked found to be correct, hence accepted. 2. The PP has corrected the section A.2.4 as it is now limited to one page, same was found to be correct, hence accepted. 3. The PP as included missing project participant name in section A.4 of revised PDD, same is found to be correct, hence accepted. 4. The PP has applied the latest version of project standard used throughout

	the PDD. Same is found to be correct, hence accepted. Based on review of the PDD and response provided by the PP, assessment team confirmed that revision in the PDD is appropriate and accordance to requirement, hence CAR#1 is satisfactorily closed. **Corrective Action Request No. 8:** The PP was requested to update the PDD as per latest PDD template version 07 available on UNFCCC web site. In response, the PP has provided the revised PDD version 08 dated 11/05/2016 as per latest PDD template version 07 available on UNFCCC web site. The same was verified by assessment team and found to be correct and accepted, hence CAR#8 is satisfactorily closed.
Conclusion	Applus+ LGAI confirms that the final PDD/1.7/ was compliance with relevant valid version of project design document form and instructions therein for filling out PDD; the information transferred to the valid version of the PDD is materially the same as that in the registered PDD/1.1/. Therefore, CDM requirements stipulated under VVS Version 09.0 §§446(a)-(i) and (ii) is satisfied completely.

D.2. Application of baseline and monitoring methodology and standardized baseline

Means of validation	Through document review and site visit interview, the assessment team re-assessed 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 registered for previous monitoring period was based on methodology AMS I.D. version 13. The updated PDD version 08 dated 11/05/2016 applies methodology AMS I.D. version 18.0.0. This is appropriate because the methodology AMS I.D. version 18.0.0 is of its latest approved version of methodology applied in the original PDD and is valid at the time of submission of the revised PDD /1.7/ 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. Following tools referred to by the methodology are also applied: - Tool to calculate the emission factor for an electricity system – Version 05.0.0. - 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 - Tool to calculate project or leakage CO2 emissions from fossil fuel combustion, Version 02, EB 41 annex 11 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 PDD /1.7/ for the renewal of the crediting period. The applicability of the baseline and monitoring methodology is justified in the revised PDD for the renewal of the crediting period. The applied baseline methodology is justified as it has been demonstrated that the project activity is: AMS-I.D. Version 18.0.0 §§ 02: "*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."* The project activity is a renewable energy generation unit based on hydro source. The generated energy is supplied to MSTCL grid, which is a part of NEWNE regional grid which is dominated by fossil fuel based power generating sources. The project activity therefore meets this applicability requirement (a) i.e. supplying electricity to a national or a regional grid. The use of hydro turbines for power generation was confirmed during the site visit. The grid connectivity of the project was verified through PPA /3.2/ and same has been verified during site visit observation and discussion with the PP.

	AMS-I.D. Version 18.0.0 §§ 03: "*Illustration of respective situations under which each of the methodology (i.e. "AMS-I.D.: Grid connected renewable electricity generation", "AMS-I.F.: Renewable electricity generation for captive use and mini-grid" and "AMS-I.A.: Electricity generation by the user) applies is included in the appendix.*" *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 project activity is a renewable energy generation unit based on hydro source. The generated energy is supplied to MSTCL grid, which is a part of NEWNE regional grid which is dominated by fossil fuel based power generating sources. The project activity therefore meets this applicability requirement (a) i.e. supplying electricity to a national or a regional grid. AMS-I.D. Version 18.0.0 §§ 04: "*This methodology is applicable to project activities that (a) install a Greenfield plant; (b) involve a capacity addition in (an) existing plant(s); (c) involve a retrofit of (an) existing plant(s); (d) involve a rehabilitation of (an) existing plant(s)/unit(s); or (e) involve a replacement of (an) existing plant(s)."* This project activity is a green field project. The BH-1 plant with capacity 12 MW was newly constructed in the project location. However, originally there was a single hydropower generating unit of 10 MW operated for about eight years after starting commercial operation in 1987, then a mishap occurred which severely damaged the entire plant and the plant ceased to operate. Thereafter, the project activity of DLHPPL involved construction of new plant considering that the damaged equipment was beyond use and plant could not be used anymore. The entire plant had to be newly constructed. The PP has justified that the project activity involved complete replacement of the existing facility and did not involve any addition of renewable energy generation units at existing renewable energy power generation facility. Hence the project activity is applicable to the point (a), i.e. install a Green Field plant. This was found to be correct, hence accepted. AMS-I.D. Version 18.0.0 §§ 05: *"Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:* *a) The project activity is implemented in an existing reservoir with no change in the volume of reservoir;* *b) The project activity is implemented in an existing reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the Project Emissions section, is greater than 4 W/m^2;* *c) The project 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^2."* The project activity was implemented in an existing reservoir; it has not changed in the volume of the reservoir. Hence the condition met.This was verified during the site visit and hence accepted. AMS-I.D. Version 18.0.0 §§ 06: "*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 project 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."* There is no non-renewable component in this project activity and the total installed capacity of the project activity is 12 MW which is less than the eligibility limit of 15 MW for a small scale CDM project activity. Hence, the project activity meets this applicability criterion. The installed capacity was verified from the PPA/3.2/. AMS-I.D. Version 18.0.0 §§ 07: "*Combined heat and power (co-generation) systems are not eligible under this category."* The project activity is a hydro power project and thus does not involve combined heat and power generation systems. This was verified during the site visit and

	hence accepted. AMS-I.D. Version 18.0.0 §§ 08: *"In the case of project activities that involve the capacity 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."* This criterion is not applicable since it does not involve any addition of renewable energy generation units at existing renewable energy power generation facility and the project is a Greenfield plant as discussed under AMS-I.D. Version 18.0.0 §§ 04 as above. AMS-I.D. Version 18.0.0 §§ 09: "*In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, re-habiltated or replacement power plant/unit shall not exceed the limit of 15 MW."* This criterion is not applicable since overall plant was newly constructed and the final capacity of the plant is only 12 MW, hence well below 15 MW limit. Thus, the project is a Greenfield plant as discussed under AMS-I.D. Version 18.0.0 §§ 04 as above. AMS-I.D. Version 18.0.0 §§ 10: *"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 is not relevant to the project activity since the project activity a small hydro power project as discussed under AMS-I.D. Version 18.0.0 §§ 04 as above. AMS-I.D. Version 18.0.0 §§ 11: *"In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply."* This is not relevant to the project activity since the project activity a small hydro power project as discussed under AMS-I.D. Version 18.0.0 §§ 04 as above. The assessment team has validated the documentation referred to in the PDD/1.7/ 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 crosschecked the information provided in the PDD/1.7/ 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: - Commercial Operation Certificates /3.1/ - Power Purchase Agreement with Third party/ DLHPPL grid, which is a part of NEWNE regional grid/3.2/ Therefore, the applied methodology AMS-I.D, version 18.0 is applicable to the project activity.
Findings	**Corrective Action Request No. 2:** 1. As per Instructions for filling out the projectdesign document form for small-scale CDM project activities; the PP has to "Present a flow diagram of the project boundary, physically delineating the project activity, based on the description provided in section A.3 above. Include in the flow diagram the equipment, systems and flows of mass and energy described in that section. In particular, indicate in the diagram the emission sources and GHGs included in the project boundary and the data and parameters to be monitored." In section B.3 of the PDD. 2. The paragraph number referenced for section B.3 of the PDD is inconsistent with the methodology. In response, the PP has provided revised PDD version 07 dated 29/04/2016 and same was verified by the assessment team as:

