

# **VALIDATION OPINION of Renewal of Crediting Period**

**2.2 MW hydropower plant in Birsinghpur,  
Madhya Pradesh of Ascent Hydro Projects  
Limited (AHPL).**

**Report No: A+SH\_SYST\_04014**

**Client: Ascent Hydro Projects Ltd (AHPL)**

**DATE (14/01/2015)**

Reference No.	Date of first issue	Version No.	Date of this version
A+SH_SYST_04014	30/11/2014	01.2	14/01/2015
Project Title / Ref. No.	2.2 MW hydropower plant in Birsinghpur, Madhya Pradesh of Ascent Hydro Projects Limited (AHPL)./ 1280		
Client	Ascent Hydro Projects Ltd (AHPL)		
Project Participants	Ascent Hydro Projects Ltd (AHPL)		
Project Location	Khasra numbers 409, 410/1, 415/2 and 414/2 of the Mangthar village, Pali Taluk, Umaria District, Madhya Pradesh		
Operational Unit	2.2 MW small hydroelectric project at Birsinghpur in Madhya Pradesh of Ascent Hydro Projects Limited (AHPL)		
Applied Methodology / Version: AMS I.D., version 18.0.0		Sectoral scope: 1 Technical area: 1.2	
Registered PDD Version :03 Registration Date: 25/11/2007 Revised PDD Version: 04 Approval date: 31/05/2011		First PDD Version: 05 Date of Issuance: 27/10/2014 Final PDD Version: 06.2 Date of Issuance: 10/01/2015	
Previous Crediting Period (1 <sup>st</sup> ): 25/11/2007 - 24/11/2014		Renewed Crediting Period (2 <sup>nd</sup> ): 25/11/2014 - 24/11/2021  (Or the date of acceptance of the renewal crediting period by UNFCCC, whichever is later.)	
Estimated Annual ERs in 1 <sup>st</sup> Crediting Period:		13,582 tCO <sub>2</sub> e	
Estimated Annual ERs in 2 <sup>nd</sup> Crediting Period:		14,255 tCO <sub>2</sub> e	
<b>Summary:</b> Applus+ LGAI has been commissioned by Ascent Hydro Projects Ltd (AHPL) to perform a validation of the renewal of crediting period of "2.2 MW hydropower plant in Birsinghpur, Madhya Pradesh of Ascent Hydro Projects Limited (AHPL)." (Ref. No. 1280) in India. The scope of the validation of the renewal of crediting period is defined as an independent and objective review 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 validation opinion is finalized based on the assessment of the project design document through applying standard auditing techniques including but not limited to document reviews, follow up actions (e.g. site visit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations. The report and the annexed validation checklist describes a total of 11 findings which include: <ul style="list-style-type: none"><li>• 10 Corrective Action Requests (CARs);</li><li>• 1 Clarification Requests (CLs);</li><li>• 0 Forward Action Requests (FARs).</li></ul> The PP has responded these findings by modifying the project design, rectifying the PDD and providing adequate additional explanations and evidences. Applus+ LGAI confirms that all the findings have been "closed out" before submitting the request for renewal of crediting period. In summary, it is Applus+ LGAI's opinion that the project activity "2.2 MW hydropower plant in			

Birsinghpur, Madhya Pradesh of Ascent Hydro Projects Limited (AHPL)." (Ref. No. 1280) in India, as described in the PDD, version 06.2 dated 10/01/2015, 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.

Validation Team	Roles	Organization
Vivek Kumar Ahirwar	Lead Auditor/Team Leader	Applus+ External Auditor, India
Ajay Singh Thakur	Auditor	Applus+ External Auditor, India

## ABBREVIATIONS

ACM	Approved Consolidated Methodology
AHPL	Ascent Hydro Projects Limited
AM	Approved Methodology
AMS	Approved Methodology Small Scale
Applus+ LGAI	LGA Technological Center, S.A. (Applus)
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive 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
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Greenhouse Gas(es)
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
IRR	Internal Rate of Return
KP	Kyoto Protocol
MP	Monitoring Plan
MPPGCL	Madhya Pradesh Power Generating Company Limited
MPPTCL	Madhya Pradesh Power Transmission Company Limited
MPSEB	Madhya Pradesh State Electricity Board
MoEF	Ministry of Environment and Forests
NGO	Non Governmental Organization
OM	Operational Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PPA	Power Purchase Agreement
PS	Project Standard
SGTPS	Sanjay Gandhi Thermal Power Station

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UNFCCC	United Nations Framework Convention for Climate Change
VVS	Validation and Verification Standard

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## **1.- INTRODUCTION**

Applus+ LGAI has been commissioned by Ascent Hydro Projects Ltd (AHPL) to perform a validation of renewal of crediting period of the "2.2 MW hydropower plant in Birsinghpur, Madhya Pradesh of Ascent Hydro Projects Limited (AHPL)." in India (Ref. No. 1280, hereafter referred to as "the project activity").

The assessment was performed in accordance with the CDM VVS version 07.0 and the CDM PS version 07.0 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.

In an E-mail sent on 29/04/2014 /1.6/ 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 07.0.

However, the PP has not appointed any DOE at that time (i.e. first e-mail sent on 29/04/2014 /1.6/); hence the PP has not provided any reference of DOE and the updated PDD along with this intimation. So, the notification of intention to renew a crediting period cannot be considered complete unless both the PDD and validating DOE information have been submitted by the project focal point(s).

Therefore, the PP has re-intimated to UNFCCC on 18/12/2014 /1.10/ by submitting an updated PDD and confirmation of DOE, and on 05/01/2015 /1.11/. In response to this mail ; the PP has received acceptance confirmation from UNFCCC for the same; which has been verified by validation assessment team and found to be correct and accepted accordance to para 262 of the CDM PCP version 07.0.

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.

## 2.- METHODOLOGY

The project assessment is based on the CDM VVS version 07.0 and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the CDM project activity are appointed.

The assessment was carried out following 3 phases:

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

The prepared validation opinion and other supporting documents then undergo an internal quality control before being submitted to the CDM-EB.

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. Applus+ LGAI has developed a specific checklist customized for the project. The checklist demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from validating the identified criteria.

The validation checklist consists of 2 tables. The different columns in these tables are described in the tables below.

Validation Checklist Table 1: Requirement checklist				
Checklist Question	Reference	Comment	Draft Conclusion	Final Conclusion
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several different sections. Each section is then further subdivided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification is used when the assessment team has identified a need for further clarification. Forward action request to highlight issues related to project implementation that requires review during the first verification.	Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.

Validation Checklist Table 2: Resolution of Audit Findings				
Type:	<input type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:
Raised by:		Ref. to checklist in table 1:		
Description of the audit finding			Date:	
The description of the audit finding should be clearly included here.				
Project Participant's response			Date:	



The responses given by the project participants during the communications with the validation team should be included here.		
Documentation provided as evidence by Project Participant		
The evidences provided by the project participants should be included here.		
Auditor's assessment comment	Date:	
This section should include how the audit finding is assessed by the assessment team.		
Conclusion by Lead Auditor	Date:	
The conclusion made by the Lead Auditor should be included here.		

### 2.1.-Appointment of the assessment team

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ LGAI has composed a project assessment 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 linked to the methodology has to be covered by the assessment team.

Name	Qualification	Coverage of scope	Coverage of technical Area	Financial aspect	Host country Experience
Vivek Kumar Ahirwar	LA	Y	Y (1.2)	Y	Y
Ajay Singh Thakur	LA	N	N	Y	Y

#### Technical Reviewer:

- Miquel SITJES CABANAS

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 seven years of relevant experience in energy efficiency, energy audit 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.

**Ajay Singh Thakur** is a certified lead auditor for ISO 14001 EMS LA. He has more than five years of work experience across Climate Change, Environmental Management & Monitoring,

Health & Safety Management, and Statutory Compliance. He was involved in more than 50 CDM validation and verifications activities and Gold Standard, VER projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1 technical area 1.2. he has experience in design and development of Environment Health & Safety Management System (EHS), ISO 14001:2004 (EMS), OHSAS 18001:2007, ISO 14064:2006, ISO 50001:2011 (EnMS) and ISO 9001:2008 (QMS). Also, he has provided trainings on EHS (ISO 14001:2004 (EMS) & OHSAS 18001:2007) to various industries. 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 (Chemical Engineering) from Ujjain Engineering Collage, Ujjain, RGPV, India.

**Miquel SITJES CABANAS** (B. Sc. degree in Chemistry 1975, Universidad de Barcelona – Spain). He has 15 years of experience in a Spanish chemical group company specialized in the manufacturing of raw chemical products, where he worked as the Manager of Quality Control, Production Manager and Environmental Manager. He also worked in the Spanish pharmaceutical industry for 7 years as Quality, Manufacturing and Environmental Manager. He has been working in the Applus+ LGAI Technological Centre since 1999: he started working there as an auditor (quality, environment, CDM, VCS, greenhouse gas verification and others) and since 2006 he has been the Systems Certification Technical Manager.

### 2.2.- Document review

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

### 2.3.- Follow-up interviews

During the period of 14/11/2014 - 15/11/2014, Applus+ LGAI performed interviews and physical site inspection with project stakeholders to confirm selected information and to resolve issues identified in the document review. The main topics of interviews are summarized in following table.

Personnel interviewed	Function	Organization	Topics
Mr. Anil Ranade	Chief Engineering Manager	AHPL	<ul style="list-style-type: none"> <li>- Status of the project activity and any modifications with respect to the registered PDD.</li> <li>- Applicability to the latest methodology.</li> <li>- National and local policies and changes</li> <li>- Baseline of the project and its updates</li> <li>- The lifetime of the project activity</li> <li>- Emission Factors and their updates</li> <li>- Monitoring plan and changes.</li> </ul>
Mr. C. P. Vishwakarma	Senior Engineer	AHPL	
Mr. pramod Mahaan	Senior Engineer	AHPL	

### 2.4.- Resolution of Clarification and Corrective Action Request

The objective of this phase of the validation was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ LGAI's

positive conclusion. The Corrective Action Requests and Clarification Requests raised by Applus+ LGAI were resolved during communications between the Client and Applus+ LGAI to guarantee the transparency of the validation process, the concerns raised and responses given are summarized in chapter 3 below and documented in more detail in the validation checklist as attached.

The final PDD version 06.2 submitted by PP on 10/01/2015 /1.9/ serves as the basis for the final assessment presented. Additional changes to the project during the validation process are not considered to be significant with respect to the main CDM objectives.

## **2.5.- Internal quality control**

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.

### **3.- VALIDATION FINDINGS**

The findings of the validation are stated in the following sections. The validation findings are related to the project design as documented and described in the sub-sequent versions of the PDDs as PDD, version 05 dated 27/10/2014, PDD, version 06 dated 21/11/2014 and PDD, version 06.1 dated 08/12/2014 and PDD, version 06.2 dated 10/01/2015. The final version of the PDD, version 06.2 dated 10/01/2015 has been accepted by assessment team.

#### **3.1.- Project implementation status**

The project activity is an initiative of Ascent Hydro Projects Limited (AHPL) to harness the hydro power potential with allied benefits in providing clean energy to the local grid.

