



---

# VALIDATION REPORT

---

## 2 X 5 RADHANAGARI HYDRO ELECTRIC PROJECT IN INDIA

REPORT No. 2006-9048

REVISION No. 02

DET NORSKE VERITAS



## VALIDATION REPORT

Date of first issue: 2006-03-09	Project No.: 2006-9048.
Approved by: Einar Telnes Director	Organisational unit: DNV Certification, International Climate Change Services
Client: EcoSecurities Group Ltd.	Client ref.: Sumalee Khosla- Project Manager

DET NORSKE VERITAS AS

DNV Certification

Veritasveien 1,  
1322 HØVIK, Norway  
Tel: +47 67 57 99 00  
Fax: +47 67 57 99 11  
<http://www.dnv.com>  
Org. No: NO 945 748 931 MVA

### Summary:

Det Norske Veritas Certification Ltd. (DNV) is performing a validation of the “2 X 5 Radhanagari Hydro Electric Project” in India on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, the simplified modalities and procedures for small-scale CDM project activities and the subsequent decisions by the CDM Executive Board.

The validation consists of the following three phases: i) a desk review of the project design documents, ii) follow-up interviews with project stakeholders and iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

This hydro project developed on the existing Radhanagari irrigation dam has a nominal capacity of 10 MW. The project applies the simplified monitoring methodology proposed for small-scale category I.D CDM project activities. It will contribute to sustainable development by displacing fossil fuel with renewable energy

In summary, it is DNV's opinion that the “2 X 5 Radhanagari Hydro Electric Project” project, as described in the revised PDD of April 2006, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology for category I.D small-scale CDM project activities. DNV Certification thus requests the registration of the project as a CDM project.

Report No.: 2006-9048	Subject Group: Energyt
Report title: 2 X 5 Radhanagari Hydro Electric Project in India	
Work carried out by: Mr. Praveen Nagaraje Urs Mr. Soumik Biswas Mr.C.Kumaraswamy	
Work verified by: Einar Telnes	
Date of this revision: 2006-04-21	Rev. No.: 02
Number of pages: 10	

### Indexing terms

Key words Climate Change Kyoto Protocol Validation Clean Development Mechanism	Service Area Verification Market Sector Energy industries (renewable - / non-renewable sources)
-----------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------

- ☒ No distribution without permission from the client or responsible organisational unit
- ☐ free distribution within DNV after 3 years
- ☐ Strictly confidential
- ☐ Unrestricted distribution

© 2002 Det Norske Veritas AS

All rights reserved. This publication or parts thereof may not be reproduced or transmitted in any form or by any means, including photocopying or recording, without the prior written consent of Det Norske Veritas AS.



<b><i>Table of Content</i></b>	<b><i>Page</i></b>
1 INTRODUCTION .....	1
1.1 Validation Objective	1
1.2 Scope	1
1.3 Description of Proposed CDM Project	1
2 METHODOLOGY .....	2
2.1 Review of Documents	4
2.2 Follow-up Interviews	4
2.3 Resolution of Clarification and Corrective Action Requests	4
3 VALIDATION FINDINGS .....	4
3.1 Participation Requirements	4
3.2 Project Design	4
3.3 Project Baseline	5
3.4 Additionality	6
3.5 Monitoring Plan	6
3.6 Calculation of GHG Emissions	7
3.7 Environmental Impacts	7
3.8 Comments by Local Stakeholders	7
4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS .....	8
5 VALIDATION OPINION .....	9
REFERENCES.....	10

## Appendix A Validation Protocol

***Abbreviations***

BOOT	Build Own Operate and Transfer
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH <sub>4</sub>	Methane
CL	Clarification request
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
DNV	Det Norske Veritas
DNA	Designated National Authority
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MP	Monitoring Plan
MPCB	Maharashtra Pollution Control Board
MSEB	Maharashtra State Electricity Board
N <sub>2</sub> O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
PDD	Project Design Document
PPA	Power Purchase Agreement
RMMTL	R M Mohite Textiles Limited
UNFCCC	United Nations Framework Convention on Climate Change



## 1 INTRODUCTION

EcoSecurities Group Ltd. has commissioned Det Norske Veritas Certification Ltd. (DNV) to validate the “2 X 5 Radhanagari Hydro Electric Project” (hereafter called “the project”) in India. This report summarises the findings of the validation of the project, performed on the basis of UNFCCC criteria for small-scale CDM projects, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation team consists of the following personnel:

Mr C.Kumaraswamy	DNV Certification Bangalore, India	Team leader
Mr. Praveen Nagaraje Urs	DNV Certification Bangalore, India	GHG auditor
Mr. Soumik Biswas	DNV Certification Bangalore, India	GHG auditor
Mr. Einar Telnes	DNV Certification Oslo	Sector expert and technical reviewer

### 1.1 Validation Objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

### 1.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, the simplified modalities and procedures for small-scale CDM project activities and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology AMS-I.D. The validation team has, based on the recommendations in the Validation and Verification Manual /5/ employed a risk-based approach, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

### 1.3 Description of Proposed CDM Project

The project, proposed by R. M. Mohite Textiles Ltd (RMMTL) for registration as small-scale activity under the CDM, involves the installation and operation of two hydropower generation units of 5MW capacity each, aggregating a total installed capacity of 10 MW. The project is located on the Radhanagari irrigation dam in Kolhapur district of Maharashtra State, India. The project activity utilizes the irrigation water for power generation and exports the generated power to the grid.