	1. The PDD is revised as included the Project boundary diagram in section B.3 of the PDD. Same was checked found to be correct, hence accepted. 2. The PP has corrected the section B.3 as reference number is corrected now, same was found to be correct, hence accepted. Based on review of the PDD and response provided by the PP, assessment team confirmed that revision in the PDD is appropriate and accordance to requirement, hence CAR#2 is satisfactorily closed. **Corrective Action Request No. 9:** The PP is requested to explain: (a) How the project activity is in line with the definition of the green-field power plant (Point 3 of Meth applicability criteria on page 12 of PDD) and not in line with the definition of the rehabilitation project as per the paragraph 16 of the applied methodology. In response, the PP has explained that the project activity is a green field project. The BH-1 plant of capacity 12 MW was newly constructed in the project location as same was verified during site visit. Hence the project activity is applicable to the point (a), i.e. install a Green Field plant. The PP has corrected the description in the point 3 of the Meth applicability Criteria on page 11 of the PDD, same was found to be appropriate, hence accepted. (b) As the project supplies electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling (PDD page 12), the identified consumer and whether there is a contractual agreement with this consumer. In response, the PP has clarified that the project activity is a renewable energy generation unit based on hydro source. The generated energy is supplied to Maharashtra State Transmission Company Ltd (MSTCL) grid, which is a regional grid, part of NEWNE grid of India which is dominated by fossil fuel based power generating sources. The project activity, therefore meets the applicability requirement (a) of the point 1 in the Meth applicability criteria in page 11 of the PDD, i.e. 'supplying electricity to a national or a regional grid'. Therefore, the PP corrected the PDD accordingly and same was found to be appropriate, hence accepted. Based on review of above response and revised document, verification team concluded that PDD and ER are correctly modified and hence the CAR#9 is satisfactorily closed.
Conclusion	Applus+ LGAI 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 3rd crediting period, as per the requirements of AMS-I.D, version 18.0. Therefore, CDM requirements stipulated under VVS Version 09.0 §§446(a)-(iii) is satisfied completely.

D.3. Validity of original baseline or its update

Means of validation	In according to VVS version 09.0§§436, The assessment team reviewed the updated PDD version 09 dated 16/07/2016, and evaluated whether project participants 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*".

Applus+ LGAI confirms that there have been no changes in the relevant national and/or sectoral regulations on construction of hydro projects to generated electricity from foot of dam hydropower plant and sell to third party/MSTCL grid, which is a part of NEWNE regional grid since the previous crediting period. On the other hand, the baseline scenario for construction of hydro projects to generated electricity from run of the river scheme and sell to third party / MSTCL grid, which is a part of NEWNE regional grid, was still valid according to methodology AMS-I.D., version 18.0.0.

As demonstrated in the registered PDD/1.1/, the baseline scenario for the Project is continuous operation of the existing power plants to meet electricity demand. As per AMS-I.D., version 18.0.0 §§ 19, "*The baseline scenario is that the 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 into the grid."* The baseline for the Project remains the same as that in the registered PDD/1.1/.

In the absence of project 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.

A verifiable description of the baseline scenario has been included in the final PDD /1.7/. The information presented in the PDD/1.7/ has been validated by an initial document review of all data. Further confirmation has been made based on the on-site visit and a review of information from similar projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was verified against credible sources, such as the following:

- Commercial Operation Certificates /3.1/
- Power Purchase Agreement with Third party/ DLHPPL grid, which is a part of NEWNE regional grid/3.2/
- CEA guidelines (CO_2 Baseline Database for the Indian Power Sector, Version 10.0) /5.1/

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 version 09.0.0 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 (version 09.0) 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

Applus+ LGAI has confirmed that The current baseline remains the same as it was in the registered PDD /1.1/ and no relevant mandatory national and/or sectoral polices applicable to the project activity came into effect after the submission of the project activity for validation.

Based on the experience, there are no relevant mandatory national and/or sectoral polices forbidding equivalent electricity generated by the project activity is supplied by NEWNE Grid which is current baseline of the project 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 project activity was the 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 into the grid. Thus, assessment team has confirmed that the project 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 project 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_2 Baseline Database (CEA database, version 10) 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

It is clear that the grid equipments as a system has longer lifetime further confirmed by the project owner through the site visit interview and will exceed the next 7-year crediting period. Hence, this sub step is not applicable, as the baseline scenario is electricity provided by the grid and the project participant or third party (or parties) would not undertake an investment later due.

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

The CEA emission factor calculated ex-ante for the 2nd crediting period needs to be updated, as per the "Tool to calculate the emission factor for an electricity system", the most recent information available should be used to update the emission factor at the start of the 3rd crediting period. Hence, the emission factor needs to be updated accordingly and consequently.This parameter is properly described in the following section D.4 of this report.

Conclusion on step 1:

Applus+ LGAI confirms that the current baseline is still valid as per methodology AMS-I.D., version 18.0.0. 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 the baseline scenario of the project activity is still sustained in this crediting period, no update would be required. The baseline emission factor is updated as per the latest version available at the time of PDD 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 what would occur in the absence of the proposed CDM project activity.Applus+ LGAI considers the baseline scenario is realistic and credible.

In regard to requirement of VVS09.0.§§105, Applus+ LGAI is able to confirm the following statements:

(a) All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;

(b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;

(c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence, and can be deemed reasonable;

(d) Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;

(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 project activity. **Step 2.2: Update the data and parameters** The CEA emission factor will be updated ex-post, 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 18.0.0 and IPCC 2006 Guidelines etc.
Findings	**Corrective Action Request No. 3:** 1. Version 10 is thelatest CEA versionavailableatthetime of request of renewal of thecreditingperiod. The PP is requested to clarifywhytheolderversion is used. 2. Location of projectactivitymentioned in page 15 of PDD is inconsistent withthe actual location. In response,the PP has provided revised PDD version 07 dated 29/04/2016 and same was verified by the assessment team as: 1. The PDD is revised as applied version 10 of CEA data base which found to be latest available. Same was checked found to be correct, hence accepted. 2. The PP has corrected the location of project activity on page 15 of the PDD, same was found to be correct, hence accepted. Based on review of the PDD and response provided by the PP, assessment team confirmed that revision in the PDD is appropriate and accordance to requirement, hence CAR#3 is satisfactorily closed.
Conclusion	Applus+ LGAI confirms that there have been no changes in the relevant national and/or sectoral regulations on building a hydropower project for exporting electricity to power grid since the previous crediting period. On the other hand, the baseline scenario for the project remains the same as that *in the registered PDD as "Electricity delivered to MSTCL 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". 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 version 09.0. In line with PS version 09.0§§301, 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.