The registered CDM project activity is located outside the premises of the Sanjay Gandhi Thermal Power Station (SGTPS) and operates on the difference in head between the water level in the seal pit and the water level in the return canal and the quantity of water flowing into the seal pit.

The SGTPS is owned and operated by Madhya Pradesh Power Generating Company Limited (MPPGCL). The water from the cooling towers of SGTPS is discharged through a seal pit and then flows back to the river by gravity. The quantity of water discharging from the seal pit provides the flow and the power potential offered by this head and flow is harnessed by this hydro power project. Thus, the registered project activity is undertaken to harness the power potential offered by the difference in elevation of the cooling water return after utilization in cooling condensers of steam generating units of SGTPS to run two turbines of 1.179 MW each, thereby totaling an electricity generation of 2.2 MW. The entire generated electricity is wheeled through the State grid and is sold to third parties viz; M/s Nicholas Piramal and M/s IPCA Laboratories. However, the Project Participant has retained the option of selling the generated electricity to the State Electricity Utility viz; MPSEB. The validation team has verified the PPAs for the sale of power with Nicholas Piramal India Ltd. & IPCA Laboratories on 29/04/2006 /3.7/ and 04/08/2006 /3.8/ respectively; both the parties are HT consumers of the Board. Furthermore, the PPAs for the sale of power with respective third parties (Piramal Enterprises Limited & IPCA) have got amended on 26/04/2014 /3.10/ & 04/08/2011 /3.9/ valid as on date. Assessment team also notified that the name of "Nicholas Piramal India Ltd." is changed to "Piramal Enterprises Limited" pursuant to the resolution dated 2nd April 2012 adopted by their respective board. It was verified from the amendment page 3 para "b" of PPA dated 26/04/2014 /3.9/ and found to be correct, hence accepted.

The Unit I of the project activity is commercially in operation (commissioning of Unit I) from 24/10/2006 /3.2/ whereas the Unit II of the project activity is commercially in operation (commissioning of Unit II) from 06/02/2007 /3.3/. During the validation process, the project activity is under normal operation. It's confirmed by the project owner through site visit interview. All above information have been verified by checking previous monitoring and verification report /1.7/ and confirmed by site visit interview /3.12/. The commissioning of the entire project activity was completed prior to the registration of the project with UNFCCC.

During the first verification period, there are post registration changes as AHPL exercised its power to enter into a PPA with third parties i.e Nicholas Piramal Ltd and IPCA, technical specifications of the project activity equipments as per specifications observed at site and through document review and description of monitoring plan as per actual monitoring practice at the project site have been requested and accepted by EB on 31/05/2011 /1.1/. All these post registration changes have been summarized in the PDD and verified by checking information on the UNFCCC website in the registered /1.1/ and revised PDD /1.3/.

In the registered PDD /1.2/ and revised PDD /1.3/ the former project participants, Netherlands' Ministry of Infrastructure and the Environment (IenM); International Finance Corporation as Trustee of the IFC-Netherlands Carbon Facility (INCaF) have withdrawn from the project activity and been accepted by EB; confirmed by the UNFCCC project website /1.1/. The India DNA, Ministry of Environment and Forests (MoEF) /1.1/ is not considered as a PP in the project activity.

The project activity is a small scale project and is not a debundled component of the larger project and same has been mentioned in the section A.6 of PDD as accordance to latest PDD template /2.9/. Validation team has reviewed "Guidelines on assessment of de-bundling for SSC project activities" Version 03, /2.10/ and also carried out Interview during the site visit to confirm the applicability criteria for Debundling aspect of the project. It is concluded that the small scale project activity is not a debundled component of a larger project activity as accordance with the requirements established in VVS v07.0 §§161.

### **3.2.-Validity of selected baseline and monitoring methodology**

The project was originally registered based on methodology AMS I.D. version 11.0.0 /2.1/. The updated PDD version 06.2 dated 10/01/2015 applies methodology AMS I.D. version 18.0.0 /2.2/. 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 for the renewal of the crediting period.

### **3.3.-Applicability of selected baseline and monitoring methodology**

The project correctly applies the approved consolidated baseline and monitoring methodology AMS-I.D. "Grid connected renewable electricity generation", version 18.0.0. The methodology AMS-I.D. version 18.0.0 was valid from 28/11/2011 and is still valid at the time of submission of the revised PDD for the renewal of the crediting period.

Following tools referred to by the methodology are also applied:

- Tool to calculate the emission factor for an electricity system, version 04.0.0 /2.6/
- Tool to calculate project or leakage CO<sub>2</sub> emission from fossil fuel combustion, version 02 /2.7/

Also, the PP has applied the assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period , version 03.0.1/2.8/

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 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 proposed 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 grid connected hydro power project and therefore is a renewable energy project. The project activity supplies electricity to Third party/ MPPTCL grid, which is a part of NEWNE regional grid of India which is dominated by fossil fuel based power generating sources. Therefore, the project activity meets this applicability requirement (a) & (b) both. The use of hydro turbines for power generation was confirmed during the site visit. The grid

connectivity of the project was verified through PPAs /3.1/ 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."*

The project activity complies with the applicability this criteria of the baseline and monitoring methodology AMS I. D. Version 18.0.0 as:

- (a) The Project supplies electricity to Third party/ MPPTCL grid, which is a part of NEWNE regional grid, therefore methodology AMS-I.D is applicable. This was also verified through PPA /3.1/ during the site visit and hence accepted.
- (b) The project does not displace grid electricity consumption (e.g. grid import) and/or captive fossil fuel electricity generation at the user end (excess electricity may be supplied to a grid), also the project does not supply electricity to a mini grid system where in the baseline all generators use exclusively fuel oil and/or diesel fuel so methodology AMS-I.F is not applicable.
- (c) The project does not supplies electricity to household users (included in the project boundary) located in off grid areas so methodology AMS-I.A is not applicable.

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)."*

The Commercial Operation Certificates /3.2/ issued for the project activity indicates that the project activity is a Greenfield plant. Thus option (a) is applicable to project activity. It is not a capacity addition or retrofit or rehabilitation or replacement as defined in the methodology.

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<sup>2</sup>;*
- 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<sup>2</sup>."*

The project activity is utilizing condenser-cooling water for power generation. Hence, the project activity meets this applicability criterion as there is no change in the volume of the reservoir. 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."*

The project activity only has renewable components as confirmed in AMS-I.D. Version 18.0.0 §§ 02 as above. The installed capacity of the project is 2.2 MW which is well below to the



threshold of 15 MW for small-scale projects. The installed capacity was verified from the Commercial Operation Certificates /3.2/ and PPA /3.7/.

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 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, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW."*

This criterion is not applicable since 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 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 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 /3.2/
- Power Purchase Agreement with Third party/ MPPTCL grid, which is a part of NEWNE regional grid /3.1/

The assessment of the project's compliance with the applicability criteria of AMS-I.D., version 18.0.0 are documented in detail in section B.2 of Table 2 in the validation checklist in Annex A to this report.

Applus+ LGAI confirms that the application of the baseline methodology is transparent and conservative, and confirms that the chosen baseline and monitoring methodology i.e. AMS-I.D., version 18.0.0 is applicable to the project activity.

### 3.4.-Validity of the original baseline or its update

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 by utilising condenser cooling water and sell to third party/ MPPTCL 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 by utilising condenser cooling water and sell to third party / MPPTCL 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, 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.

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 PDD. The information presented in the PDD 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:

- Commercail Operation Certificates /3.2/
- Power Purchase Agreement with third party/state electrcity board./3.1/
- CEA guidlines (CO<sub>2</sub> Baseline Database for the Indian Power Sector, Version 9.0, Published on 27<sup>th</sup> Jan'14) /4.3/

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 07.0.0 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 VVS version 07.0.0 requires assessing the impact of new relevant national and/or sectoral policies and circumstances on the baseline. 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 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<sub>2</sub> Baseline Database (CEA database, version 9) 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 1<sup>st</sup> crediting period needs to be updated, as per the "Tool to calculate the emission factor for an electricity system" version 4.0.0.

This parameter is properly described in the following section 3.5.

**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 item 98 of VVS 07.0.0, 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 chapter 3.5 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.

## 3.5.-Algorithms and/or formulae used to determine ERs

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*" version 04.0.0.

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.

Detailed information on the verification of the parameters used in the equations is found in Annex A. 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<sub>2</sub> 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<sub>2</sub>)

$EG_{PJ,y}$  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<sub>2</sub> emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO<sub>2</sub>/MWh)

The baseline emissions equivalent to tCO<sub>2</sub> due to the project have been calculated as the product of the net electricity supplied to the grid and the grid emission factor as per the combined margin approach described in the 'Tool to calculate the emission factor for an electricity system' (version 04.0.0) /2.6/. The power produced will be exported to the NEWNE regional grid. Hence, the grid emission factor and the corresponding baseline emissions have been calculated for the NEWNE regional grid.

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 09 /4.3/. This CEA database version was published in 27<sup>th</sup> January 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 04.0.0), 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 9 published on 27/01/2014, 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 04.0.0, "Regional or national average default values can be used for calculation of CO<sub>2</sub> Emission Factor if values are reliable and documented in regional or national energy statistics / energy balances". The CEA is the sole authority for publication of such data in India and hence, accepted. The assessment team verified that the parameters are determined ex-ante:

Parameter	Value	Source	Means of validation
$EF_{grid, OM, y}$ = Operating Margin Emission Factor for NEWNE grid in year y	0.9776 tCO <sub>2</sub> /MWh	Baseline Carbon Dioxide Emission Database Version 9.0 /4.3/ from the Central Electricity Authority (CEA), Ministry of Power, Government of India.	Verified value against default value listed in CEA database version 9 dated 27/01/2014
$EF_{grid, BM, y}$ = Build Margin Emission Factor for NEWNE grid in year y	0.9673 tCO <sub>2</sub> /MWh	Baseline Carbon Dioxide Emission Database Version 9.0 /4.3/ from the Central Electricity Authority (CEA), Ministry of Power, Government of India.	Verified value against default value listed in CEA database version 9 dated 27/01/2014
$EF_{grid, CM, y}$ = Combined Margin Emission Factor for NEWNE Grid in year y	0.9699 tCO <sub>2</sub> /MWh	Calculated as the weighted average of the operating margin and build margin. Baseline Carbon Dioxide Emission Database Version 9.0 /4.3/ from the Central Electricity Authority	Verified value against calculation provided in the PDD.

Parameter	Value	Source	Means of validation
		(CEA), Ministry of Power, Government of India.	

The OM has been determined as the average of the previous 3 years values mentioned in the CEA database. The value of BM has been identified directly from the CEA database /4.3/. 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 second crediting period for 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 14,255 tCO<sub>2</sub> 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, P<sub>Ey</sub> = 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.*

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

The project activity involves the generation of electricity by utilising condenser cooling water cooling water from Sanjay Gandhi Thermal Power Station (SGTPS) and it is not a water reservoir based hydro power project . The project activity is not 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 associated with this project activity.

Furthermore, AMS-I.D. Version 18.0.0 §§ 40; *the CO<sub>2</sub> 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<sub>2</sub> emissions from fossil fuel combustion".*

It is verified during site visit that 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 a project emission as per the "Tool to Calculate project or leakage CO<sub>2</sub> emissions from fossil fuel combustion, Version 02".