Given an anticipated annual generation rate of 26 939 MWh, the project is expected to reduce 21 173 tons CO<sub>2</sub> tonnes of CO<sub>2</sub>e per year



## 2 METHODOLOGY

The validation consists of the following three phases:

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

In order to ensure transparency, a validation protocol was customised for the project, according to the Validation and Verification Manual /5/. The protocol shows in transparent manner criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in Figure 1.

The completed validation protocol for the “2 x 5 Radhanagari hydro electric project” is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of validation protocol criteria or where a risk to the fulfilment of project objectives is identified. Corrective Action Requests (CAR) are issued, where:

- i) Mistakes have been made with a direct influence on project results;
- ii) Validation protocol requirements have not been met; or
- iii) There is a risk that the project would not be accepted as a CDM project or that emission reductions will not be certified.

The term Clarification may be used where additional information is needed to fully clarify an issue.



<b>Validation Protocol Table 1: Mandatory Requirements for CDM Project Activities</b>			
<b>Requirement</b>	<b>Reference</b>	<b>Conclusion</b>	<b>Cross reference</b>
<i>The requirements the project must meet.</i>	<i>Gives reference to the legislation or agreement where the requirement is found.</i>	<i>This is either acceptable based on evidence provided (<b>OK</b>), a <b>Corrective Action Request (CAR)</b> of risk or non-compliance with stated requirements or a request for <b>Clarification (CL)</b> where further clarifications are needed.</i>	<i>Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.</i>

  

<b>Validation Protocol Table 2: Requirement Checklist</b>				
<b>Checklist Question</b>	<b>Reference</b>	<b>Means of verification (MoV)</b>	<b>Comment</b>	<b>Draft and/or Final Conclusion</b>
<i>The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found.</i>	<i>Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.</i>	<i>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.</i>	<i>This is either acceptable based on evidence provided (<b>OK</b>), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). A request for <b>Clarification (CL)</b> is used when the validation team has identified a need for further clarification.</i>

  

<b>Validation Protocol Table 3: Resolution of Corrective Action Requests and Requests for Clarification</b>			
<b>Draft report corrective action requests and requests for clarifications</b>	<b>Ref. to Table 2</b>	<b>Summary of project participants' response</b>	<b>Final conclusion</b>
<i>If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.</i>	<i>The responses given by the project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".</i>

**Figure 1 Validation protocol tables**



## 2.1 Review of Documents

The PDD /1/ submitted by EcoSecurities Group Ltd. dated 20 April 2006 (and its earlier version) and additional background documents related to the project design and baseline were reviewed.

## 2.2 Follow-up Interviews

On 7 April 2006, DNV conducted interviews with the project stakeholders to confirm selected information and to resolve issues identified in the document review. The main topics of the interview are summarised in table 1

**Table 1 Interview topics**

Interviewed organisation	Interview topics
<b>RMMTL.</b> S.L.Diwan – Director (Power Project) <b>Eco Securities.</b> Sumalee Khosla Sneha Menon <b>MITCON</b> Deepak Zade	<ul style="list-style-type: none"> <li>• Clarifications of the comments identified in the document review</li> <li>• Clarifications of the stakeholders comments process</li> <li>• Understanding of the material issues that may impact the CER generation</li> <li>• Systems in place to ensure the proper implementation of the project</li> </ul>

## 2.3 Resolution of Clarification and Corrective Action Requests

The initial validation identified one Corrective Action Requests (CAR) and five requests for Clarification (CL). The additional information provided by the project participant to address these requests resolved the *Corrective Action Request* and the requests for *Clarification* to DNV's satisfaction. To guarantee the transparency of the validation process, the concerns raised by DNV and the response provided by the project participant are documented in Table 3 of the Validation Protocol in Appendix A

## 3 VALIDATION FINDINGS

### 3.1 Participation Requirements

The project participants are R. M. Mohite Textiles Ltd. from the host country India, and EcoSecurities Group Ltd from The United Kingdom. Both India and UK have ratified the Kyoto Protocol and established their respective DNA's as per participation requirements under the Kyoto Protocol. No public funding has been used for the project activity.

### 3.2 Project Design

The Radhanagari hydro electric project is being installed in the state of Maharashtra in India.





Being a renewable energy project activity with an output capacity of less than 15 MW, the project qualifies as a small-scale CDM project activity according to category (i) defined in paragraph 6, subparagraph (c) of decision 17/CP.7 on the modalities and procedures for the CDM.

The power house comprises two synchronous generator of capacity 5000 KW each; coupled to 2 Francis turbines. The generated voltage at the generator terminals will be 6.6 kV, which will be stepped-up to 33 kV to match the nearest substation voltage level.

The hydroelectric project uses the irrigation discharges & spillage (only in the monsoon season) for power generation. The proposed project exports the net generated power to the regional grid system, which will subsequently be tapped by RMMTL for use at their manufacturing facility. Hence, the generation by the proposed project activity is based on a renewable source and it is expected that the proportion of fossil fuel based generation in the grid will be reduced by the project activity, thus leading to lower grid carbon intensity.

Emission reductions due to the project activity mainly depend on the energy fed to the grid and the content of fossil fuel based generation in the grid system. The project will export about 26.9 million kWh to the grid per year, which will generate emission reductions of about 21 173 tons of CO<sub>2</sub>e. The project is currently in its construction phase. The expected operational lifetime of the project activity is 28 years. A 7 year crediting period is chosen with the option for renewing this twice.