D.4. Estimated GHG emission reductions or net anthropogenic GHG removals

Means of validation	The calculation of the emissions reductions exactly follow the procedures described in the methodology AMS-I.D., version 18.0.0 and relevant tool, e.g. the "*Tool to calculate the emission factor for an electricity system*". Applus+ LGAI has assessed the calculation of project emissions, baseline emissions, leakage emissions and emission reductions. Corresponding calculations have been carried out based on calculation spreadsheet. The consistency of the parameters and equations presented in PDD, as well as calculation spreadsheet etc., has been compared with the information and requirements presented in the methodology and respective tools. The assumptions and data used to determine the emission reductions are listed in the PDD and all the sources have been checked. Based on the information reviewed it is confirmed that the sources used are correctly quoted and interpreted in the PDD. The values presented in the PDD are considered reasonably based on the documentation and references reviewed and the results of the interviews. The estimation of the emission reductions are considered correct as the calculations have been reproduced by the assessment team with the attainment of the same results. The algorithms for the determination of the baseline, project, and leakage are discussed in the following sections.

The emission reductions are calculated by the difference between baseline emissions (BE_y), project emissions (PE_y) and Leakage (LE_y).

(1) Baseline emissions:

As per the methodology AMS-I.D. version 18.0.0 §§ 22:
"*Baseline emissions include only CO_2 emissions from electricity generation in 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:*

$$BE_y = EG_{PJ,y} * EF_{grid,y}$$

Where:

BE_y	*Baseline Emissions in year y ($t CO_2$)*
$EG_{PJ,y}$	*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)*
$EF_{grid,y}$	*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 CO2/MWh)*

The emission factor has been calculated as per methodology AMS-I.D. Version 18.0.0 §§ 23:

"*The Emission Factor shall be calculated in a transparent and conservative manner as follows:*

(a) A combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the 'Tool to calculate the emission factor for an electricity system'."

The NEWNE regional grid has been correctly identified for the calculation of electricity emission factor, as the project displaces electrical energy from NEWNE grid, as per the CEA database version 10. This CEA database version was published in 16/12/2014 and it was the latest available version at the time of requesting renewal of the crediting period. This has been found to be in compliance with the "Tool to calculate the emission factor for an electricity system" (version 05.0.0), which states that *"If the DNA of the host country has published a delineation of the project electricity system and connected electricity systems, these delineations should be used"*. Thus, the Project Participant has considered the regional grid that is delineated by the Central Electricity Authority of India which was found to be correct and acceptable. The values of OM and BM have been determined ex-ante as per the CEA database version 10 published on16/12/2014, which is published by the Ministry of Power, Government of India.

As per the Tool to calculate the emission factor for an electricity system Version 05.0.0, "*Regional or national average default values* can be used for calculation of CO_2 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 assessment team verified that the parameters are determined ex-ante:

Parameter	***Value***	***Source***	***Means of validation***

$EF_{gridOM, y}$ = Operating Margin Emission Factor for NEWNE grid in year y	0.9861tCO$_2$/MWh	Baseline Carbon Dioxide Emission Database Version 10.0 from the Central Electricity Authority (CEA), Ministry of Power, Government of India.	Verified value against default value listed in CEA database version 10 dated 16/12/2014
$EF_{gridBM, y}$ = Build Margin Emission Factor for NEWNE grid in year y	0.59 tCO_2/MWh	Baseline Carbon Dioxide Emission Database from the Central Electricity Authority (CEA), Ministry of Power, Government of India. The BM for the 3rd crediting period, the buildmargin emission factor calculated for the second crediting period as per registered PDD/1.1/.	Verified value against default value listed in CEA database
$EF_{gridCM.y}$ = Combined Margin Emission Factor for NEWNE Grid in year y	0.6890 tCO_2/MWh	Calculated as the weighted average of the operating margin and build margin. Baseline Carbon Dioxide Emission Database Version 10.0 from the Central Electricity Authority (CEA), Ministry of Power, Government of India and registered PDD/1.1/.	Verified value against calculation provided in the PDD.

As per Step 3 of the 'tool to determine the emission factor of an electricity system', the simple OM emission factor is calculated using the ex-ante option which states that for calculation of OM '*A 3-year generation-weighted average, based on the most recent data available at the time of submission of the CDM-PDD to the DOE for validation, without requirement to monitor and recalculate the emissions factor during the crediting period*'. The value of BM has been identified directly from the CEA database (same as 2nd crediting period). The combined margin emission factor has been arrived at by applying weights of 25% for OM and 75% from BM, as specified in the tool version 04.0, §§ 81 (b) for third crediting period for all other projects i.e. hydro project.

The baseline emissions for the project activity have been calculated as per AMS I.D. Version 18.0.0 §§ 22. The PP has rounded down the value of total baseline emissions in order to be conservative. The baseline emissions for the project activity have been calculated to be 35,042 tCO_2 per year.

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

(2) Project emissions:

AMS-I.D. Version 18.0.0 §§ 39, *for most renewable energy project activities, PEy = 0. However, for the following categories of project activities, project emissions have to be considered following the procedure described in the most recent version of ACM0002.*

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" The project activity is not a biomass project, neither a geothermal application and nor it is a water reservoir based hydro power project. This is a first of its kind small hydro project; therefore no project emissions are applicable to the proposed project activity. However, as per paragraph 40 of AMS-I.D. (version 18), CO_2 emissions from on-site consumption of fossil fuels due to the project activity shall be calculated using the latest version of the "Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion. As there is a small capacity DG set available at the site as backup arrangement during start up or as a failsafe option. Therefore, the emission due to on-site consumption of fossil fuel shall be calculated as per the "Tool to Calculate project or leakage CO_2 emissions from fossil fuel combustion, Version 02" a project emission. Thus, $$PE_{FC,j,y} = \sum_i FC_{i,j,y} \times COEF_{i,y}$$ Where: $PE_{FC, i, y}$ - Are the CO_2 emissions from fossil fuel combustion in process j during $FC_{i, j, y}$ - Is the quantity of fuel type i combusted in process j during the ye unit/yr); $COEF_{i, y}$ - Is the CO_2 emission coefficient of fuel type i in year y (tCO_2/mass or v I - Are the fuel types combusted in process j during the year y The CO_2 emission coefficient $COEF_{i,,y}$ will be calculated based on net calorific value and CO_2 emission factor of fuel type i, as mentioned in option B (equation 4) of 'Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion' (version 2). The project emissions for the project activity have been calculated as per AMS I.D. Version 18.0.0. The PP has considered the value of total project emissions as zero as the value is less than 1% of the total ER. However, the value will be considered in the third crediting period in actual. Applus+ LGAI confirms that all data sources and assumptions are appropriate and calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimate of the emission reductions. **(3) Leakage emission:** Leakage has not been considered for the project activity. In accordance to AMS I.D Version 18.0.0 §§ 22; "*General guidance on leakage in biomass project activities shall be followed to quantify leakages pertaining to the use of biomass residues".* The project activity uses new energy generating equipment which has been verified from the commercial operation certificate and onsite inspection. The guidance on leakage is provided for biomass project only but the project activity is first of its kind small hydro project. Hence, no leakage emission from this project activity has been considered. **(4) Emission reductions:** Based on the calculations and results presented in the sections above the implementation of the project activity will result in an average *ex-ante* estimation of emission reduction conservatively calculated to be 35,042 tCO_2e per year for the selected 7 years crediting period. Total emission reductions during the third crediting period are estimated to be 245,294 tCO_2e. .
Findings	**Corrective Action Request No. 4:** CAR#4 is raised as: 1. The reference Paragraph – para 23 is consistent with the applicable