Data and Parameters	Unit	Value	Source
Average Diesel Consumption per year	Lit/annum	62	Plant Log Book
EF CO <sub>2</sub> <sub>diesel</sub>	tCO <sub>2e</sub> /GJ	0.0726	IPCC 2006 guidelines
NCV <sub>diesel</sub>	GJ/Ton	41.76	IPCC 2006 guidelines
Density of diesel	ton/liter	0.00086	IPCC 2006 guidelines

Project Emission	tCO <sub>2</sub> /annum	0.16	Calculated as = $(62 \times 0.0726 \times 41.76 \times 0.00086)$
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The project emissions due to use of DG set is less than 1% of total ER. Hence, considered zero for estimation. However, the PP will be considered during the 2<sup>nd</sup> crediting period as on actual.

Based on the observation at the project site and boundary on ground reality, no other potential project emission sources have been identified.

As verified with the IPCC 2006 guidelines and plant log book, 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.

AMS-I.D. Version 18.0.0 §§ 41; *In case biomass is sourced from dedicated plantations, the procedures in the tool "Project emissions from cultivation of biomass" shall be used.*

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 associated with this project activity.

### **(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 /3.2/ 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 14,255 tCO<sub>2</sub>e per year for the selected 7 years crediting period. Total emission reductions during the Second crediting period are estimated to be 99,785 tCO<sub>2</sub>e.

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 /4.3/. The parameters and equations presented in the PDD, 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.

### 3.6.-Validity of Monitoring Plan

The project applies methodology AMS-I.D. Version 18.0.0. The original monitoring plan was updated based on AMS-I.D. Version 18.0.0 latest requirements.

#### 3.6.1.- Parameters monitored ex-post

Following parameters will be monitored ex-post:

Parameters	Description	Measurement method and QA/QC procedures	Assessment conclusion
EG <sub>BL,y</sub>	Quantity of net electricity supplied to the grid in year y	<p>The total electricity generated at two generators is supplied to the grid through bay 1 and bay 2. There is main meter and check meter, at the interconnection point, at each bay. The accuracy class of each meter is 0.2. The export and import readings are recorded at main and check meters at both the bays by the representative appointed by MPPKVCL in the presence of representative of AHPL. All the meters are owned by AHPL and controlled by MPPKVCL. The calculated value of total net electricity exported to the grid will be used for emission reduction calculation.</p> <p>The monitoring frequency specified as continuous monitoring, hourly measurement and at least monthly recording.</p> <p>The calibration interval defined as Main and check meters are tested once in a year by the representative appointed by MPPKVCL or third party authorised by the grid authority.</p> <p>The data will be cross checked with the invoice and bank statement.</p> <p>The purpose of data in calculation of baseline emission.</p> <p>The data would be archived up-to two years after the end of crediting period.</p>	Consistent with methodology/tool
NCV <sub>diesel</sub>	Net calorific value of diesel used on standby DG set	<p>The data sourced from CO<sub>2</sub> baseline database for the Indian Power Sector, version 9, January 2014 by Central Electricity Authority (CEA). This value will be sourced from the central electricity database once in a year. Thus, monitoring frequency specified as annually.</p> <p>CO<sub>2</sub> baseline database gives Gross Calorific Value (GCV) which is converted to NCV by deducting 5% on account of latent heat of</p>	Consistent with methodology/tool



		vaporisation of water, as per IPCC guidelines 2006. The data will be use for Calculation of project emission.	
EF <sub>CO2_diesel</sub>	CO <sub>2</sub> emission factor of diesel	<p>The data sourced from CO<sub>2</sub> baseline database for the Indian Power Sector, version 9, January 2014 by Central Electricity Authority (CEA). This value will be sourced from the central electricity database once in a year. Thus, monitoring frequency specified as annually.</p> <p>The emission factor in CO<sub>2</sub> baseline database by CEA is sourced from IPCC guidelines 2006. The data will be used for calculation of project emission.</p>	Consistent with methodology/tool
DC <sub>y</sub>	Diesel consumption by the standby DG set	<p>The diesel quantity available in diesel storage tank is measured using a scale and recorded on daily basis in log book by AHPL. The diesel consumption would be recorded in the logbook in liters. The values will be converted to tons using a factor 0.86 kg/liters (density of diesel) as per IPCC 2006 default values, for the purpose of calculation. The diesel will be consumed only in the rare situation only when the power plant is not operational. The monitoring frequency specified as continuously. This value is used for project emission calculation. The measured data will be cross checked with diesel procurement. The data would be archived up-to two years after the end of crediting period.</p>	Consistent with methodology/tool

Applus+ LGAI confirms that the monitoring plan contains all necessary parameters which have been clearly described in PDD and that the means of monitoring described in the plan complies with the requirements of the methodology.

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.

## 3.6.2.- Implementation of the monitoring plan

An organizational structure is provided in PDD. 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. The monitoring staffs will be trained based on the training program described in PDD.

The procedures described in PDD 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 cureent monitoring scenario by the

assessment team during site visit that the electricity is generated at 3.3 kV which is stepped up to 33 kV and further the electricity is supplied to the grid through two bays i.e bay 1 and bay 2. For measuring the net energy supplied to the grid, one main meter and one check meter is connected at interconnection point at each bay. This scenario of monitoring systems will be valid throughout the 2<sup>nd</sup> crediting period. Project has been permitted to retain the existing Metering arrangement. Assessment team verified the copy of approval received from the competent authority (ED-MPPTCL-Jabalpur) /3.13/. Thus, the future scenario removed from Appendix 5 of the PDD and also the section B.7.3 has been amended appropriately.

The major parameters to be monitored have been discussed with the PPs, 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. 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.



#### **4.- FINAL VALIDATION OPINION**

Applus+ LGAI has performed a validation of renewal of crediting period of the "2.2 MW hydropower plant in Birsinghpur, Madhya Pradesh of Ascent Hydro Projects Limited (AHPL)" (Ref. No. 1280). 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 07.0 and the CDM PS version 07.0 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 14,255 tCO<sub>2</sub>e and a total estimated emission reductions of 99,785 tCO<sub>2</sub>e over the 2<sup>nd</sup> renewable crediting period as specified within the final PDD.

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 "2.2 MW hydropower plant in Birsinghpur, Madhya Pradesh of Ascent Hydro Projects Limited (AHPL)" (Ref. No. 1280) in India, as described in the PDD, version 06.2 dated 10/01/2015, 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



DOE Representative: Miquel Sitjes Cabanas (CDM Technical Manager)



B.U. Systems Certification Area Manager: Juan Sendín Caballero



**Annex A:**

## **VALIDATION CHECKLIST OF RENEWAL OF CREDITING PERIOD**

**PROJECT TITLE:** 2.2 MW hydropower plant in Birsinghpur, Madhya Pradesh of Ascent Hydro Projects Limited (AHPL).

**PROJECT NUMBER:** A+SH\_SYST\_04014

**VERSION:** 01.3

**DATE:** 14/01/2015

**CLIENT:** Ascent Hydro Projects Ltd (AHPL)

**AUDIT TEAM**

**Team Leader:** Vivek Kumar Ahirwar

**Auditor:** Ajay Singh Thakur

**Technical Expert:** Vivek Kumar Ahirwar

**Table 1: Requirements Checklist for the renewal of crediting period of CDM Project Activities**

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
<b>General</b>						
- Has the PP notified the secretariat of their intention in accordance with the Project cycle procedure?		226		<b><u>Clarification Request No. 1</u></b> 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.	CL#01	OK
- Has the PP updated relevant sections of the original PDD relating to the baseline, estimated GHG emission reductions and the monitoring plan using a baseline and monitoring methodology?	298	227		Yes, a new PDD has been finished. Related part has been updated.	OK	OK
- Which methodology(ies) is applied in the revised PDD? Has the correctness of the application of an approved baseline methodology demonstrated clearly in the revised PDD?	299	227		The revised PDD apply AMS I.D. version 18.0. Yes, all have been clearly demonstrated in the revised PDD.  <b><u>Corrective Action Request No.1</u></b> The Project Participant is requested to clarify why the name of methodology not mentioned on first page of the PDD as AMS ID, as there is only mentioned Version ?	CAR#01	OK
- Has the PP correctly assessed the GHG emission reductions that would have resulted from that scenario in the revised PDD?	299	228		Yes, the GHG emission reduction has been updated with correct assessment.	OK	OK
- Has the PP assessed and incorporated the impact of national and/or sectoral policies	299	229		Yes, new policies and circumstances have been considered when revised PDD was compiled.	OK	OK

Checklist items	VVS V3.0	PS V02.0	References	Comments	Finding	Final Finding
and circumstances existing at the time of requesting renewal of the crediting period on the current baseline GHG emissions?						
- Has the PP updated data and parameters in accordance with the "Tool to assess the validity of the original/current baseline and to update the baseline at the renewal of a crediting period"?		230		Yes, the PP has updated the data and parameter according to "Assessment of the validity of the original/current baseline and to update the baseline at the renewal of a crediting period"	OK	OK
- Are the names of the project participants included in the request for renewal of crediting period consistent with the names of the registered project participants for the project activity?	300			<b><u>Corrective Action Request No.2</u></b> The project view page mentioned that the other project participants Netherlands' Ministry of Infrastructure and the Environment (IenM) ; International Finance Corporation as Trustee of the IFC-Netherlands Carbon Facility (INCaF) are withdrawn. However these participant still mentioned in the updated PDD, please clarify?	CAR#02	OK
<b>A. Description of project activity</b>						
<b>A.1. Purpose and general description of project activity</b>						
A.1.1. Is there any change of the project description comparing to the original PDD? If so, has the change been addressed previously following the procedures for PRC?				There is no any change of the project description comparing to the original PDD.	OK	OK
A.1.2. Has the project activity implemented as scheduled in the original PDD?				Yes, the implantation of the project is the same as the original PDD.	OK	OK

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
A.1.3. How is the consistence of the description in the PDD validated comparing to the real practice?				The description in the PDD is consistent with the real practice.	OK	OK
A.1.4. Is it provided in PDD the estimation of annual average and total GHG emission reductions for the chosen crediting period?				Yes, the total GHG emission reduction for the chosen crediting period has be presented in the A.1 of the PDD.	OK	OK
A.1.5. Is all information presented consistent with details provided by further chapters of the PDD?				<b><u>Corrective Action Request No.3</u></b> <ol style="list-style-type: none"> <li>1. The reference of UNFCCC registration number is seems to be incomplete in section A.1 of the PDD, please clarify?</li> <li>2. The end date of previous monitoring period is not correct in section A.1 of the PDD, as project view page mentions that the end date is 31/12/2012. Please clarify?</li> <li>3. The section A.1 of the PDD is not discussed about the information for the monitoring period from 01/01/2013 to 25/11/2014, please clarify?</li> <li>4. The section B.4 mentions the "proponent" which is not correct terminology as per Glossary of CDM terms, please clarify?</li> </ol>	CAR#03	OK
A.1.6. Are the PDD template correctly applied for the project activity?				Yes, latest template has been used.	OK	OK
<b>A.2. Location of the project activity</b>						
A.2.1. Is there any change in the project location?				No, the project location is the same with the original PDD. <b><u>Corrective Action Request No.4</u></b> The section A.2.4 of the PDD is not as per <i>Instructions for filling out the project design document form for small-scale CDM project activities</i> as it says "Do not exceed one page for the description of location." Please	CAR#04	OK