The project envisages use of renewable and sustainable form of energy for availability of reliable and good quality power generation, which in turn will result in rural development due to the location of the project, capacity addition to the present installed local capacity and increase the energy availability. The project is also likely to create simple income, provide jobs and contribute to local development.

### 3.3 Project Baseline

The project is a *Grid connected renewable electricity generation* project activity (Type I.D) as per appendix B of the simplified modalities and procedures for small scale CDM project activities. The baseline for CDM emission reductions will be the kWh produced by the proposed project multiplied by the emission coefficient for other power stations connected to the grid. The choice of this baseline methodology is applicable and conservative for the following reasons: The peak demand for power in the state during 2004-05 was 12749 MW as compared to the generation capacity of 9300 MW. This implies a peak gap of 3449 MW during 2004-05. In 2005-06, the peak demand recorded in May 05 was 12987 MW, which is again a jump of 238 MW over the previous year. This had resulted in a shortage (load shedding) of 3687 MW in May 05. While the planned capacity additions (primarily through fossil fuelled power) are not expected to meet this demand, renewable energy sources are expected to contribute to only marginally. Hence, it can be concluded that the grid system will still be carbon intensive during the first crediting period of seven years.

For estimating the baseline emission factor the project proponent has chosen the option of weighted average emissions (in kgCO<sub>2</sub>/kWh) of the current generation mix and the Maharashtra state grid generation mix has been considered for the same. It has been determined and verified that the current generation mix of the state grid (785.96 tCO<sub>2</sub>/GWh) is less than that of the Western Regional Grid (981.98 tCO<sub>2</sub>/GWh). Thus the project proponents contention that for a small scale project such as theirs would be impacting the state grid more than the regional grid



and that the calculations of the CERs for the project activity would be more conservative than the regional grid is considered acceptable.

### 3.4 Additionality

The project's additionality has been demonstrated through investment barriers, technological barrier and prevailing practice.

It has been presented and verified that the project proponent is the first to set up a hydro power plant in the private sector after the decision by the Government the Maharashtra to allow privatisation in the power sector. The following arguments presented by the project proponent have considered reasonable and demonstrates that RMMTL would otherwise not have gone ahead with the project activity.

- RMMTL venturing into the power sector despite their lack of technical expertise and experience in the hydro sector and this has necessitated additional costs for third party technical expertise.
- Difficulties encountered in achieving the financial closure in short span of time as per the requirement from the Government, which has forced RMMTL to acquire loan at high interest rates. A 70% loan secured at an interest rate of 9.5% renders the project as viable only with the foreseen carbon credits.
- Maharashtra state has a power deficiency and lack of reliable power has in turn affected the core business of RMMTL and therefore this initiative by the proponent as a project activity, and
- Carbon financing over the 7-year crediting period, as one of the cash-in flows of the project, has added more credibility to R.M Mohite Textiles Ltd. loan repayment capability.

It is been confirmed that the common practice in the country is to invest on medium and large scale fossil fuel fired power projects as opposed to small hydro power projects. Currently, India has 514 small hydro power projects with an aggregate capacity of 1,693 MW. As per the Ministry of Non-conventional Energy Sources, against an estimated potential of about 15,000 MW of small hydro power projects, the percentage of installed capacity small scale hydro power in India is still only 11% of the potential. In the state of Maharashtra, only 27 out of the 234 possible hydro electric sites identified by the MNES have been developed, thus indicating that investments in small hydroelectric power plants is still not a common practice, despite efforts by MNES to promote small scale hydro power. It has also been established that RMMTL is the first private player to have been allotted a site for development of captive power production for 100% self-consumption by the Government of Maharashtra, Irrigation Department.

The above presented arguments thus sufficiently demonstrate that the project is not a likely baseline scenario and that emission reductions resulting from the project are additional.

### 3.5 Monitoring Plan

The selected monitoring methodology is in line with the monitoring methodology for small-scale CDM project activity category I.D – *Grid connected renewable electricity generation*. The monitoring will involve metering the electricity generated and sold to the grid. The CO<sub>2</sub> emission reductions due to the project are directly linked to the electricity generated and supplied by the project to the state grid. The project monitoring and maintenance responsibilities are also clearly



specified. The monitoring methodology will give opportunity for real measurements of achieved emission reductions.

Details of the data to be collected, the frequency of data recording and its format are clearly described and deemed to be adequate.

The authority and responsibility for project management, monitoring, measurement, review and reporting has been established. The procedures for calibration and maintenance, performance reviews, internal auditing, corrective actions, etc. are expected to be established before the commissioning of the project activity in 2007.

Since the renewable energy technology is not transferred from any other location, leakage has not been considered in this case.

No extensive initial training is needed for the operation and maintenance of this type of technology. As RMMTL is in the process of finalising the contract for operation and maintenance with a third party who is renowned in the field of hydro power, training and maintenance has not been specifically addressed in the PDD, which is deemed reasonable.

### 3.6 Calculation of GHG Emissions

The project will partly displace fossil fuel-based electricity generation. The methodology complies with one of the approaches proposed for category I.D project activities. The weighted average emissions of the current generation mix, for the year 2004-2005 have been taken for the state grid. The baseline emission co-efficient has been derived from the data, as published by the Central Electricity Authority (The Ministry of Power, Government of India), on annual energy generation from all coal, gas and diesel power generation systems in the grid and the net heat rates for the fuel, IPCC default values have also been used, where applicable. The calculations are transparently documented and appropriate assumptions regarding expected amounts of electricity generated have been used to forecast emission reductions. While the project emissions are zero, emission reductions are equal to the baseline emissions calculated to be 21 173 tCO<sub>2</sub> per year.