	methodology in section B.6.1 of the PDD 2. Unit tCO_2e is inconsistent with the methodology. It is mentioned as t CO_2 in themethodology (AMS-ID version 18) 3. Reference equation number in page number 24 of the PDD is not consistent with the applied methodology In response, The PP has provided revised PDD version 07 dated 29/04/2016 and same was verified by the assessment team as: 1. The PDD is revised as reference of paragraph is corrected in section B.6.1 of the PDD. Same was checked found to be correct, hence accepted. 2. The PP has corrected unit in the PDD, same was found to be correct, hence accepted. 3. The PP has corrected reference of the equation on page 24 of the PDD, same was found to be correct, hence accepted. Based on review of the PDD and response provided by the PP, assessment team confirmed that revision in the PDD is appropriate and accordance to requirement, hence CAR#4 is satisfactorily closed. **Corrective Action Request No. 6:** CAR #6 is raised as the PP has not provided spread sheet for calculation of estimated emission reduction. Please provide the same. In response, the PP has provided the spread sheet "ER sheet version 02, dated 29/04/2016" for estimation emission reduction as per revised emission factor, same was checked and found to be correct, hence CAR#6 is closed satisfactorily. **Corrective Action Request No. 10:** The Tool to calculate the emission factor for an electricity system – Version 05.0 requires that the ex-ante operating margin emission factor uses a 3-year generation-weighted average, based on the most recent data available at the time of submission of the CDM-PDD to the DOE for validation. However, the spreadsheet shows that the operating margin emission factor is not generation-weight-averaged; therefore the PP is requested to clarify the same. In response, the PP has submitted the revised ER sheet and PDD; same were reviewed by verification team and found that the PP has recalculated Operating margin emission factor as per weighted averaged generation data. This is found to be correct and the result is consistently applied throughout the PDD and ER sheet. Therefore, the CAR#10 is satisfactorily closed.
Conclusion	Applus+ LGAI 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 PDD/1.7/, 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 PDD, methodology, and tools. This is found to be correct. In general, Applus+ LGAI is able to confirm the following: - All assumptions and data used by the project participants are listed in the PDD and/or supporting documents, including their references and sources; - All documentation used by the project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD; - All values used in the PDD are considered reasonable in the context of the proposed CDM project activity; - The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, and leakage emissions; - All estimates of the baseline, project and leakage emissions can be replicated using the data and parameter values provided in the PDD. Applus+ LGAI confirms that the baseline, the estimated GHG emission reductions

	in the updated PDD version 09 /1.7/ comply with the applicable requirements in the section 7.2.7 PS version09.0, and the valid version of the methodology applicable to the registered CDM project activity.

D.5. Validity of monitoring plan

Means of validation

The assessment team reviewed the updated PDD/1.7/, checked whether the PDD update the monitoring plan section in accordance with all relevant applicable requirements in the PS; whether the PDD 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. As validated, the selected monitoring methodology is applicable for the project activity as it involves grid-connected renewable power generation using hydropower.

Following parameters will be monitored ex-post:

Parameters	Description	Measurement method and QA/QC procedures	Assessment conclusion
Electricity Exported (EG_y)	Electricity Exported to the grid by the project activity	The measurement at 132 KV side for supply to MSETCL grid gives the Energy supply reading. The units exported will be measured at the interconnection point. Monthly joint meter reading (JMR) of main and check meters installed at the substation shall be taken and signed by authorised officials of DLHPPL, MSEDCL, MSETCL and GOMWRD generally once every month. Joint meter reading of the main meter shall be the basis for monthly invoice of energy exported to the grid. Records of the joint meter reading of energy exported to the grid shall be maintained by DLHPPL, MSEDCL, MSETCL and GOMWRD. Daily and monthly reports stating the power export shall be prepared by the shift in charge and verified by the plant manager of DLHPPL.For measuring the energy exported to the grid, one main meter and one check meter are maintained. Joint meter reading of the main meter is the basis of billing and emission reduction calculations, so long as the meter is	Consistent with methodology/tool

		found to be within prescribed limits of accuracy during the periodic check. Monthly joint meter reading of main and check meters are taken and signed by authorised officials of DLHPPL, MSEDCL, MSETCL and GOMWRD generally once every month. Records of this joint meter reading are maintained by DLHPPL, MSEDCL, MSETCL and GOMWRD. The Main Energy Meter and Check Energy Meters accuracy is 0.2s. The Meters are checked for accuracy and calibration by the MSETCL as per the provisions in the power purchase agreement (PPA) prevailing at the time of respective accuracy check or calibration. As per the current PPA, the meters are checked for accuracy every six months and the calibration is done once in a year.	
Electricity Imported (E_{Import})	Electricity Imported from the grid by the project activity	The energy is imported at 33KV feeder and a separate independent energy meter is installed by MSEDCL to measure the units imported by DLHPPL. The units imported are recorded monthly and bills are issued by MSEDCL Bills of MSEDCL shall be the source of data for electricity imported. This data will be used to estimate the emissions due to the electricity imported from the grid and it will be considered as part of project emissions when on a monthly basis the electricity imported is equal to or more than 0.5 % of the electricity exported. Import meter is under the custody of MSEDCL, and DLHPPL has no access to meter and therefore the calibration details pertaining to the	Consistent with methodology/tool

		same. Hence calibration records are not maintained by DLHPPL for the import meter. The Import meter Energy Meter accuracy is 0.5s.	
Gross Electricity Generation (E_{Gen})	Gross electricity generated by the project activity	The generation meter measures the units generated. The Monthly joint meter reading (JMR) of the generation meter shall be taken and signed by authorized officials of DLHPPL, MSEDCL, MSETCL and GOMWRD generally once every month. Records of the joint meter reading of energy generated shall be maintained by DLHPPL, MSEDCL, MSETCL and GOMWRD. Daily and monthly reports stating the power generated shall also be prepared by the shift in-charge and verified by the plant manager of DLHPPL which shall be used to cross check the generation. The generation is measured in plant premises at generator terminals and is monitored and recorded continuously through PLC. The Gross Main Energy Meter accuracy is 0.2s. The data will be directly measured and monitored at the project site. The meters installed at the generator end shall be checked for accuracy for every six months and the calibration is done once in a year. If the accuracy of meter is found to be beyond permissible limit even after calibration then the meter shall be replaced with spare tested, calibrated meter.	Consistent with methodology/tool
Auxiliary Consumption	Unit consumed by the project activity	The difference between the gross electricity generation (EGen) and electricity exported to the grid (EGy) as per the JMR gives the total Auxiliary Consumption in the plant. This Auxiliary consumption includes	Consistent with methodology/tool