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
				clarify?		
<b>A.3. Technologies and measures</b>						
A.3.1. Were the technologies and measures described in the original PDD employed and/or implemented exactly by the PP?				Yes, the project owner implemented the technologies described in the original PDD.	OK	OK
A.3.2. Is it explained clearly how the same types and levels of services provided by the project activity would have been provided in the baseline scenario and/or existing scenario?				Yes, the electricity generated by the project would be supplied by the Third party/ MPPTCL grid in the baseline scenario.	OK	OK
<b>A.4. Party(ies) and project participant(s)</b>						
A.4.1. Is the any change in the PPs? If so, has the change in PP addressed following correct procedure?				Yes, the project now is a Unilateral project confirmed by checking UNFCCC website. Refer CAR#02	CAR#02	OK
<b>A.5. Public funding of the project activity</b>						
A.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?				Yes, the information is consistent.	OK	OK
<b>A.6. Confirmation that the small-scale project activity is not a debundled component of a large scale project activity (applicable for SSC CDM PA)</b>						
A.6.1. Is it demonstrated that the small-scale project activity is not a debundled component of a large scale project activity?				Yes, project activity is not de-bundled component of a large scale project activity and same has been demonstrated correctly in section A.6 of updated PDD.	OK	OK

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
<b>B. Application of a Baseline and Monitoring Methodology</b>						
<b>B.1. Reference of methodology</b>						
B.1.1. Is there any update of the methodology and tool applied in the revised PDD?				<p>Yes, AMS I.D. version 18.0 has been applied and following tools and guidelines:</p> <ul style="list-style-type: none"> <li>- Tool to calculate the emission factor for an electricity system – Version 04.0.0</li> <li>- 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</li> <li>- Tool to Calculate project or leakage CO2 emissions from fossil fuel combustion, Version 02</li> </ul>	OK	OK
B.1.2. Are the title, reference and version number of the approved baseline and monitoring methodology(ies), tools, standards or guidelines clearly indicated?				Yes, all have been clearly indicated.	OK	OK
B.1.3. Is the applied version of methodology(ies) valid?				<p>Yes, AMS I.D. version 18.0 is the latest version and Valid from 28/11/2014 onwards.</p> <p><b><u>Corrective Action Request No.10</u></b></p> <p>The PDD version 6 is applied version 17 of AMS I.D.; however the latest version 18 of the applied methodology is publicly available; please clarify whether the PP would like to update PDD accordingly?</p> <p>Also, please confirm information about future monitoring scenario as mentioned in Appendix 5 of the PDD. Also, the PP is requested to provide the source of 0.86 kg/liters (density of diesel) as it mentioned in section B.7.1 of the PDD; accordingly the same need to be appropriately used in the ER sheet.</p>	CAR#10	OK

Checklist items	VVS V3.0	PS V02.0	Refere nces	Comments	Finding	Final Finding										
B.2. Applicability of methodology																
B.2.1. Is the choice of methodology justified? Have the project participants shown that the project activity meets each of the applicability conditions of the approved methodology or any tool or other methodology component referred to therein?				Yes, the project activity meets all applicable criteria.	OK	OK										
B.2.2. Has the explain documentation been used and provide the references to it or include the documentation in Appendix 3 of the PDD?				Yes, all explanations have been provided in the PDD.	OK	OK										
B.2.3. Justification of applicability conditions  B.2.3.1. Criterion 1:  This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass :  (a) Supplying electricity to a national or a regional grid; or  (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement				<table><tr><th>Applicability checklist</th><th>Yes / No</th></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided?	Yes	Compliance verified?	Yes	OK	OK
Applicability checklist	Yes / No															
Criterion discussed in the PDD?	Yes															
Compliance provable?	Yes															
Evidences provided?	Yes															
Compliance verified?	Yes															



Checklist items	VVS V3.0	PS V02.0	Refere nces	Comments		Finding	Final Finding										
such as wheeling.																	
B.2.3.2. Criterion 2:  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.				<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided?	Yes	Compliance verified?	Yes	OK	OK
Applicability checklist	Yes / No																
Criterion discussed in the PDD?	Yes																
Compliance provable?	Yes																
Evidences provided?	Yes																
Compliance verified?	Yes																
B.2.3.3. Criterion 3:  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).				<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided?	Yes	Compliance verified?	Yes	OK	OK
Applicability checklist	Yes / No																
Criterion discussed in the PDD?	Yes																
Compliance provable?	Yes																
Evidences provided?	Yes																
Compliance verified?	Yes																
B.2.3.4. Criterion 4:  Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology:  • The project activity is implemented in an existing reservoir with no				<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided?	Yes	Compliance verified?	Yes	OK	OK
Applicability checklist	Yes / No																
Criterion discussed in the PDD?	Yes																
Compliance provable?	Yes																
Evidences provided?	Yes																
Compliance verified?	Yes																

Checklist items	VVS V3.0	PS V02.0	Refere nces	Comments		Finding	Final Finding										
change in the volume of reservoir; <ul style="list-style-type: none"><li>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/m2;</li><li>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/m2.</li></ul>																	
B.2.3.5. Criterion 5:  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.				<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Evidences provided?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Evidences provided?	Yes	Compliance verified?	Yes	OK	OK
Applicability checklist	Yes / No																
Criterion discussed in the PDD?	Yes																
Compliance provable?	Yes																
Evidences provided?	Yes																
Compliance verified?	Yes																
B.2.3.6. Criterion 6:  Combined heat and power (co-generation) systems are not eligible under this category.				<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</td></tr><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Evidences provided?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>		Applicability checklist	Yes / No	Criterion discussed in the PDD?	N/A	Compliance provable?	N/A	Evidences provided?	N/A	Compliance verified?	N/A	OK	OK
Applicability checklist	Yes / No																
Criterion discussed in the PDD?	N/A																
Compliance provable?	N/A																
Evidences provided?	N/A																
Compliance verified?	N/A																

Checklist items	VVS V3.0	PS V02.0	Refere nces	Comments		Finding	Final Finding
B.2.3.7. Criterion 7:  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.				Applicability checklist	Yes / No	OK	OK
				Criterion discussed in the PDD?	N/A		
				Compliance provable?	N/A		
				Evidences provided?	N/A		
				Compliance verified?	N/A		
B.2.3.8. Criterion 8:  In the case of retrofit, rehabilitation or replacement, to qualify as a small-scale project, the total output of the retrofitted, rehabilitated or replacement power plant/unit shall not exceed the limit of 15 MW.				Applicability checklist	Yes / No	OK	OK
				Criterion discussed in the PDD?	N/A		
				Compliance provable?	N/A		
				Evidences provided?	N/A		
				Compliance verified?	N/A		
B.2.3.9. Criterion 9: In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If the recovered methane is used for heat generation or cogeneration other				Applicability checklist	Yes / No	OK	OK
				Criterion discussed in the PDD?	N/A		
				Compliance provable?	N/A		
				Evidences provided?	N/A		
				Compliance verified?	N/A		

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments		Finding	Final Finding
applicable Type-I methodologies such as “AMS-I.C.: Thermal energy production with or without electricity” shall be explored.							
B.2.3.10. Criterion 10 In case biomass is sourced from dedicated plantations, the applicability criteria in the tool “Project emissions from cultivation of biomass” shall apply.				Applicability checklist	Yes / No	OK	OK
				Criterion discussed in the PDD?	N/A		
				Compliance provable?	N/A		
				Evidences provided?	N/A		
				Compliance verified?	N/A		
B.2.4. How is the consistency of the documentation referred to in the PDD as well as its content quoted and interpreted in the PDD validated by the assessment team?				The assessment team checked all the documents referred to in the PDD and use their experience and knowledge to confirm all the documents referred to are consistent.		OK	OK
B.2.5. If any, what source other than that used in the PDD has been validated by the assessment team to cross check the compliance with the applicability conditions of the methodology?				It’s confirmed by the mail interview with the PP that the base line and the applicability to the methodology has not been changed.		OK	OK
B.2.6. Is a deviation or clarification from the approved methodology requested by the project activity?				No, there is no such case.		OK	OK
B.3. Project boundary							

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments		Finding	Final Finding									
B.3.1. Is the project boundary clearly described, including the physical delineation of the proposed CDM project activity included within the project boundary for the purpose of calculating project and baseline emissions for the proposed CDM project activity?				Yes the project boundary has been clearly described and in according with AMS I.D. Version 18.0.		OK	OK									
B.3.2. Are all the sources listed and discussed in the PDD? B.3.2.1. Source: Gas (es): CO <sub>2</sub> Type: Baseline Emissions				<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	OK	OK
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.2.2. Source: Gas(es): CH <sub>4</sub> Type: Baseline Emissions				<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	OK	OK
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															
B.3.2.3. Source: Gas(es): N <sub>2</sub> O Type: Baseline Emissions				<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	OK	OK
Boundary checklist	Yes / No															
Source and gas(es) discussed in the PDD?	Yes															
Inclusion / exclusion justified?	Yes															
Explanation / Justification sufficient?	Yes															
Consistency with monitoring plan?	Yes															

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments		Finding	Final Finding
B.3.2.4. Source: Gas(es): CO <sub>2</sub> Type: Project Emissions				Boundary checklist	Yes / No	OK	OK
				Source and gas(es) discussed in the PDD?	Yes		
				Inclusion / exclusion justified?	Yes		
				Explanation / Justification sufficient?	Yes		
				Consistency with monitoring plan?	Yes		
B.3.2.5. Source: Gas(es): CH <sub>4</sub> Type: Project Emissions				Boundary checklist	Yes / No	OK	OK
				Source and gas(es) discussed in the PDD?	Yes		
				Inclusion / exclusion justified?	Yes		
				Explanation / Justification sufficient?	Yes		
				Consistency with monitoring plan?	Yes		
B.3.2.6. Source: Gas(es): N <sub>2</sub> O Type: Project Emissions				Boundary checklist	Yes / No	OK	OK
				Source and gas(es) discussed in the PDD?	Yes		
				Inclusion / exclusion justified?	Yes		
				Explanation / Justification sufficient?	Yes		
				Consistency with monitoring plan?	Yes		
B.3.3. What supporting documented evidence has been validated by the assessment team to confirm the project boundary?	84			The registered and revised PDD, previous monitoring reports, verification reports, CEA guidance for the determination of grid boundaries and emission factors.		OK	OK
B.3.4. How the assessment team validated the justification of the inclusion/exclusion of GHG emissions?	85			By checking registered and revised PDD, previous monitoring reports, verification reports as well as site visit interview, the justification of the inclusion/exclusion of GHG emissions is validated.		OK	OK