Since the renewable energy technology does not represent equipment transfer from another activity, leakage calculations are not required for category I.D project activities.

### 3.7 Environmental Impacts

The proposed project utilizes the irrigation water from an existing dam, the environmental impacts of the project are not considered significant. As per the requirements of MoEF, an EIA is not required for small hydroelectric projects involving investment less than INR 1000 million, so the proposed project does not require an environment impact assessment. Consent to establish the hydro power project under the provisions of the Water and Air (Prevention and Control of Pollution) Act has been issued by the Maharashtra State Pollution Control Board and consent to operate shall have to be obtained upon commissioning of the project.

### 3.8 Comments by Local Stakeholders

Local stakeholders from the communities in the vicinity to the project site i.e., the village panchayat MPCB, Irrigation Department Officials, MSEB and the district collector have been consulted and clearances obtained. Local stakeholders support the project and no modifications to the project design were necessary. As the project is not expected to have considerable social



and environmental impacts, the local stakeholder consultation process carried out for the project is deemed sufficient

#### **4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS**

The PDD of 27 January 2006 was made publicly available on DNV's climate change website ([www.dnv.com/certification/climatechange](http://www.dnv.com/certification/climatechange)) and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during a 30 days period from 09 February 2006 to 10 March 2006. No comments were received.



## 5 VALIDATION OPINION

*Det Norske Veritas Certification Ltd. (DNV) has in the period January 2006 to April 2006 performed a validation of the “2 X 5 Radhanagari Hydro Electric Project” in Maharashtra, India proposed as a small-scale CDM project activity. The validation is performed on the basis of UNFCCC criteria for small-scale CDM project activities, as well as criteria given to provide for consistent project operations, monitoring and reporting. This validation report summarises the findings of the validation of the project design and the project’s baseline and monitoring plan.*

*The project utilises the irrigation water from the existing Radhanagari irrigation dam. Being a renewable energy project activity with an output capacity of 10 MW, the project qualifies as a category I.D small-sale CDM project.*

*The project will contribute to sustainable development by displacing fossil fuel-based electricity generation with renewable energy. The project participants are R. M. Mohite Textiles Ltd. from the host country India, and EcoSecurities Group Ltd from The United Kingdom The DNA of India and the DNA of The U.K have accorded the approval for the project.*

*The validation did not reveal any information indicating that the project can be seen as a diversion of ODA funding towards India.*

*An analysis of the presented barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. The determination of the baseline is transparent. The project applies one of the options given by the simplified baseline methodology proposed for category I.D project activities, i.e. the weighted average emissions of the current generation mix of the MSEB.*

*The monitoring plan provides for the monitoring of electricity generated by the project. Detailed responsibilities and authorities for project management, monitoring and reporting and QA/QC procedures have also been addressed.*

*By displacing fossil-based electricity with hydropower electricity, the project results in reductions of CO<sub>2</sub> emissions that are real, measurable and give long-term benefits to the mitigation of climate change. Project emissions are zero and the baseline emissions are forecasted using reasonable assumptions.*

*A local stakeholder consultation process has been carried out by the project participant. DNV published the PDD on the DNV Climate Change website and comments by Parties, stakeholders and UNFCCC accredited NGOs were invited through the CDM website. No comments were received on this call.*

*In summary, it is DNV Certification’s opinion that the “2 X 5 Radhanagari Hydro Electric Project” project, as described in the PDD of April 2006, meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology for category I.D small-scale CDM project activities. DNV Certification thus requests the registration of the “2 X 5 Radhanagari Hydro Electric Project” as a CDM project.*



## REFERENCES

*Documents provided by the project proponent that relate directly to the project:*

- /1/ CDM PDD of “2 X 5 Radhanagari Hydro Electric Project” dated 20 April 2006 and its previous version
- /2/ DNA of India - Letter of Approval dated 10 March 2006
- /3/ DNA of UK - Letter of Approval dated 29 March 2006

*Background documents related to the design and/or methodologies employed in the design or other reference documents:*

- /4/ International Emission Trading Association (IETA) & the World Bank’s Prototype Carbon Fund (PCF): *Validation and Verification Manual*. <http://www.vvmanual.info>
- /5/ Appendix B of the simplified modalities and procedures for small-scale CDM project activities: *Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories*. Version 07.

*Persons interviewed during the validation, or persons who contributed with other information that are not included in the documents listed above:*

- /6/ **RMMTL.**  
S.L.Diwan – Director (Power Project)  
**Eco Securities.**  
Sumalee Khosla  
Sneha Menon  
**MITCON**  
Deepak Zade

- o0o -

## **APPENDIX A**

---

### **VALIDATION PROTOCOL FOR SMALL-SCALE CDM PROJECT ACTIVITIES**

**Table 1 Mandatory Requirements for Small Scale Clean Development Mechanism (CDM) Project Activities**

Requirement	Reference	Conclusion	Cross Reference/Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art. 12.2	OK	Table 2, Section E.4.1
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, Simplified Modalities and Procedures for Small Scale CDM Project Activities §23a	OK	Table 2, Section A.3
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art. 12.2.	OK	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authority of each party involved	Kyoto Protocol Art. 12.5a, Simplified Modalities and Procedures for Small Scale CDM Project Activities §23a	<del>CAR-1</del>	Approval from the Indian DNA and a Letter of Approval from the DNA of UK to be evidenced.
5. The emission reductions should be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	OK	Table 2, Section E.1 to E.4
6. Reduction in GHG emissions must be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity	Kyoto Protocol Art. 12.5.c, Simplified Modalities and Procedures for Small Scale CDM Project Activities §26	OK	Table 2, Section B.2.1
7. In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance	Decision 17/CP.7, CDM Modalities and Procedures Appendix B, § 2	OK	No public funding is involved in the project activity.