		losses in Generator step up transformer, in cables and in excitation system, which are not actually measured. Besides these other auxiliary consumption are measured at Unit Auxiliary Board. The data is calculated using the gross electricity generation and electricity exported as per the JMRs.	
NCV diesel	Net calorific value of diesel used on standby DG set	Regional or National default values Calorific value will be sourced from the central electricity database once in a year	Consistent with methodology/tool
Diesel Consumption (DCy)	Diesel consumption by the standby DG set	The diesel quantity available in the diesel storage tanks is recorded daily by DLHPPL in the plant log book. The diesel consumption would be recorded in the logbook in litres. However, based on the density of diesel of about 0.88kg/litre, the diesel consumption in tons would be calculated for use in the equation to compute project emissions (PE) as per section B.6.3 of the PDD. The measured data will be cross checked with diesel procurement	Consistent with methodology/tool
Hourly Electricity Export (HEE_{main_meter})	Hourly electricity exported to the grid by the project activity as recorded at the main meter and check meter. This parameter is relevant to conditions/circumstances (those days) where the dates of Joint Meter Readings (JMRs) pertaining to the project activity do not match the individual verification periods.	Hourly electricity exported to the grid by the project activity as recorded at the main meter and check meter. This parameter is relevant to conditions/circumstances (those days) where the dates of Joint Meter Readings (JMRs) pertaining to the project activity do not match the individual verification periods. For measuring the hourly energy exported to the grid, one main meter and one check meter are maintained. The hourly meter reading of the main meter is the basis of emission reduction calculations, so long as the meter is found to be within prescribed limits of	Consistent with methodology/tool

			accuracy during the periodic check. Hourly meter reading of the check meters would be used for cross checking. The meters are checked for accuracy and calibration by the MSETCL as per the provisions in the power purchase agreement (PPA) prevailing at the time of respective accuracy check or calibration. As per the current PPA, the meters are checked for accuracy every six months and the calibration is done once in a year	

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 with PP through on-site inspection and interview with the PP.Assessment team confirmed during site visit discussion that project is not involve any sampling plan in monitoring of project activity parameters ,hence section B.7.2 is not applicable for this project activity.

Implementation of themonitoringplan:

An organizational structure is provided in PDD/1.7/. The functions such as data collection, aggregation, verification, calculation, archiving, as well as the maintenance of equipments 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 PDD when the meter is in malfunction. Data management and quality control system are quoted in PDD/1.7/. The monitoring staffs will be trained based on the training program described in PDD/1.7/.

The procedures described in PDD/1.7/ have been recognized by the assessment team through document review and interviews with the relevant personnel. The information together with a physical inspection allows the assessment team to confirm that the proposed monitoring plan is feasible within the project design. It was verified the current monitoring scenario by the assessment team during site visit that the electricity is generated and supplied to the grid. For measuring the net energy supplied to the grid, one main meter and one check meter is connected. This scenario of monitoring systems will be valid throughout the 3rd crediting period.

The major parameters to be monitored have been discussed with the PP, especially regarding the location of the meters, the data management and in general the quality assurance and quality control procedures to be implemented in the context of the project.

Findings

Corrective Action Request No. 5:
CAR#5 is raised as the parameter ID "EF" in section B.6.2.is not consistent with the one mentioned in section B.4 of the PDD.
In response, the PP has submitted the updated PDD version 07 dated 29/04/2016, same was checked and found that parameter ID for "EF" is now corrected appropriately; hence CAR#5 is closed satisfactorily.

Corrective Action Request No. 7:
As per Instructions for filling out the project design document form for small-scale CDM project activities version 06; CAR#7 is raised requesting the PP to provide accuracy class of the measurement instrument for all monitoring parameter.
In response, the PP has provided the revised PDD version 07 dated 29/04/2016 ,

	same was verified that the PP has provided accuracy class of all energy meter involve in monitoring , same was verified during site visit and found to be correct, hence accepted. Therefore, CAR#7 is closed satisfactorily.
Conclusion	Applus+ LGAI confirms that the monitoring plan contains all necessary parameters which have been clearly described in PDD/1.7/ and that the means of monitoring described in the plan complies with the requirements of the methodology. In conclusion, based on document review, onsite inspection and stakeholder interview, together based on local and sectoral expertise, Applus+ LGAI confirms that: 1. The monitoring plan of the PDD version 09/1.7/ is in compliance with the requirements of the methodology AMS-I.D version 18.0. 2. Monitoring arrangements described in the monitoring plan of the PDD version 07 are feasible within the project design. 3. The PP's ability to implement the monitoring plan can be guaranteed. The monitoring plan of the PDD version 09/1.7/ is complied with the registered PDD. Applus+ LGAI's opinion that the project participants are able to implement the monitoring plan and the emission reductions achieved can be reported ex-post for verification.

D.6. Crediting period

Means of validation	The assessment team checked whether the updated PDD/1.7/ 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 second renewal crediting period (for 7 years) was from 27/07/2008 - 26/07/2015; the PP are applying for a 3rd renewal crediting period, which is 7 years (27/07/2015 - 26/07/2022).The project participant notified the EB Secretariat on 24/01/2015 regarding the renewal of the crediting period/3.3/ and selected DOE, which is within 270 to 180 days prior to the date of expiration (i.e. 26/07/2015) of the current crediting period.
Findings	No non-conformability was observed during assessment for validation of crediting period. Therefore, no finding was raised.
Conclusion	Applus+ LGAI confirmed that the notification regarding to the request for renewal of crediting period of the project meets the requirements of PCP and the next crediting period of the registered CDM project activity commences on the day immediately after the expiration of the current crediting period. Therefore, CDM requirements stipulated under VVS Version 09.0 §§445(a)-(v) is satisfied completely.

D.7. Project participants

Means of validation	The assessment team checked whether the names of the project participants included in the updated PDD/1.7/ are consistent with the names of the project participants in the registered PDD by means of desk review and interview at site visit. The project participants in registered PDD are Dodson Lindblom Hydro Power Private Limited and IFC-Netherlands Carbon Facility (INCaF). The project participants in updated PDD version 09 /1.7/ are Dodson Lindblom Hydro Power Private Limited and Statkraft Markets GmbH. The name of PP (Statkraft Markets GmbH) added was validated from MoC Annex 2 valid as of 28/12/2015 which available at project views at UNFCCC web site/3.7/. This is found to be appropriate and accepted.
Findings	No non-conformability was observed during assessment of details of Project Participant. Therefore, no finding was raised.
Conclusion	Applus+ LGAI confirmed that the project participants in the updated PDD version 09/1.7/ are consistent with the actual situation. Therefore, CDM requirements stipulated under VVS Version 09.0 §§439 is satisfied completely.

D.8. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan,	N	N/A	N/A

monitoring methodology or standardized baseline			
Corrections	N	N/A	N/A
Inclusion of a monitoring plan to a registered project activity	N	N/A	N/A
Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline	N	N/A	N/A
Changes to the project design of a registered project activity	N	N/A	N/A
Types of changes specific to afforestation and reforestation project activities	N	N/A	N/A

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

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Applus+ LGAI has performed a validation of renewal of crediting period of the "12 MW hydropower plant in Bhandardara in Maharashtra, India." (Ref. No.0430). The validation was performed on the basis of the updated sections of the PDD relating to the baseline, estimated emission reductions and the monitoring plan using the most recent version of baseline and monitoring methodology applicable for the project activity. The final validation opinion was finalized in accordance with the CDM VVS version 09.0 and the CDM PS version 09.0 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 Applus+ LGAI 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 18.0.0.