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
B.3.5. Does the PDD present a flow diagram of the project boundary, physically delineating the project activity, based on the descriptions provided in section A.3? Does the PDD 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?				Yes, a flow diagram has been included in the PDD.	OK	OK
<b>B.4. Establishment and description of baseline scenario</b>						
B.4.1. Is the procedure contained in the "Tool to assess the validity of the original/current baseline and to update the baseline at the renewal of a crediting period" correctly applied?				Yes, the procedure has been correctly followed.	OK	OK
B.4.2. How is the compliance of the current baseline with relevant mandatory national and/or sectoral policies assessed?				Based on the register and revised PDD, the site visit interview. The current base line is confirmed compliant with the mandatory national and/or sectoral policies.	OK	OK
B.4.3. How is the impact of circumstances assessed?				Based on review of the PDD and site visit interview. The project activity has no impact on the circumstances.	OK	OK
B.4.4. Is it assessed whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting				Based on review of the PDD and site visit interview. It is confirmed that the baseline scenario was the electricity import/generation from the power plants connected to the electricity grid.	OK	OK

Checklist items	VVS V3.0	PS V02.0	References	Comments	Finding	Final Finding
period for which renewal is requested?						
B.4.5. How is the validity of the data and parameters assessed?				The project activity the emission factor has been updated along with the approach used to calculate the emission factor. This has been verified based on review o the PDD and site visit interview.	OK	OK
B.4.6. Is the current baseline scenario updated?				The baseline scenario remains unchanged. Only the approach used to calculate the baseline emission factor is updated as per the latest version available at the time of PDD submission for renewal.	OK	OK
B.4.7. Are the data and parameters applicable for the baseline updated?				Yes, the emission reduction factor has been updated.	OK	OK
<b>B.5. Demonstration of additionality</b>						
Not applicable.				Not Applicable	OK	OK
<b>B.6. Emission reductions</b>						
B.6.1. Explanation of methodological choices						
B.6.1.1. Do the steps taken and equations applied to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected baseline and monitoring methodology and/or tools?				Yes. The calculation is in line with AMS I.D. version 18.0 and Tool to calculate the emission factor for an electricity system version 04.0.0	OK	OK
B.6.1.2. If the methodology provides for selection between different				Not applicable. Only one baseline scenario is involved in the project activity.	OK	OK



Checklist items	VVS V3.0	PS V02.0	References	Comments	Finding	Final Finding
scenarios or cases or options or default values for equations or parameters, has been an adequate justification provided (based on the choice of the baseline scenario, context of the proposed CDM project activity and other evidence)? If yes, have correct equations and parameters been used, in accordance with the methodology selected?						
B.6.1.3. How is the justification given in the PDD for the choice of data and parameters used in the equations verified, including references to any other data sources used?				<p>Yes. Except parameter EF (Combined Margin CO<sub>2</sub> emission factor of the NEWNE regional grid <math>EF_{grid,CM,y}</math>), all other parameters for calculating emission reductions are monitored during the crediting period. For EF, it's calculated using most recent historical data public available (CO<sub>2</sub> baseline database for the Indian Power Sector, version 9, Dated 27 January 2014 – Central Electricity Authority (CEA), Ministry of Power) as per the EF tool. The EF will be fixed during the 2<sup>nd</sup> renewable crediting period, which is also consistent with the option provided in the EF tool.</p> <p><b>Baseline Emissions:</b> As per para 22 of AMS-I.D. (version 18,), baseline emissions (<math>BE_y</math> in tCO<sub>2e</sub>) include only CO<sub>2</sub> 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:</p> <p><math>BE_y = EG_{PJ,y} * EF_{grid,y} \dots\dots\dots(1)</math></p>	OK	OK

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
				<p>Where,</p> <p><b>BE<sub>y</sub></b> = Baseline Emissions in year y (t CO<sub>2</sub>)</p> <p><b>EG<sub>proj,y</sub></b> = Quantity of net electricity generated that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh).</p> <p>(The net electricity export to the grid is the difference between the quantities of the grid electricity export and the import.)</p> <p><b>EF<sub>grid,y</sub></b> = Combined margin CO<sub>2</sub> emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (t CO<sub>2</sub>/MWh)</p> <p>(Baseline emission factor for the grid (considering Combined Margin approach). NEWNE regional grid has been considered for this project activity.)</p> <p><b>EF<sub>grid,y</sub></b> is determined according to last version "Tool to calculate the emission factor for an electricity system". Following steps are correctly applied:</p> <p>STEP 1: Identify the relevant electricity system.</p> <p>STEP 2: Choose whether to include off-grid power plants in the project electricity system.</p> <p>STEP 3: Select a method to determine the operating margin (OM).</p> <p>STEP 4: Calculate the operating margin emission factor according to the selected method.</p>		

Checklist items	VVS V3.0	PS V02.0	Refer ences	Comments	Finding	Final Finding
				<p>STEP 5: Calculate the build margin (BM) emission factor.</p> <p>STEP 6: Calculate the combined margin (CM) emissions factor.</p> <p>After checking information issued by CO<sub>2</sub> baseline database for the Indian Power Sector, version 9 , Dated 27 January 2014 – Central Electricity Authority (CEA), Ministry of Power and relevant tool and methodology, the assessment team confirms the equations are correctly used and the choice of data and parameters used for calculation are verified.</p> <p><b>Project Emissions:</b></p> <p>According to para 39 of AMS-I.D. (version 18), <i>for most renewable energy project activities, P<sub>Ey</sub> = 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: Grid-connected electricity generation from renewable sources.</i></p> <ul style="list-style-type: none"> <li><i>Emissions related to the operation of geothermal power plants (e.g. non-condensable gases, electricity/fossil fuel consumption)</i></li> <li><i>Emissions from water reservoirs of hydro power plants"</i></li> </ul> <p>The project activity is 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.</p> <p>However, as per paragraph 40 of AMS-I.D. (version 18) CO<sub>2</sub> 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<sub>2</sub> emissions from fossil fuel combustion".</p>		

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
				<p>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 CO2 emissions from fossil fuel combustion, Version 02" a project emission; (calculated in the section B.6.3 of the PDD),</p> <p>Thus,</p> $PE_{FC,j,y} = \sum_i FC_{i,j,y} \times COEF_{i,y}$ <p>Where:</p> <p>PE<sub>FC, j, y</sub> - Are the CO<sub>2</sub> emissions from fossil fuel combustion in process j during the year y (tCO<sub>2</sub>/yr);</p> <p>FC<sub>i, j, y</sub> - Is the quantity of fuel type i combusted in process j during the year y (unit/yr);</p> <p>COEF<sub>i, y</sub> - Is the CO<sub>2</sub> emission coefficient of fuel type i in year y (tCO<sub>2</sub>/unit);</p> <p>I - Are the fuel types combusted in process j during the year y</p> <p>The CO<sub>2</sub> emission coefficient COEF<sub>i,y</sub> will be calculated based on net calorific value and CO<sub>2</sub> emission factor of fuel type i, as mentioned in option B (equation 4) of 'Tool to calculate project or leakage CO2 emissions from fossil fuel combustion' (version 2).</p> <p><b>Leakage :</b></p> <p>As per para 42 of AMS I.D Version 18, 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</p>		

Checklist items	VVS V3.0	PS V02.0	References	Comments	Finding	Final Finding
				<p>been considered.</p> <p><b>Emission Reductions:</b></p> <p>According to equation no 9 of AMS I.D. version 18, the Emission Reduction is calculated by subtracting the project emissions from the baseline emissions</p> <p>Thus</p> <p><b><math>ER_y = BE_y - PE_y - LE_y</math></b></p> <p>According to the methodology, leakage emissions have not been considered for the project activity.</p> <p>Therefore, <b><math>ER_y = BE_y - PE_y</math></b></p> <p>After checking information issued by CEA and relevant tool and methodology, the assessment team confirms the equations are correctly used and the choice of data and parameters used for calculation are verified.</p>		
B.6.1.4. Is the choice of options to determine the emissions factor (OM, BM) justified in a suitable and transparent manner? Are the steps as defined per the "Tool for calculation of emission factor for electrical systems" correctly applied by the project participants?				The emission factor related to the baseline emission from electricity generation is calculated via "Tool to calculate the emission factor for an electricity system" version 04.0.0. The justification of the choices of these data is provided in PDD and the same has been verified by the assessment team.	OK	OK
B.6.2. Data and parameters fixed ex ante						
B.6.2.1. For the data that will not be				For EF, it's calculated using most recent historical data public available	OK	OK

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments		Finding	Final Finding																		
monitored during the crediting period and but has been determined and will remain fixed, how is it verified that all the assumptions and data sources are appropriate and calculations are correct, applicable to the proposed CDM project activity and will result in a conservative estimate of the emission reductions?				as per the “Tool to calculate the emission factor for an electricity system”. The EF will be fixed during the 2 <sup>nd</sup> renewable crediting period, which is also consistent with the option provided in the EF tool.																					
B.6.2.2. Parameter:  EF, Combined Margin CO <sub>2</sub> emission factor of the NEWNE regional grid				<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Data source referenced?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Correct value(s) applied?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr><tr><td>Purpose of data indicated?</td><td>Yes</td></tr></table> <p><b><u>Corrective Action Request No.5</u></b> Appendix 3 is not given any details, it is only referring section B.2 of the PDD, please clarify?</p>		Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Data source referenced?	Yes	Choice of data correctly justified?	Yes	Correct value(s) applied?	Yes	Measurement method correctly described?	Yes	Purpose of data indicated?	Yes	CAR#05	OK
Data Checklist	Yes / No																								
Title in line with methodology?	Yes																								
Data unit correctly expressed?	Yes																								
Appropriate description of parameter?	Yes																								
Data source referenced?	Yes																								
Choice of data correctly justified?	Yes																								
Correct value(s) applied?	Yes																								
Measurement method correctly described?	Yes																								
Purpose of data indicated?	Yes																								
B.6.3. Ex ante calculations of emission reductions																									
B.6.3.1. Are the GHG calculations documented in a complete and				Yes. The calculation is in line with AMS I.D. version 18.0 and Tool to calculate the emission factor for an electricity system version 04.0.0		OK	OK																		

Checklist items	VVS V3.0	PS V02.0	References	Comments	Finding	Final Finding
transparent manner applying all relevant equations provided in the selected methodology(ies)?						
B.6.3.2. Is each equation applied in a manner that enables the reader to reproduce the calculation?				Yes, each equation applied in a manner that enables the reader to reproduce the calculation in the spreadsheet.	OK	OK
B.6.3.3. Are additional background information and/or data provided in Appendix 4, including relevant electronic files (i.e. spreadsheets)?				<b><u>Corrective Action Request No.6</u></b> The Project participant requested to clarify why the CELL "A32" spread sheet "ER calculation" of emission reduction sheet mentions 14 and also requested to clarify that why the information about monitoring period from 01/01/2013 to 24/11/2014 is not mentioned ? Also, document version /date is not provided for Emission Reduction Excel sheet, please clarify?	CAR#06	OK
B.6.3.4. Is a sample calculation provided for each equation used, substituting the values used in the equations?				Not applicable, no sample calculation is needed.	OK	OK
B.6.4. Summary of the ex ante estimates of emission reductions						
B.6.4.1. Is the form/table required for the indication of projected emission reductions correctly applied?				Yes, the form and table are correctly applied	OK	OK
B.6.4.2. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?				Yes, all data are consistent in the whole context.	OK	OK