Requirement	Reference	Conclusion	Cross Reference/Comment
and is separate from and is not counted towards the financial obligations of these Parties.			
8. Parties participating in the CDM shall designate a national authority for the CDM	CDM Modalities and Procedures § 29	OK	The Indian DNA for CDM is the National Clean Development Mechanism (CDM) Authority. The United Kingdom's DNA for CDM is the Department for Environment, Food and Rural Affairs.
9. The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol	CDM Modalities and Procedures § 30, 31b	OK	India has ratified the Kyoto protocol on 26 August 2002. The United Kingdom has ratified the Kyoto Protocol on 31 May 2002.
10. The participating Annex I Party's assigned amount shall have been calculated and recorded	CDM Modalities and Procedures §31b	OK	The assigned amount for UK is 92% of the emissions in 1990.
11. The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7	CDM Modalities and Procedures §31b	OK	The UK has in place a National Registry
12. The proposed project activity shall meet the eligibility criteria for small scale CDM project activities set out in § 6 (c) of the Marrakesh Accords and shall not be a debundled component of a larger project activity	Simplified Modalities and Procedures for Small Scale CDM Project Activities §12a,c	OK	Table 2, Section A.1
13. The project design document shall conform with the Small Scale CDM Project Design Document format	Simplified Modalities and Procedures for Small Scale CDM Project Activities, Appendix A	OK	.
14. The proposed project activity shall confirm to one of the project categories defined for small scale CDM project activities and uses the simplified baseline and monitoring methodology for that project category	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22e	OK	Table 2, Section A.1.3, B and D

Requirement	Reference	Conclusion	Cross Reference/Comment
15. Comments by local stakeholders are invited, and a summary of these provided	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22b	OK	Table 2, Section G
16. If required by the host country, an analysis of the environmental impacts of the project activity is carried out and documented	Simplified Modalities and Procedures for Small Scale CDM Project Activities §22c	OK	Table 2, Section F
17. Parties, stakeholders and UNFCCC accredited NGOs have been invited to comment on the validation requirements and comments have been made publicly available	Simplified Modalities and Procedures for Small Scale CDM Project Activities §23b,c,d	OK	The PDD has been published on DNV's Climate Change website. Parties, stakeholders and NGOs were through the UNFCCC CDM website invited to provide comments on the validation requirement during a period of 30 days from 9th February to 10th March 2006. No comments have been received.