Given that the project is implemented as designed and the underlying assumptions do not change, the project is likely to achieve the estimated amount of annual emission reductions of 35,042 tCO_2e and a total estimated emission reductions of 245,294 tCO_2e over the 3rd renewal crediting period as specified within the final PDD/1.7/.

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 Applus+ LGAI's opinion that the project participants are able to implement the monitoring plan and the emission reductions achieved can be reported ex-post for verification.

In summary, it is Applus+ LGAI's opinion that the project activity "12 MW hydropower plant in Bhandardara in Maharashtra, India" (Ref. No. 0430) inIndia, as described in the PDD, version 09 dated 16/07/2016, meets all relevant UNFCCC requirements for the renewal of the crediting period. Hence, Applus+ LGAI submitted the request for renewal of the crediting period of the project activity.

Signature:

Assessment Team Leader: Vivek Kumar Ahirwar	Technical Reviewer Simon Shen
DOE Representative: Miquel Sitjes Cabanas (CDM Technical Manager)	DOE Representative: Natalia Rodrigo Vega (CDM Project Activity Manager Manager)
B.U. Systems Certification Area Manager: Juan Sendín Caballero	

Appendix 1. Abbreviations

Abbreviations	Full texts
AMS	Approved Methodology Small Scale
Applus+ LGAI	LGAI Technological Center, S.A. (Applus)
BE	Baseline Emission
BM	Build Margin
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CEA	Central Electricity Board
CER	Certified Emission Reduction
CL	Clarification Request
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DLHPPL	Dodson Lindblom Hydro Power Private Limited
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GCEES	Green Carbon Energy and Environment Services
GHG	Greenhouse Gas(es)
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
IRR	Internal Rate of Return
KP	Kyoto Protocol
kWh	Kilo Watt hour
MP	Monitoring Plan
MSTCL	Maharashtra State Transmission Company Ltd
MWh	Mega Watt hour
MoEF	Ministry of Environment and Forests
NEWNE	North East West North-East
OM	Operational Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PPA	Power Purchase Agreement
PS	Project Standard
UNFCCC	United Nations Framework Convention for Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ LGAI has composed a project validation team in accordance with the appointment rules in Applus+ LGAI. The composition of assessment team has to be approved by the Applus+ LGAI ensuring that the required skills are covered by the team. The four qualification levels for team members that are assigned by formal appointment rules as below:

- Leader Auditor (LA)
- Auditor (A)
- Auditor Trainee (T)
- Technical Experts (E)

It is required that the sectoral scope / technical area related to the methodology has to be covered by the assessment team.

Name	Qualification	Coverage ofscope	Coverage of technical Area	Financial aspect	Host country Experience	Attendance to the On-Site Assessment
Vivek Kumar Ahirwar	LA/E	Yes (1)	Yes (1.2)	Yes	Yes	Yes
AshishBharti	A in T	In training (A in T)	A in T	A in T	A in T	A in T
Meng (Simon) Shen	TR	Yes (1)	Yes (1.2)	Yes	Yes	-
Natalia Rodrigo Vega	TR in T	In Training (TR in T)	TR in T	TR in T	TR in T	-

The curricula vitae of the DOE's validation team members are provided below:

Vivek Kumar Ahirwar is a BEE-Certified Energy Auditor by Govt of India with over eight years of relevant experience in energy efficiency, energy audit, thermal and electrical energy generation technology from renewable source and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects in different states across the India. He has done Mater in Technology (Energy Management) from a premier institute, School of Energy & Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from Govt. Engineering college, Rewa, RGPV, India.

AshishBhartiis Auditor in training with GCEES. He is Bachelor of Technology (Production Engineering) from a premier institute, Haldia Institute of Technolgy, West Bengal, India. He has both theoretical and practical knowledge of CDM project activity and its assessment.

Meng (Simon) Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Verifier and ISO 9001/14001 Lead Auditor for 3.5 years.

Ms. Natalia Rodrigo Vega has a Bachelor's Degree on Environmental Engineering and Master´s Degree on Environmental and Quality Management System (under ISO 9001 and 14001).
She Works in Applus Environmental and Quality Management Systems Department since March 2012, being specially involved on technical support tasks related to CDM-VCS and GS Standards, among others (i.e GHG verification and ProyectoClima)

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	**Basic Documents (Monitoring Report, Project Design Documents, Previous Verification Reports)**			
1.1	DLHPPL	PDD for second crediting period , version 05	05/08/2010	PP
1.2	DLHPPL	PDD, version 6.0 (sent to the UNFCCC secretariat for notifying the intention to request a renewal of crediting period of the Project)	22/07/2015	PP
	DLHPPL	PDD, version 6.1	22/01/2015	PP
1.3	DLHPPL	PDD, version 7.0	29/04/2016	PP
1.4	UNFCCC website	CDM Project activity view page "12 MW hydropower plant in Bhandardara in Maharashtra, India" http://cdm.unfccc.int/Projects/DB/BVQI1155728784.01/view	17/08/2008	Other: UNFCCC
1.5	BVC	Validation report of "12 MW hydropower plant in Bhandardara in Maharashtra, India"	Year 2010	Other: UNFCCC
1.6	DLHPPL	PDD, version 8.0	11/05/2016	PP
1.7	DLHPPL	PDD, version 9.0 (for renewal of crediting period of the Project)	16/07/2016	PP
2.	**References and requirements at UNFCCC/IPCC/etc.**			
2.1	UNFCCC website	VVS, Version 09.0	20/02/2015	Other: UNFCCC
2.2	UNFCCC website	PS, Version 09.0	20/02/2015	Other: UNFCCC
2.3	UNFCCC website	AMS-I.D. (version 18.0.0): "Grid connected renewable electricity generation"	28/11/ 2014	Other: UNFCCC
2.4	UNFCCC website	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	02/03/2012	Other: UNFCCC
2.5	UNFCCC website	Tool to calculate the emission factor for an electricity system (Version 04)	04/10/2013	Other: UNFCCC
2.6	IPCC	IPCC Guidelines Vol. 2	Year 2006	Other: IPCC
2.7	UNFCCC website	Project design document form for small-scale CDM project activities, version 07.0	15/04/2016	Other: UNFCCC
3.	**Project implementation information**			
3.1	MSETCL	Commissioning Certificate for the project activity by MSETCL for synchronisation to grid as First JMR of project activity	27/07/2011	Other: MSETCL
3.2	MSEB	Power Purchase Agreements (PPA) for the project activity between DLHPPL and MSEB AND Irrigation department, Government of Maharashtra	21/01/1999	PP
3.3	DLHPPL	Email sent to the UNFCCC secretariat for notifying the intention to request a renewal of crediting period of the Project	24/01/2015	PP
3.4	DLHPPL	Email response from UNFCCC of notification about request a renewal of crediting period of the Project	26/01/2015	PP
3.5	DLHPPL	CDM Verification Site Visit Photograph	24/09/2015	PP
3.6	DLHPPL	CDM Verification Site Visit Attendance Records	24/09/2015	PP
3.7	UNFCCC website	MoC Annex 2 (Add Project Participant) as Name of the PP as Statkraft Markets GmbH added.	28/12/2015	Other: UNFCCC
4.	**ER calculation and cross checking issue**			
4.1	DLHPPL	Emission reduction calculation sheet version 01	22/01/2015	PP