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments		Finding	Final Finding	
B.7. Monitoring plan								
B.7.1. Data and parameters to be monitored								
B.7.1.1. For data and parameters will be monitored on implementation and hence become available only after validation of the project activity, how is it confirmed that the estimates provided in the PDD for these data and parameters are reasonable?				The monitored parameters mentioned in monitoring plan of the updated PDD comply with the approved latest version of methodology provided for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the 2 <sup>nd</sup> crediting period.		OK	OK	
B.7.1.2. Parameter EG <sub>BL,y</sub> Quantity of net electricity supplied to the grid in year y				Monitoring Checklist		Yes / No	OK	OK
				Title in line with methodology?		Yes		
				Data unit correctly expressed?		Yes		
				Appropriate description of parameter?		Yes		
				Source clearly referenced?		Yes		
				Correct value applied?		Yes		
				Measurement method correctly described?		Yes		
				Correct reference to standards?		Yes		
				Indication of accuracy provided?		Yes		
				QA/QC procedures appropriately provided?		Yes		
				Purpose of data indicated?		Yes		
				Monitoring parameter has been cross verified during site visit.				
B.7.1.3. Parameter				Monitoring Checklist		Yes / No	CAR#7	OK



Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments		Finding	Final Finding
NCV <sub>diesel</sub> Net calorific value of diesel used on standby DG set				Title in line with methodology?	Yes		
				Data unit correctly expressed?	Yes		
				Appropriate description of parameter?	Yes		
				Source clearly referenced?	Yes		
				Correct value applied?	Yes		
				Measurement method correctly described?	No		
				Correct reference to standards?	Yes		
				Indication of accuracy provided?	Yes		
				QA/QC procedures appropriately provided?	No		
				Purpose of data indicated?	No		
				<b><u>Corrective Action Request No.7</u></b>			
1. The information about Measurement methods and procedure, monitoring frequency and purpose of date for parameter NCV <sub>diesel</sub> is not complete in section B.7.1 of the PDD. Please clarify?							
2. The information about purpose of date for parameter EF <sub>CO2_diesel</sub> is not complete in section B.7.1 of the PDD. Please clarify?							
B.7.1.4. Parameter EF <sub>CO2_diesel</sub> CO <sub>2</sub> emission factor of diesel				Monitoring Checklist	Yes / No	CAR#7	OK
				Title in line with methodology?	Yes		
				Data unit correctly expressed?	Yes		
				Appropriate description of parameter?	Yes		

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments		Finding	Final Finding
				Source clearly referenced?	Yes		
				Correct value applied?	Yes		
				Measurement method correctly described?	Yes		
				Correct reference to standards?	Yes		
				Indication of accuracy provided?	Yes		
				QA/QC procedures appropriately provided?	Yes		
				Purpose of data indicated?	No		
				Refer CAR#7			
B.7.1.5. Parameter DCy Diesel consumption by the standby DG set				Monitoring Checklist	Yes / No	OK	OK
				Title in line with methodology?	Yes		
				Data unit correctly expressed?	Yes		
				Appropriate description of parameter?	Yes		
				Source clearly referenced?	Yes		
				Correct value applied?	Yes		
				Measurement method correctly described?	Yes		
				Correct reference to standards?	Yes		
				Indication of accuracy provided?	Yes		
				QA/QC procedures appropriately provided?	Yes		
				Purpose of data indicated?	Yes		
				Monitoring parameter has been cross verified during site visit.			
B.7.2. Sampling plan							

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
B.7.2.1. If sampling is applicable, is the "Standard for sampling and surveys for CDM project activities and programme of activities" correctly applied?				Data and parameters of the project monitored in section B.7.1 are not to be determined by a sampling approach, so the sampling plan is not applicable in B.7.2 of PDD.	OK	OK
B.7.3. Other elements of monitoring plan						
B.7.3.1. Is the operational and management structure described in PDD? Are the responsibilities for and institutional arrangements for data collection and archiving clearly indicated?		64		Yes. An organizational structure is provided. The functions such as data recording, collection, verification, calculation, archiving, etc. have been indicated.	OK	OK
B.7.3.2. Are the provisions provided to ensure that data monitored and required for verification and issuance be kept and archived electronically for two years after the end of the crediting period or the last issuance of CERs, whichever occurs later?		64		The data would be archived up to two years after the end of crediting period.	OK	OK
B.7.3.3. Are the uncertainty levels, methods and the associated accuracy level of measuring instruments to be used for various parameters and variables provided in PDD?		64		Yes, the accuracy of the electricity meter(s) is included.	OK	OK
B.7.3.4. Are the specifications of the calibration frequency for the		64		Yes, Main and check meters are tested once in a year by the representative appointed by MPPKVCL or third party authorized by the	OK	OK

Checklist items	VVS V3.0	PS V02.0	References	Comments	Finding	Final Finding
measuring equipments indicated in PDD?				grid authority.		
B.7.3.5. Is there any relevant further background information provided in Appendix 5? If any, is the information consistent?				No further information is provided.	OK	OK
<b>C. Duration and crediting period</b>						
<b>C.1. Duration of the project activity</b>						
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?				Yes, the starting date and operational lifetime is defined and reasonable.	OK	OK
<b>C.2. Crediting period of project activity</b>						
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?				Yes. Renewable crediting period is chosen. <b><u>Corrective Action Request No.8</u></b> The project participant requested to clarify that why the starting date of first crediting period mentioned in section C.2.2 of the PDD?	CAR#08	OK
<b>D. Environmental Impacts</b>						
<b>D.1. Analysis of the environmental impacts</b>						
Not applicable.				Not applicable.	OK	OK
<b>E. Local stakeholder consultation</b>						

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
Not applicable.				Not applicable.	OK	OK
<b>F. Approval and authorization</b>						
Not applicable.				Not applicable.	OK	OK
<b>G. Appendix 1 – 6</b>						
<b>G.1. Appendix 1: Contact information of project participants</b>						
G.1.1. Is the information provided consistent with the one given under section A.4?				Refer CAR#02	CAR#02	OK
G.1.2. Is the information of mandatory field, i.e. the Organization, Street/P.O. Box, City, Postcode, Country, Telephone, Fax, e-mail and Name of contact person etc. provided?				Yes, the information is consistent.	OK	OK
<b>G.2. Appendix 2: Affirmation regarding public funding</b>						
G.2.1. If applicable, is the affirmation obtained from Parties providing public funding to the project activity attached?				The project does not receive any public fund.	OK	OK
<b>G.3. Appendix 3: Applicability of the selected methodology(ies)</b>						
G.3.1. Is any further background information on the applicability of the selected methodology(ies) provided?				No, the information is consistent with the information provided in the PDD above.	OK	OK

Checklist items	VVS V3.0	PS V02.0	Referen ces	Comments	Finding	Final Finding
<b>G.4. Appendix 4: Further background information on ex ante calculation of emission reductions</b>						
G.4.1. Is any further background information on the ex ante calculation of emission reductions provided? This may include data, measurement results, data sources, etc.				No, the information is consistent with the information provided in the PDD above.	OK	OK
<b>G.5. Appendix 5: Further background information on monitoring plan</b>						
G.5.1. Is any further background information used in the development of the monitoring plan provided? This may include tables with time series data, additional documentation of measurement equipment, procedures, etc.				No, the information is consistent with the information provided in the PDD above.	OK	OK
<b>G.6. Appendix 6: Summary of post registration changes</b>						
G.6.1. If applicable, is a summary of the post registration changes provided?				<b><u>Corrective Action Request No.9</u></b> The Project Participant is requested to clarify why the summary of post registration changes are not provided in Appendix 6 of the PDD?	CAR#09	OK

**Table 2: Resolution of Audit Findings**

Type:	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	01
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			General
Description of the audit finding				Date:	16/11/2014
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's response				Date:	21/11/2014
Project Participant (PP) has notified the UNFCCC secretariat of their intention to renew the project under CDM in accordance with the Project cycle procedure. PP hereby submits the email correspondence made to UNFCCC as an attachment with the response.					
Documentation provided as evidence by Project Participant					
Email Communication for Renewal of Crediting period.					
Auditor's assessment comment				Date:	30/11/2014
The Project Participant has notified the UNFCCC secretariat of their intention to renew the project under CDM in accordance with the Project cycle procedure on 29/04/2014. The PP has also submitted the email communication .					
Conclusion by Lead Auditor				Date:	08/01/2015
In accordance to paragraph 262 of CDM project cycle procedure version 07, the Project Participant has notified the UNFCCC secretariat of their intention to renew the project under CDM in accordance with the Project cycle procedure on 29/04/2014. This was confirmed by review of copy of Email Communication sent by the PP.					
However, the notification of intention to renew a crediting period cannot be considered complete unless both the PDD and validating DOE information have been submitted by the project focal point(s). Please clarify?					
Project Participant's response				Date:	10/01/2015

PP would like to clarify that as per the project cycle procedure, an intimation for renewal of crediting period of the project was submitted to UNFCCC on 29/04/2014. However, PP had not appointed any DOE at that time, hence they did not provide any reference of DOE and hence the updated PDD along with the intimation.

Nevertheless, in due course of time PP has appointed 'Applus Certification' as DOE and required actions for renewal of crediting period have been performed. Therefore, to comply with the para 262 of the project cycle procedure PP has re-intimated to UNFCCC on 18/12/2014 by submitting an updated PDD & confirmation of DOE, and on 05/01/2015 PP has received acceptance confirmation from UNFCCC for the same.

PP is submitting the email communication sent to and reply received from UNFCCC, to the DOE for further verification and acceptance. And the information has been updated in the final version (version 6.2) of the PDD.

#### Documentation provided as evidence by Project Participant

- 1) Email communication trail with UNFCCC regarding intimation of Renewal Crediting Period.
- 2) PDD version 6.2, dated 10/01/2015

Auditor's assessment comment

Date:

14/01/2015

The PP has re-intimated to UNFCCC on 18/12/2014 by submitting an updated PDD and confirmation of DOE, and on 05/01/2015. In response to this mail ; the PP has received acceptance confirmation from UNFCCC for the same; which has been verified by validation assessment team and found to be correct and accepted accordance to para 262 of the CDM PCP version 07.0.

Conclusion by Lead Auditor

Date:

14/01/2015

Based on review of the updated PDD version 06.2, assessment team confirms that the PP has re-intimated to UNFCCC as accordance to para 262 of the CDM PCP version 07.0.. Hence CL#1 is closed satisfactorily.

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	01
Raised by:	Vivek Kumar	Ahirwar	Ref. to checklist in table 1:	General	
Description of the audit finding				Date:	16/11/2014
The Project Participant is requested to clarify why the name of methodology not mentioned on first page of the PDD as AMS ID, as there is only mentioned Version ?					
Project Participant's response				Date:	21/11/2014
PP has now provided the name of methodology in complete form in the first page of the PDD.					
Documentation provided as evidence by Project Participant					
PDD version 6 dated 21/11/2014					
Auditor's assessment comment				Date:	30/11/2014



The name of methodology is corrected on the first page of the PDD version 06 dated 21/11/2014.

Conclusion by Lead Auditor	Date:	30/11/2014
Based on review of the updated PDD version 06, assessment team confirms that the PP has correctly mentioned the name of methodology in complete form in the first page of the PDD. Hence CAR#1 is closed satisfactorily.		