**Table 2 Requirements Checklist**

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
<b>A. Project Description</b> The project design is assessed.					
<b>A.1. Small scale project activity</b> It is assess whether the project qualifies as small scale CDM project activity.					
A.1.1. Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?	/1/	DR, I	The project qualifies as a renewable energy project with a maximum output capacity equivalent to up to 15 MW (Type I small-scale CDM project activity). The project involves the installation of two hydropower generation units with an installed capacity of 5 MW each. Hence the project qualifies as a small-scale CDM project.		OK
A.1.2. The small scale project activity is not a debundled component of a larger project activity?	/1/	DR, I	The project is not a de-bundled component of a larger project activity as there is no other registered small-scale CDM project likely to come up within 1 km of Radhanagari hydro electric project.		OK
A.1.3. Does proposed project activity confirm to one of the project categories defined for small scale CDM project activities?	/1/	DR	Yes, the project falls under Type I - Renewable energy projects and category I.D - Grid connected renewable electricity generation.		OK
<b>A.2. Project Design</b> Validation of project design focuses on the choice of technology and the design documentation of the project.					
A.2.1. Are the project's spatial (geographical) boundaries clearly defined?	/1/	DR, I	The project is located 5 km from Fejiwade village of Radhanagari Taluka in Kolhapur District, of Maharashtra, India.		OK
A.2.2. Are the project's system (components and	/1/	DR	The Project boundary encompasses the		OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
facilities used to mitigate GHG's) boundaries clearly defined?			Radhanagari dam, penstocks, powerhouse, power evacuation system and the grid to which the power is despatched.		
A.2.3. Does the project design engineering reflect current good practices?	/1/	DR	The project design engineering reflects good practices through the use of vertical Francis hydro turbines with surge protection system. There is however no discussion on the load factor for the turbines.	GL-1	OK
A.2.4. Will the project result in technology transfer to the host country?	/1/	DR	No technology transfer is envisaged in the project activity.		OK
A.2.5. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period? Does the project make provisions for meeting training and maintenance needs?	/1/	DR, I	Though not specifically addressed in the PDD, the project will require minimal additional training and maintenance efforts, as this involves setting up of a small hydro project using indigenous technologies It has also been confirmed that RMMTL would be entering into a operation and maintenance contract with the technology supplier.		OK
<b>A.3. Contribution to Sustainable Development</b> The project's contribution to sustainable development is assessed					
A.3.1. Will the project create other environmental or social benefits than GHG emission reductions?	/1/	DR	The project adopts a clean technology that uses renewable source for power generation and provides for increased employment opportunities in the region apart from ensuring environmental well being.		OK
A.3.2. Will the project create any adverse environmental or social effects?	/1/	DR	The project is unlikely to create any adverse environmental or social effects, as the project activity is envisaged on an existing dam that is used for irrigation purposes. The activity also does not lead to water storage or additional		OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			submergence of land or deforestation.		
A.3.3. Is the project in line with sustainable development policies of the host country?	/1/	DR	This will be confirmed after the LoA from the DNA of India is obtained.	<del>CAR</del> 4	OK
A.3.4. Is the project in line with relevant legislation and plans in the host country?	/1/	DR, I	As per the MoEF, an EIA is not required for projects costing less than INR 1000 Million, as is the case with the proposed project activity. The Consent for establishment, as per requirements of the Air Act and Water Act has been evidenced and the project activity is in line with the environmental legislations of India.		OK
<b>B. Project Baseline</b>					
The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.					
<b>B.1. Baseline Methodology</b>					
It is assessed whether the project applies an appropriate baseline methodology.					
B.1.1. Is the selected baseline methodology in line with the baseline methodologies provided for the relevant project category?	/1/	DR	Yes, the baseline methodology adopted for the project activity is in line with the approved small scale methodology AMS-ID "Grid connected renewable electricity generation". The weighted average emission in kgCO <sub>2</sub> /kWh of the current generation mix is used for baseline calculation.		OK
B.1.2. Is the baseline methodology applicable to the project being considered?	/1/	DR, I	Yes, the selected baseline methodology AMS-ID is applicable to the proposed project activity since it involves generation of power from hydro sources and the installed capacity does not exceed 15 MW. However, the following shall be demonstrated:	<del>CL</del> 2	OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			<ul style="list-style-type: none"> <li>Adoption of the MSEB grid instead of the western regional grid system grid</li> <li>Reference database used for the determination of baseline emission factor and Verifiable data sources for the same</li> </ul> <p>Is the CEF determined ex-ante for the entire crediting period?</p>		
<b>B.2. Baseline Determination</b> It is assessed whether the project activity itself is not a likely baseline scenario and whether the selected baseline represents a likely baseline scenario.					
B.2.1. Is it demonstrated that the project activity itself is not a likely baseline scenario due to the existence of one or more of the following barriers: investment barriers, technology barriers, barriers due to prevailing practice or other barriers?	/1/	DR, I	<p>The additionality of the project activity has been demonstrated through the barriers of investment, technological and prevailing practice.</p> <p>Investment barriers: It has been argued that in the absence of long term power purchase agreement (PPA) financial institutions do not favor investments in ventures such as the project activity.</p> <ul style="list-style-type: none"> <li>A 70% loan secured at an interest rate of 9.5% renders the project as viable only with the foreseen carbon credits. It has also been presented that the project proponents has to face the following investment risks:</li> <li>Hydrological and technological risks leading to higher installed cost per MWh power generated</li> <li>No compensation offered by the government in the event of grid failure or shut of the activity.</li> </ul>	GL	OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			<p>Technological barriers: It has been presented that RMMTL is inexperienced in the field of hydro power and this has necessitated additional costs for third party technical expertise. It has also been argued that the existing dam is of 1954 vintage and therefore additional costs towards civil works have to be borne by the developer.</p> <p>Prevailing practice: It is been addressed that the common practice in the country is to invest on medium and large scale fossil fuel fired power projects as opposed to small hydro power projects. It needs to be more clearly demonstrated that the project would not have occurred anyway. In the view of the validation team, the presented analysis requires additional information such as</p> <ul style="list-style-type: none"> <li>• PPA for the project activity and justification for the claim that long term PPA's are not forthcoming from the Government for small hydro projects</li> <li>• Data sources for the following claims shall also be addressed/confirmed: <ul style="list-style-type: none"> <li>• The percentage of installed capacity small scale hydro power in India is 11% of the potential of about 15,000 MW.</li> <li>• In Maharashtra state, only 27 out of the 234 possible hydro electric sites identified by the MNES have been developed.</li> </ul> </li> </ul>		
B.2.2. Is the application of the baseline methodology and the discussion and determination of the chosen baseline	/1/	DR, I	The baseline scenario considered is the MSEB grid. The conservativeness of the baseline has not been clearly demonstrated as the baseline does	CL-2	OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
transparent and conservative?			not consider other options such as western regional grid.		
B.2.3. Are relevant national and/or sectoral policies and circumstances taken into account?	/1/	DR	Yes, the national policies favour the development of renewable energy sources.		OK
B.2.4. Is the baseline selection compatible with the available data?	/1/	DR	As in B.2.2 Detailed calculations for the baseline estimations shall be forwarded clearly indicating the source of data used.	GL4	OK
B.2.5. Does the selected baseline represent the most likely scenario describing what would have occurred in absence of the project activity?	/1/	DR	It is likely that the regional grids will remain dependent on fossil fuel energy for the first seven years of the crediting period.		OK
<b>C. Duration of the Project / Crediting Period</b> It is assessed whether the temporary boundaries of the project are clearly defined.					
C.1.1. Are the project's starting date and operational lifetime clearly defined?	/1/	DR	The starting date of the project is 17 September 2005 with an expected operating lifetime of 28 years.		OK
C.1.2. Is the assumed crediting time clearly defined (renewable crediting period of seven years with two possible renewals or fixed crediting period of 10 years with no renewal)?	/1/	DR	The project has selected a renewable crediting period of 7 years starting from 01 July 2007.		OK



Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
<b>D. Monitoring Plan</b> The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.					
<b>D.1. Monitoring Methodology</b> It is assessed whether the project applies an appropriate monitoring methodology.					
D.1.1. Is the selected monitoring methodology in line with the monitoring methodologies provided for the relevant project category?	/1/	DR, I	Yes. The methodology adopted - "Metering the Electricity Generated", is in accordance with Category I.D of Appendix B of Simplified M&P".		OK
D.1.2. Is the monitoring methodology applicable to the project being considered?	/1/	DR	Yes. The monitoring methodology is applicable to the proposed project activity.		OK
D.1.3. Is the application of the monitoring methodology transparent?	/1/	DR	The application of the monitoring methodology is simple and transparent.		OK
D.1.4. Will the monitoring methodology give opportunity for real measurements of achieved emission reductions?	/1/	DR	Yes.		OK
<b>D.2. Monitoring of Project Emissions</b> It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/1/	DR	There are no emissions from the project activity.		OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
<b>D.3. Monitoring of Leakage</b> If applicable, it is assessed whether the monitoring plan provides for reliable and complete leakage data over time.					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/	DR	Not applicable.		OK
<b>D.4. Monitoring of Baseline Emissions</b> It is established whether the monitoring plan provides for reliable and complete project emission data over time.					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/1/	DR	Yes, the baseline indicators have been chosen in line with the small-scale methodologies approved by the CDM EB.		OK
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/	DR	Yes. The data will be recorded at both the project site and at the sub-station, which is under the jurisdiction of the MSEB.		OK
D.4.3. Will it be possible to monitor / measure the specified baseline indicators?	/1/	DR	Yes		OK
D.4.4. Will the indicators give opportunity for real measurements of baseline emissions?	/1/	DR	Yes, the data will be archived in electronic and paper form and archived until two years after the end of the crediting period.		OK
<b>D.5. Project Management Planning</b> It is checked that project implementation is properly prepared for and that critical arrangements are addressed.					
D.5.1. Is the authority and responsibility of project	/1/	DR,	The Chairman and Managing Director of RMMTL		OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Page A-11

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
management clearly described?		I	has the authority and responsibility of project management.		
D.5.2. Is the authority and responsibility for registration monitoring measurement and reporting clearly described?	/1/	DR, I	The site manager and a designated engineer at site is responsible for monitoring, measurement and reporting.		OK
D.5.3. Are procedures identified for training of monitoring personnel?	/1/	DR	No procedures for training of monitoring personnel are described, but the project only requires limited monitoring, which is part of normal operations.		OK
D.5.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	No GHG emission relevant emergency situations are expected to occur.		OK
D.5.5. Are procedures identified for calibration of monitoring equipment?	/1/	DR, I	This is the responsibility of the site manager. A procedure is expected to be established prior to commissioning of the plant.		OK
D.5.6. Are procedures identified for maintenance of monitoring equipment and installations?	/1/	DR	Yes, as above.		OK
D.5.7. Are procedures identified for monitoring, measurements and reporting?	/1/	DR	Yes, as above.		OK
D.5.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/1/	DR	The data is archived in electronic format. Receipts of electricity sales will be obtained. These records will be double checked with Maharashtra State Electricity Board (MSEB).		OK
D.5.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	/1/	DR	Yes, as in D.5.7		OK
D.5.10. Are procedures identified for internal audits of GHG project compliance with operational requirements as applicable?	/1/	DR	The responsibility is that of the General Manager-Works. A detailed procedure is expected to be established prior to commissioning of the plant.		OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
D.5.11. Are procedures identified for project performance reviews?	/1/	DR	Yes, as in D.5.10		OK
D.5.12. Are procedures identified for corrective actions?	/1/	DR	Yes, as in D.5.10		OK
<b>E. Calculation of GHG emission</b> It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.					
<b>E.1. Project GHG Emissions</b> The validation of ex-ante estimated project GHG emissions focuses on transparency and completeness of calculations.					
E.1.1. Are all aspects related to direct and indirect project emissions captured in the project design?	/1/	DR	No direct or indirect emissions are likely as this is a renewable energy project.		OK
<b>E.2. Leakage</b> It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed and estimated ex-ante.					
E.2.1. Are leakage calculation required for the selected project category and if yes, are the relevant leakage effects assessed?	/1/	DR	There are no leakages from the project activity. According to the simplified baseline and monitoring methodology for category I.D small-scale projects, leakage shall only be considered if the project represents transfer of energy technology equipment from another activity.		OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
<b>E.3. Baseline GHG Emissions</b> The validation of ex-ante estimated baseline GHG emissions focuses on transparency and completeness of calculations.					
E.3.1. Are the baseline emissions boundaries clearly defined and do they sufficiently cover sources for baseline emissions?	/1/	DR	Same as B.2.2	CL-2	OK
E.3.2. Are all aspects related to direct and indirect baseline emissions captured in the project design?	/1/	DR	The emissions from the baseline are related to the fossil fuel combustion for electricity generation.		OK
E.3.3. Have all relevant greenhouse gases and sources been evaluated?	/1/	DR	CO <sub>2</sub> emissions from fossil fuel consumption have been considered.		OK
E.3.4. Do the methodologies for calculating baseline emissions comply with existing good practice?	/1/	DR	Same as B.2.2	CL-2	OK
E.3.5. Are the calculations documented in a complete and transparent manner?	/1/	DR	Same as B.2.2	CL-2	OK
E.3.6. Have conservative assumptions been used?	/1/	DR	Same as B.2.2	CL-2	OK
E.3.7. Are uncertainties in the baseline emissions estimates properly addressed?	/1/	DR	Same as B.2.2	CL-2	OK
<b>E.4. Emission Reductions</b> Validation of ex-ante estimated emission reductions.					
E.4.1. Will the project result in fewer GHG emissions than the baseline case?	/1/	DR	The project replaces fossil fuel-based electricity generation. While the project emissions are zero, baseline emissions are calculated to be 785.96		OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			tCO <sub>2</sub> per GWh. The project will result in emission reductions of 21 173 tonnes of CO <sub>2</sub> every year, during the first crediting period.		
<b>F. Environmental Impacts</b> It is assessed whether environmental impacts of the project are sufficiently addressed.					
F.1.1. Does host country legislation require an analysis of the environmental impacts of the project activity?	/1/	DR	As per the MoEF, an EIA is not required for projects costing less than INR 1000 Million, as is the case with the proposed project activity. The consent for establishment, as per requirements of the Air Act and Water Act has been evidenced and the project activity is in line with the environmental legislations of India		OK
F.1.2. Does the project comply with environmental legislation in the host country?	/1/	DR	As F.1.1		OK
F.1.3. Will the project create any adverse environmental effects?	/1/	DR	The project is not likely to create any adverse environmental effect.		OK
F.1.4. Have environmental impacts been identified and addressed in the PDD?	/1/	DR	The project has only positive environmental impacts.		OK
<b>G. Comments by Local Stakeholder</b> Validation of the local stakeholder consultation process.					
G.1.1. Have relevant stakeholders been consulted?	/1/	DR, I	While it is addressed in the PDD that a stakeholder consultation process has been conducted, the following is not clear: 1. Who were the stakeholders consulted? 2. What were the communications processes adopted for intimation/consultation of the stakeholders meeting?	CL-5	OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			3. Are there recorded minutes of the meeting?		
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/	DR	As G.1.1	GL	OK
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/	DR	Not specifically required for such projects under the Indian legislation.		OK
G.1.4. Is a summary of the comments received provided?	/1/	DR	As in G.1.1	GL	OK
G.1.5. Has due account been taken of any comments received?	/1/	DR	As above	GL	OK