4.2	DLHPPL	Emission reduction calculation sheet version 02	29/04/2016	PP
4.3	DLHPPL	Emission reduction calculation sheet version 03	16/07/2016	PP
5.	**Others**			
5.1	CEA	CEA database version 10 available at http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf	16/12/2014	Other: CEA

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

Table 1. CL from this validation

CL ID	01	**Section no.**	D.1	**Date:**01/03/2016
Description of CL				
The Project Participant requested to submit some supporting evidence which confirm that the notification has been sent to secretariat of their intention in accordance with the Project cycle procedure.				
Project participant response				**Date:**29/04/2016
E-mail evidence has been submitted to DOE as supporting evidence for said notification.				
Documentation provided by project participant				
E-mails – dated 24/01/2015 and dated 26/01/2015				
DOE assessment				**Date:**02/05/2016
The PP has submitted two e-mails dated 24/01/2015 and dated 26/01/2015 which confirms that the intimation was sent to CDM Registration and Issuance Team of UNFCCC on 24/01/2015 and the PP has received acceptance confirmation email/3.4/ on26/01/2015 from UNFCCC secretariat for the same. The same has been verified by validation assessment team and found to be correct and accepted accordance to CDM PCP version 09.0§§443. Hence, CL#1 was closed satisfactorily.				

Table 2. CAR from this validation

CAR ID	01	**Section no.**	D.1	**Date:**01/03/2016
Description of CAR				
1. As per Instructions for fillingouttheprojectdesign document form for small-scale CDM projectactivitiesversion 06; followinginformationareneeded to provided in section A.1 of the PDD: A) Briefdescription of thebaselinescenario, as identified in section B.4 below. B) Providetheestimate of annualaverageand total GHG emissionreductions for thechosencreditingperiod C) Confirmthattheproposed CDM projectactivity is not a CPA that has beenexcludedfrom a registered CDM PoA as a result of erroneousinclusion of CPAs 2. It is recommended as per Instructions for fillingouttheprojectdesign document form for small-scale CDM projectactivitiesversion 06-" Do notexceedonepage for thedescription of location." 3. According to PDD of previouscreditingperiodthereare two Parties involved in thisproject. The PP is requested to clarifywhythere is onlyonementioned in section A.4 of the PDD. 4. The PP is requested to referencethelatestavailableversion of theprojectstandard in section A.6 of the PDD				
Project participant response				**Date:**29/04/2016
1. PDD is revised as a. Brief description of the baseline scenario included. b. estimate of annual average and total GHG emission reductions included c. CDM project activity is not a CPA, it can be confirm from UNFCCC project view page. 2. PDD section A.2.4 is modified and limited to one. 3. PDD section A.4 included missing project participant. 4. Latest version of project standard used throughout the PDD.				
Documentation provided by project participant				
PDD version 07 dated 29/04/2016				
DOE assessment				**Date:**02/05/2016

The PP has provided revised PDD version 07 dated 29/04/2016 and same was verified by the assessment team as:

1. The PDD is revised as included the brief description of the baseline scenario included and also included about estimate of annual average and total GHG emission reductions and confirm that the CDM project activity is not a CPA, it can be confirm from UNFCCC project view page. Same was checked found to be correct, hence accepted.
2. The PP has corrected the section A.2.4 as it is now limited to one page, same was found to be correct, hence accepted.
3. The PP as included missing project participant name in section A.4 of revised PDD, same is found to be correct, hence accepted.
4. The PP has applied the latest version of project standard used throughout the PDD. Same is found to be correct, hence accepted.

Based on review of the PDD and response provided by the PP, assessment team confirmed that revision in the PDD is appropriate and accordance to requirement, hence CAR#1 is satisfactorily closed.

CAR ID	02	**Section no.**	D.2	**Date:**01/03/2016

Description of CAR

1. As per Instructions for fillingoutthe projectdesign document form for small-scale CDM projectactivitiesversion 06; the PP has to "Present a flowdiagram of theprojectboundary, physicallydelineatingtheprojectactivity, based on thedescriptionprovided in section A.3 above. Include in theflowdiagramtheequipment, systemsandflows of massandenergydescribed in thatsection. In particular, indicate in thediagramtheemissionsourcesandGHGsincluded in theprojectboundaryandthe data andparameters to be monitored." In section B.3 of the PDD.
2. The paragraph number referenced for section B.3 of the PDD is inconsistent with the methodology.

Project participant response **Date:**29/04/2016

1. Project boundary diagram included in section B.3.
2. Paragraph reference number is corrected now.

Documentation provided by project participant

PDD version 07 dated 29/04/2016

DOE assessment **Date:**02/05/2016

The PP has provided revised PDD version 07 dated 29/04/2016 and same was verified by the assessment team as:

1. The PDD is revised as included the Project boundary diagram in section B.3 of the PDD. Same was checked found to be correct, hence accepted.
2. The PP has corrected the section B.3 as reference number is corrected now, same was found to be correct, hence accepted.

Based on review of the PDD and response provided by the PP, assessment team confirmed that revision in the PDD is appropriate and accordance to requirement, hence CAR#2 is satisfactorily closed.

CAR ID	03	**Section no.**	D.3	**Date:**01/03/2016

Description of CAR

1. Version 10 is thelatest CEA versionavailableatthetime of request of renewal of thecreditingperiod. The PP is requested to clarifywhytheolderversion is used.
2. Location of projectactivitymentioned in page 15 of PDD is inconsistent withthe actual location.

Project participant response **Date:**29/04/2016

1. Latest version 10 of CEA data base is applied now.
2. Location of project activity is corrected on page 15 of the PDD.

Documentation provided by project participant

PDD version 07 dated 29/04/2016

DOE assessment **Date:**02/05/2016

The PP has provided revised PDD version 07 dated 29/04/2016 and same was verified by the assessment team as:

1. The PDD is revised as applied version 10 of CEA data base which found to be latest available. Same was checked found to be correct, hence accepted.
2. The PP has corrected the location of project activity on page 15 of the PDD, same was found to be correct, hence accepted.

Based on review of the PDD and response provided by the PP, assessment team confirmed that revision in the PDD is appropriate and accordance to requirement, hence CAR#3 is satisfactorily closed.

CAR ID	04	**Section no.**	D.4	**Date:**01/03/2016

Description of CAR

1. ThereferenceParagraph – para 23 is consistent withtheapplicablemethodologyin section B.6.1 of the PDD
2. Unit tCO_{2e} is inconsistent with the methodology. It is mentioned as t CO2 in themethodology (AMS-ID version 18)
3. Referenceequationnumber in pagenumber 24 of the PDD is not consistent withtheappliedmethodology

Project participant response **Date:**29/04/2016

1. The reference of paragraph now corrected in section B.6.1 of the PDD
2. Unit is also corrected in the PDD
3. Reference of equation is not corrected on page 24.