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	02
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			General
Description of the audit finding				Date:	16/11/2014
The project view page mentioned that the other project participants Netherlands' Ministry of Infrastructure and the Environment (IenM) ; International Finance Corporation as Trustee of the IFC-Netherlands Carbon Facility (INCaF) are withdrawn. However these participants still mentioned in the updated PDD, please clarify?					
Project Participant's response				Date:	21/11/2014
PP has revised the PDD by deleting the irrelevant information and hence maintained the required consistency.					
Documentation provided as evidence by Project Participant					
PDD Version 6					
Auditor's assessment comment				Date:	30/11/2014
The irrelevant information about other project participants is removed from the PDD.					
Conclusion by Lead Auditor				Date:	30/11/2014
Based on review of the updated PDD version 06, assessment team confirms that the PP has removed the irrelevant information about other project participants from the PDD. Hence CAR#2 is closed satisfactorily.					

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	03
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			A.1.5
Description of the audit finding				Date:	16/11/2014
<ol style="list-style-type: none"> <li>1. The reference of UNFCCC registration number is seems to be incomplete in section A.1 of the PDD, please clarify?</li> <li>2. The end date of previous monitoring period is not correct in section A.1 of the PDD, as project view page mentions that the end date is 31/12/2012. Please clarify?</li> <li>3. The section A.1 of the PDD is not discussed about the information for the monitoring period from 01/01/2013 to 25/11/2014, please clarify?</li> <li>4. The section B.4 mentions the "proponent" which is not correct terminology as per Glossary of CDM terms, please clarify?</li> </ol>					
Project Participant's response				Date:	21/11/2014

<b>LGAI</b> 1. PP has corrected the reference of project UNFCCC registration number in the revised PDD. 2. PP has revised the PDD to correct the date of previous monitoring period in the section A.1. 3. PP would like to clarify that PP has not conducted the verification for the period 01/01/2013 to 25/11/2014 as on the date of submission of PDD for renewal of crediting period. Hence, the information pertaining to the CERs issued for this period is not available therefore not discussed in section A.1. PP intends to verify the credits for this particular period in future. 4. PP has revised the PDD to replace the word "proponent" with "participant" which is now in accordance with the terminology as per Glossary of CDM terms.		
Documentation provided as evidence by Project Participant		
PDD Version 6		
Auditor's assessment comment	Date:	30/11/2014
The PP has submitted the revised PDD version 06 dated 21/11/2014 and following information has been verified by assessment team: 1. The reference of project UNFCCC registration number is corrected in the PDD. 2. The date of previous monitoring period is corrected in section A.1 of the PDD. 3. The PP will conduct the CDM verification from the period 01/01/2013 to 25/11/2014 in future and same has been clarified in the PDD. 4. The correct terminology as "participant" is used throughout the PDD.		
Conclusion by Lead Auditor	Date:	30/11/2014
Based on review of the updated PDD version 06, assessment team confirms that the PP has made appropriate correction and changes in the PDD. These corrections are found to be correct; hence CAR#3 is closed satisfactorily.		

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	04
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			A.2.1
Description of the audit finding				Date:	16/11/2014
The section A.2.4 of the PDD is not as per <i>Instructions for filling out the project design document form for small-scale CDM project activities</i> as it says "Do not exceed one page for the description of location." Please clarify?					
Project Participant's response				Date:	21/11/2014
PP has revised the section A.2.4 of the PDD in line with Instructions for filling out the project design document form for small-scale CDM project activities. The section A.2.4 of the revised PDD is now concluded within one page.					
Documentation provided as evidence by Project Participant					
PDD Version 6					
Auditor's assessment comment				Date:	30/11/2014
The description under section A.2.4 of the revised PDD is now limited to one page as accordance to Instructions for filling out the project design document form for small-scale CDM project activities.					

Conclusion by Lead Auditor	Date:	30/11/2014
Based on review of the updated PDD version 06, assessment team confirms that the PP has made appropriate changes in section A.2.4 of the PDD. These changes are found to be correct; hence CAR#4 is closed satisfactorily.		

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	05
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			B.6.2.2
Description of the audit finding				Date:	16/11/2014
Appendix 3 is not given any details, it is only referring section B.2 of the PDD, please clarify?					
Project Participant's response				Date:	21/11/2014
PP has revised the section B.6.2 of the PDD to remove the reference of Appendix 3 as the complete relevant details have been covered under Section B.2 of the PDD.					
Documentation provided as evidence by Project Participant					
PDD version 6					
Auditor's assessment comment				Date:	30/11/2014
The reference of section B.2 of the PDD has been provided in Appendix 3 of the PDD.					
Conclusion by Lead Auditor				Date:	30/11/2014
Based on review of the updated PDD version 06, assessment team confirms that the PP has made appropriate changes as reference of the section B.2 is provided in Appendix 3 of the PDD. These changes are found to be correct; hence CAR#5 is closed satisfactorily.					

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	06
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			B.6.3.3
Description of the audit finding				Date:	16/11/2014
The Project participant requested to clarify why the CELL "A32 " spread sheet "ER calculation "of emission reduction sheet mentions 14 and also requested to clarify that why the information about monitoring period from 01/01/2013 to 24/11/2014 is not mentioned ? Also, document version /date is not provided for Emission Reduction Excel sheet, please clarify?					
Project Participant's response				Date:	21/11/2014
PP has revised the ER calculation sheet to correct the information of year in the cell 'A32'. Also, the document version number & date has been provided therein. As explained in response 3.3 above, PP would like to clarify that the information pertaining period from 01/01/2013 to 24/11/2014 has not been included as the particular period is not verified as on the date of submission of the renewal PDD.					
Documentation provided as evidence by Project Participant					
ER calculation version 2					
Auditor's assessment comment				Date:	30/11/2014

The information of year in the cell 'A32' and document version number & date are provided in ER sheet.		
Conclusion by Lead Auditor	Date:	30/11/2014
Based on review of the updated ER calculation sheet, assessment team confirms that the PP has corrected the information of year in the cell 'A32' and document version number & date are provided in ER sheet. Also, the PP has clarified about monitoring period 01/01/2013 to 24/11/2014 that same will be CDM verified in coming future. These changes are found to be correct; hence CAR#6 is closed satisfactorily.		

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	07
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			B.7.1.3
Description of the audit finding				Date:	16/11/2014
<ol style="list-style-type: none"> <li>1. The information about Measurement methods and procedure, monitoring frequency and purpose of date for parameter NCV diesel is not complete in section B.7.1 of the PDD. Please clarify?</li> <li>2. The information about purpose of date for parameter EF<sub>CO2_diesel</sub> is not complete in section B.7.1 of the PDD. Please clarify?</li> </ol>					
Project Participant's response				Date:	21/11/2014
<ol style="list-style-type: none"> <li>1. PP has revised the section B.7.1 of the PDD to provide the relevant information for the NCV of diesel.</li> <li>2. PP has revised the section B.7.1 of the PDD to provide the 'purpose of data' for the parameter EF<sub>CO2_diesel</sub>.</li> </ol>					
Documentation provided as evidence by Project Participant					
PDD version 6					
Auditor's assessment comment				Date:	30/11/2014
<p>The PP has submitted the revised PDD version 06 dated 21/11/2014 and following information has been verified by assessment team:</p> <ol style="list-style-type: none"> <li>1. The information about Measurement methods and procedure, monitoring frequency and purpose of date for parameter NCV diesel is provided in section B.7.1 of the PDD.</li> <li>2. The information about purpose of date for parameter EF<sub>CO2_diesel</sub> is provided in section B.7.1 of the PDD.</li> </ol>					
Conclusion by Lead Auditor				Date:	30/11/2014
Based on review of the updated PDD version 06, assessment team confirms that the PP has made appropriate changes in section B.7.1 of the PDD. These changes are found to be correct; hence CAR#7 is closed satisfactorily.					

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	08
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			C.2.1
Description of the audit finding				Date:	16/11/2014

<p>The project participant requested to clarify that why the starting date of first crediting period mentioned in section C.2.2 of the PDD?</p>		
Project Participant's response	Date:	21/11/2014
<p>PP has revised the section C.2.2 of the PDD by deleting the starting date of first crediting period as the same is irrelevant for that section.</p>		
<p>Documentation provided as evidence by Project Participant</p>		
<p>PDD version 6</p>		
Auditor's assessment comment	Date:	30/11/2014
<p>The starting date of first crediting period is deleted from section C.2.2 of the PDD as the same is irrelevant for that section.</p>		
Conclusion by Lead Auditor	Date:	08/01/2015
<p>Based on review of the updated PDD version 06, assessment team confirms that the PP has made appropriate changes in section C.2.2 of the PDD.</p> <p>The start date of crediting period is not appropriate, please clarify?</p>		
Project Participant's response	Date:	10/01/2015
<p>The start date of crediting period has been revised appropriately.</p> <p>Please refer to the final PDD, version 6.2, dated 10/01/2015.</p>		
<p>Documentation provided as evidence by Project Participant</p>		
<p>PDD version 6.2, dated 10/01/2015</p>		
Auditor's assessment comment	Date:	14/01/2015
<p>The PP has revised the start date of crediting period in section C.2.2 of the revised PDD version 6.2, dated 10/01/2015 and same is found to be correct and hence accepted.</p>		
Conclusion by Lead Auditor	Date:	14/01/2015
<p>Based on review of the updated PDD version 06.2, assessment team confirms that the PP has appropriately revised the start date of crediting period in the PDD. This is found to be correct; hence CAR#8 is closed satisfactorily.</p>		

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	09
Raised by:	Vivek Kumar	Ahirwar	Ref. to checklist in table 1:	G.6.1	
Description of the audit finding				Date:	16/11/2014
<p>The Project Participant is requested to clarify why the summary of post registration changes are not provided in Appendix 6 of the PDD?</p>					
Project Participant's response				Date:	21/11/2014
<p>PP has revised the PDD to provide the summary of post registration changes in Appendix 6 of the PDD. The notification of changes to the registered PDD and revision in monitoring plan were submitted to the EB and approved by EB on 31/05/2011.</p> <p>Please refer the web link <a href="http://cdm.unfccc.int/Projects/DB/BVQI1186166310.82/view">http://cdm.unfccc.int/Projects/DB/BVQI1186166310.82/view</a></p>					

Documentation provided as evidence by Project Participant		
1) <a href="http://cdm.unfccc.int/Projects/DB/BVQI1186166310.82/view">http://cdm.unfccc.int/Projects/DB/BVQI1186166310.82/view</a> 2) PDD version 6		
Auditor's assessment comment	Date:	30/11/2014
The summary of post registration changes in Appendix 6 of the PDD. The notification of changes to the registered PDD and revision in monitoring plan were submitted to the EB and approved by EB on 31/05/2011. This is verified from UNFCCC project view page <a href="http://cdm.unfccc.int/Projects/DB/BVQI1186166310.82/view">http://cdm.unfccc.int/Projects/DB/BVQI1186166310.82/view</a>		
Conclusion by Lead Auditor	Date:	30/11/2014
Based on review of the updated PDD version 06, assessment team confirms that the PP has provided the summary of post registration changes in Appendix 6 of the PDD. This is found to be correct; hence CAR#9 is closed satisfactorily.		

Type:	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR	Number:	10
Raised by:	Vivek Kumar Ahirwar	Ref. to checklist in table 1:			B.1.3
Description of the audit finding				Date:	05/12/2014
<p>The PDD version 6 is applied version 17 of AMS I.D.; however the latest version 18 of the applied methodology is publicly available; please clarify whether the PP would like to update PDD accordingly?</p> <p>Also, please confirm information about future monitoring scenario as mentioned in Appendix 5 of the PDD. Also, the PP is requested to provide the source of 0.86 kg/liters (density of diesel) as it mentioned in section B.7.1 of the PDD; accordingly the same need to be appropriately used in the ER sheet.</p>					
Project Participant's response				Date:	08/12/2014
<p>PDD has been revised with the latest available version of methodology i.e. AMS ID version 18. Now the version 6.1 of the PDD is submitted to DOE as final.</p> <p>Also, PP hereby confirms that the current scenario of monitoring systems will be valid throughout the II<sup>nd</sup> crediting period. Project has been permitted to retain the existing Metering arrangement. A copy of approval received from the competent authority (ED - MPPTCL-Jabalpur) is attached for reference. As such PP will not require to shift their Billing Meters (check and main) from the existing position. Thus, the future scenario highlighted in the registered will not take shape. Hence, PP has removed the future scenario mentioned in Appendix 5 of PDD and also the section B.7.3 has been amended suitably.</p> <p>PP has revised the PDD to provide the source of density of diesel and the same has been considered appropriately in the ER sheet.</p>					
Documentation provided as evidence by Project Participant					
PDD Version 6.1, dated 08/12/2014 ER sheet, version 2.1, dated 08/12/2014 Letter from MPPTCL confirming metering arrangement, dated 26/04/2011					
Auditor's assessment comment				Date:	08/12/2014

The PDD version 06.1 updated as per latest version 18 of AMS I.D. and same was checked and found appropriate.

The future monitoring scenario as mentioned in Appendix 5 (as previous version of PDD), now removed from PDD version 06.1 as it is irrelevant as the current scenario of monitoring systems will be valid throughout the II<sup>nd</sup> crediting period and same was checked and confirmed during site visit and review of Letter from MPPTCL confirming metering arrangement.

The PP has provided source of density of diesel in revised PDD and ER sheet has been corrected accordingly.

Conclusion by Lead Auditor

Date:

08/01/2015

Based on review of the updated PDD version 06.1 and ER sheet version 2.1, assessment team confirms that the PP has made appropriate changes in the PDD and ER sheet.

The ER sheet is not appropriately mentioned crediting years. Please clarify?

Project Participant's response

Date:

10/01/2015

The crediting years are now revised appropriately to suit the start date of crediting period proposed. The same has been updated in the PDD & ER sheet.

Documentation provided as evidence by Project Participant

PDD version 6.2, dated 10/01/2015

ER sheet, version 2.2, dated 10/01/2015.

Auditor's assessment comment

Date:

14/01/2015

The PP has revised the crediting years in section B.6.4 as per the start date of crediting period proposed per in section C.2.2 of the revised PDD version 6.2, dated 10/01/2015 and same is found to be correct and hence accepted. Similarly, the ER sheet version 2.2 dated 10/01/2015 is updated by the PP, hence accepted.

Conclusion by Lead Auditor

Date:

14/01/2015

Based on review of the updated PDD version 06.2 and ER sheet version 2.2, assessment team confirms that the PP has appropriately revised the crediting years in the PDD and ER sheet. These changes are found to be correct; hence CAR#10 is closed satisfactorily.

**Annex 2: Information Reference List**

Ref. No.	Author/Editor/Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
	Applus+ LGAI	Onsite interview ( 14/11/2014 and 15/11/2014) carried out: <u>Assessment Team:</u> Vivek Kumar LA/TE Applus+ External Auditor, India Ahirwar Ajay Singh Thakur A Applus+ External Auditor, India <u>Interviewed Persons:</u> Mr. Anil Ranade Chief Engineerin g Manager Ascent Hydro Projects Limited Mr. C. P. Senior Engineer Ascent Hydro Projects Limited Vishwakarma Mr. pramod Senior Engineer Ascent Hydro Projects Limited Mahaan	14/11/2014 and 15/11/2014	
<b>1.</b>	<b>Basic Documents (Monitoring Report, Project Design Documents, Previous Verification Reports)</b>			
1.1.	Ascent Hydro Projects Limited	Project title: 2.2 MW hydropower plant in Birsinghpur, Madhya Pradesh of Ascent Hydro Projects Limited (AHPL) UNFCCC ref. number: 1280 UNFCCC view page: <a href="http://cdm.unfccc.int/Projects/DB/BVQI1186166310.82/view">http://cdm.unfccc.int/Projects/DB/BVQI1186166310.82/view</a>		
1.2.	Ascent Hydro Projects Limited	Registered PDD, Version 03	19/06/2007	
1.3.	Ascent Hydro Projects Limited	Revised PDD, Version 04	15/04/2011	
1.4.	Ascent Hydro Projects Limited	PDD, Version 05	27/10/2014	
1.5.	Ascent Hydro Projects Limited	PDD, Version 06	21/11/2014	
1.6.	Ascent Hydro Projects Limited	E-Mail send to EB for request a renewal of crediting period	29/04/2014	



Ref. No.	Author/Editor/Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
1.7.	Ascent Hydro Projects Limited	The monitoring reports and corresponding verification reports for the 1 <sup>st</sup> crediting period		
1.8.	Ascent Hydro Projects Limited	PDD, Version 06.1	08/12/2014	
1.9.	Ascent Hydro Projects Limited	PDD, Version 06.2	10/01/2015	
1.10.	Ascent Hydro Projects Limited	E-Mail send to EB for request a renewal of crediting period with updated PDD and DOE information. Acknowledgement by UNFCCC.	18/12/2014	
1.11.	Ascent Hydro Projects Limited	E-Mail confirmation by UNFCCC for acceptance of intimation for request a renewal of crediting period with updated PDD and DOE information.	05/01/2015	
<b>2.</b>	<b>References and requirements at UNFCCC/IPCC/etc.</b>			
2.1.	UNFCCC	AMS-I.D. "Grid connected renewable electricity generation", version 11.0.0	04/05/2007	
2.2.	UNFCCC	AMS-I.D. "Grid connected renewable electricity generation", version 18.0.0	28/11/2014	
2.3.	UNFCCC	Clean development mechanism project standard, version 07.0	01/06/2014	
2.4.	UNFCCC	Clean development mechanism validation and verification standard, version 07.0	01/06/2014	
2.5.	UNFCCC	Clean development mechanism project cycle procedure, version 07.0	01/06/2014	
2.6.	UNFCCC	Tool to calculate the emission factor for an electricity system, Version 04.0	04/10/2013	
2.7.	UNFCCC	Tool to calculate project or leakage CO2 emission from fossil fuel combustion, version 02	02/08/2008	
2.8.	UNFCCC	Assessment of the validity of the current/original baseline and update of the baseline at the renewal of the crediting period, Version 03.0.1	02/03/2012	
2.9.	UNFCCC	Guidelines for completing the project design document form (as part of project design document form for small-scale CDM project activities (F-CDM-SSC-PDD) Version 05	25/06/2014	
2.10.	UNFCCC	Guidelines on assessment of de-bundling for SSC project activities, Version 03	28/05/2010	
2.11.	IPCC	IPCC 2006 guidelines for stationary combustion (chapter 2).		

Ref. No.	Author/Editor/Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
<b>3.</b>	<b>Project implementation information</b>			
3.1.	Ascent Hydro Projects Limited	Agreement signed between the State Electricity Utility and the Project Participant for purchase of power, wheeling , captive use, third party sale and setting up of Birsinghpur Mini-Hydel project (2 X 1100 kW)	26/07/1999	
3.2.	MPPKVVCL	Letter from the Executive Engineer, MPPKVVCL indicating Unit I of the project activity plant to have been commissioned on 24/10/2006.	20/11/2006	
3.3.	MPPKVVCL	Letter from the Executive Engineer, MPPKVVCL indicating Unit II of the project activity plant to have been commissioned on 06/02/2007.	14/02/2007	
3.4.	Chief Inspector of Factories	Valid License to Work a Factory under the Indian Factories Act, 1948 granted by the Chief Inspector of Factories to the project activity vide license no. 176/12649/UMR/2M (i) renewed vide no. 404 dated 17/03/2009 valid up-to 31/12/2018.	17/03/2009	
3.5.	State Pollution Control Board	Valid consent to operate the project plant under the Air [Prevention & Control of Pollution] Act, 1981 issued by the State Pollution Control Board vide letter no. 3555/TS/ MPPCB/2014 dated 19/06/2014 and valid up-to 30/06/2016.	19/06/2014	
3.6.	State Pollution Control Board	Valid consent to operate the project plant under the Water [Prevention & Control of Pollution] Act, 1974 issued by the State Pollution Control Board vide letter no. 3553/TS/MPPCB/2014 dated 19/06/2014 and valid up-to 30/06/2016.	19/06/2014	
3.7.	Ascent Hydro Projects Limited	Power Purchase Agreement between Ascent Hydro Projects Limited and Nicholas Piramal India Limited	29/04/2006	
3.8.	Ascent Hydro Projects Limited	Power Purchase Agreement between Ascent Hydro Projects Limited and IPCA Laboratories Limited	04/08/2006	
3.9.	Ascent Hydro Projects Limited	Power Purchase Agreement (Second Amendment) between Ascent Hydro	04/08/2011	

Ref. No.	Author/Editor/Issuer	Title/Type of Document. Publication place	Issuance and/or submission date (dd/mm/yyyy)	Additional Information (Relevance in CDM Context)
		Projects Limited and IPCA Laboratories Limited		
3.10.	Ascent Hydro Projects Limited	Power Purchase Agreement (Third Amendment) between Ascent Hydro Projects Limited and Piramal Enterprises Limited	26/04/2014	
3.11.	Applus	Site Visit Photographs for onsite assessment of audit team	14/11/2014 and 15/11/2014	
3.12.	Applus	Site Visit Attendance Sheet	14/11/2014 and 15/11/2014	
3.13.	MPPTCL	Letter from MPPTCL confirming metering arrangement	26/04/2011	
<b>4.</b>	<b>ER calculation and cross checking issue</b>			
4.1.	Ascent Hydro Projects Limited	Emission Reduction calculation spreadsheet Version 01	27/10/2014	
4.2.	Ascent Hydro Projects Limited	Emission Reduction calculation spreadsheet Version 02	21/11/2014	
4.3.	CEA	Baseline Carbon Dioxide Emission Database ,Version 9.0, from the Central Electricity Authority (CEA), Ministry of Power, Government of India website <a href="http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm">http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm</a>	27/01/2004	Data source for: - $EF_{grid,OMsimple,y}$ - $EF_{grid,BM,y}$ - $EF_{grid,CM,y}$
4.4.	Ascent Hydro Projects Limited	Emission Reduction calculation spreadsheet Version 02.1	08/12/2014	
4.5.	Ascent Hydro Projects Limited	Emission Reduction calculation spreadsheet Version 02.2	10/01/2015	
<b>5.</b>	<b>Other issues</b>			
5.1.	None	None	None	