Documentation provided by project participant

PDD version 07 dated 29/04/2016

DOE assessment **Date:**02/05/2016

The PP has provided revised PDD version 07 dated 29/04/2016 and same was verified by the assessment team as:

1. The PDD is revised as reference of paragraph is corrected in section B.6.1 of the PDD. Same was checked found to be correct, hence accepted.
2. The PP has corrected unit in the PDD, same was found to be correct, hence accepted.
3. The PP has corrected reference of the equation on page 24 of the PDD, same was found to be correct, hence accepted.

Based on review of the PDD and response provided by the PP, assessment team confirmed that revision in the PDD is appropriate and accordance to requirement, hence CAR#4 is satisfactorily closed.

CAR ID	05	**Section no.**	D.5	**Date:**01/03/2016

Description of CAR

The parameter ID “EF” in section B.6.2. is not consistent with the one mentioned in section B.4 of the PDD.

Project participant response **Date:**29/04/2016

The parameter ID is corrected now in the PDD

Documentation provided by project participant

PDD version 07 dated 29/04/2016

DOE assessment **Date:**02/05/2016

The PP has submitted the updated PDD version 07 dated 29/04/2016, same was checked and found that parameter ID for “EF” is now corrected appropriately; hence CAR#5 is closed satisfactorily.

CAR ID	06	**Section no.**	D.4	**Date:**01/03/2016

Description of CAR

The PP has not provided spread sheet for calculation of estimated emission reduction. Please provide the same.

Project participant response **Date:**29/04/2016

The separate spread sheet for calculation of emission reduction is provided now.

Documentation provided by project participant

ER sheet version 02 dated 29/04/2016

DOE assessment	Date:02/05/2016
The PP has provided the spread sheet “ER sheet version 02, dated 29/04/2016” for estimation emission reduction as per revised emission factor, same was checked and found to be correct, hence CAR#6 is closed satisfactorily.	

CAR ID	07	Section no.	D.5	Date:01/03/2016
Description of CAR				
As per Instructions for filling out the project design document form for small-scale CDM project activities version 06; the PP is requested to provide accuracy class of the measurement instrument for all monitoring parameter.				
Project participant response				**Date:**29/04/2016
The accuracy class of each meter is provided in the PDD.				
Documentation provided by project participant				
PDD version 07 dated 29/04/2016				
DOE assessment				**Date:**02/05/2016
The PP has provided the revised PDD version 07 dated 29/04/2016 , same was verified that the PP has provided accuracy class of all energy meter involve in monitoring , same was verified during site visit and found to be correct, hence accepted. Therefore, CAR#7 is closed satisfactorily.				

CAR ID	08	Section no.	D.1	Date:10/05/2016
Description of CAR				
The PP is requested to update PDD as per latest template version 07 available on UNFCCC web site.				
Project participant response				**Date**: 11/05/2016
The PDD is updated as per latest PDD template.				
Documentation provided by project participant				
Renewal PDD version 08				
DOE assessment				**Date:** 11/05/2016
The PP has submitted the revised PDD version 08 dated 11/05/2016, the same was checked by assessment team and found the PDD is updated on latest PDD template version 07 as available on UNFCCC web site. Hence , CAR#8 is closed satisfactorily.				

CAR ID	09	Section no.	D.2	Date:11/07/2016
Description of CAR				
The PP is requested to explain: (c) How the project activity is in line with the definition of the green-field power plant (Point 3 of Meth applicability criteria on page 12 of PDD) and not in line with the definition of the rehabilitation project as per the paragraph 16 of the applied methodology; (d) As the project supplies electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling (PDD page 12), the identified consumer and whether there is a contractual agreement with this consumer.				
Project participant response				**Date**: 16/07/2016

PP response:

(a) This project activity is a green field project. BH-1 plant of capacity 12 MW was newly constructed in the project location. Hence the project activity is applicable to the point (a), i.e. install a Green Field plant.

The description in the point 3 of the Meth applicability Criteria on page 11 of the PDD has been revised suitably.

(b) The project activity is a renewable energy generation unit based on hydro source. The generated energy is supplied to Maharashtra State Transmission Company Ltd (MSTCL) grid, which is a regional grid, part of NEWNE grid of India which is dominated by fossil fuel based power generating sources. The project activity, therefore meets the applicability requirement (a) of the point 1 in the Meth applicability creiteria in page 11 of the PDD, i.e. 'supplying electricity to a national or a regional grid'.

The relevant section in the PDD has been revised appropriately. The revised version of the PDD (version 9) is being submitted to DOE.

Documentation provided by project participant	
Revised PDD, dated 16/07/2016 (version 09)	
DOE assessment	**Date:** 24/07/2016

The PP has provided corrected PDD and ER sheet and following information have been verified by the verification team:

(a) The PP has explained that the project activity is a green field project. The BH-1 plant of capacity 12 MW was newly constructed in the project location as same was verified during site visit. Hence the project activity is applicable to the point (a), i.e. install a Green Field plant. The PP has corrected the description in the point 3 of the Meth applicability Criteria on page 11 of the PDD, same was found to be appropriate, hence accepted.

(b) The PP has clarified that the project activity is a renewable energy generation unit based on hydro source. The generated energy is supplied to Maharashtra State Transmission Company Ltd (MSTCL) grid, which is a regional grid, part of NEWNE grid of India which is dominated by fossil fuel based power generating sources. The project activity, therefore meets the applicability requirement (a) of the point 1 in the Meth applicability criteria in page 11 of the PDD, i.e. 'supplying electricity to a national or a regional grid'. Therefore, the PP corrected the PDD accordingly and same was found to be appropriate, hence accepted.

Based on review of above response and revised document, verification team concluded that PDD and ER is correctly modified and hence the CAR#9 is satisfactorily closed.

CAR ID	10	**Section no.**	D.4	**Date:**11/07/2016
Description of CAR				
The Tool to calculate the emission factor for an electricity system – Version 05.0 requires that the ex-ante operating margin emission factor uses a 3-year generation-weighted average, based on the most recent data available at the time of submission of the CDM-PDD to the DOE for validation. However, the spreadsheet shows that the operating margin emission factor is not generation-weight-averaged.				
Project participant response				**Date**: 16/07/2016
The operating margin emission factor has been recalculated as weighted averaged generation data. The ER spreadsheet has been revised appropriately. The revised ER sheet is submitted to DOE for further verification and acceptance. Also the relevant sections in the PDD have been revised to address the changes.				
Documentation provided by project participant				
ER sheet, version 3, dated 16/07/2016 Revised PDD, version 9, dated 16/07/2016				
DOE assessment				**Date:** 24/07/2016

The PP has submitted the revised ER sheet and PDD; same were reviewed by verification team and found that the PP is recalculated Operating margin emission factor as per weighted averaged generation data. This is found to be correct and the result is consistently applied throughout the PDD and ER sheet. Therefore, the CAR#10 is satisfactorily closed.

Table 3. FAR from this validation

FAR ID	N/A	**Section no.**	N/A	**Date:** N/A
Description of FAR				
N/A				
Project participant response				**Date:** N/A
N/A				
Documentation provided by project participant				
N/A				
DOE assessment				**Date:** N/A
N/A				

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Document information

Version	*Date*	*Description*
01.0	23March 2015	Initial publication.

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