\* MoV = Means of Verification, DR= Document Review, I= Interview

**Table 3 Resolution of Corrective Action and Clarification Requests**

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
<b>CAR 1:</b> Approval from the DNA of India and the UK shall be forwarded	A.3.3.	The Letter of Approvals from the DNA of India and the UK have been obtained and provided.	Accepted. The DNA of India has approved the project activity on 10 March 2006. The DNA of UK has approved the project activity on 29 March 2006. CAR is closed
<b>CL 1:</b> There is no discussion on the load factor of the turbines in the project activity	A.2.3	A discussion on the load factor of the turbines has now been included in the PDD	Accepted. The load factor for the project activity has been demonstrated to be 30.13% CL is closed
<b>CL 2:</b> The following shall be demonstrated: <ul style="list-style-type: none"> <li>Adoption of the MSEB grid instead of the western regional grid system grid</li> <li>Reference database used for the determination of baseline emission factor and Verifiable data sources for the same</li> <li>Is the CEF determined ex-ante for the entire crediting period?</li> </ul>	B.1.2, B.2.2, E.3.1	<ul style="list-style-type: none"> <li>Considering the low power generation capacity of the project (10 MW), it is more likely to impact the state grid than the western regional grid. Moreover, the baseline emission factor for the state grid is observed to be more conservative than the regional grid. <ul style="list-style-type: none"> <li>Reference database is the Central Electricity Authority (CEA)</li> <li>The CEF has been determined as ex-ante for the entire crediting period.</li> </ul> </li> </ul>	Complimentary information provided is accepted. It has been demonstrated and verified that the baseline emission factor for the MSEB grid at 797.96 tCO <sub>2</sub> /GWh is more conservative than the western regional grid factor determined to be 981tCO <sub>2</sub> /GWh CL is closed
<b>CL 3:</b> It needs to be more clearly demonstrated that the project would not have occurred anyway. In the view of the validation team, the presented analysis requires additional information such as <ul style="list-style-type: none"> <li>PPA for the project activity and</li> </ul>	B.2.1	<ul style="list-style-type: none"> <li>As the agreement with the EB is pending, the revised PDD presents under the investment barrier that (RMMTL) had to go through a tedious tender and bidding process before being allowed to set up a hydro power</li> </ul>	Complimentary information provided is accepted. It has been verified that the project proponent is the first to set up a hydro power plant in the private sector after the



Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
<p>justification for the claim that long term PPA's are not forthcoming from the Government for small hydro projects</p> <ul style="list-style-type: none"> <li>Data sources for the following claims shall also be addressed/confirmed: <ul style="list-style-type: none"> <li>The percentage of installed capacity small scale hydro power in India is 11% of the potential of about 15,000 MW.</li> </ul> </li> </ul> <p>In Maharashtra state, only 27 out of the 234 possible hydro electric sites identified by the MNES have been developed</p>		<p>plant in Maharashtra. The Government of Maharashtra decided to permit the participation of the private sector in the generation of electricity for captive use via the Government Resolution No. HEP (7/2002) dated 28<sup>th</sup> November 2002. RMMTL is the first private player to have been allotted a site for development of Captive Power Production for 100% self consumption under the above mentioned policy of Government of Maharashtra, Irrigation Department. This process is time consuming as well as expensive for a new promoter like RMMTL entering the power sector due to their lack of technical expertise and experience in the hydro sector. In order to prepare the technical and financial bid, technical and financial consultants had to be hired. The Plant will be operated on a BOOT basis, which means Build, Own, Operate and Transfer (BOOT). As a part of the above process, the project developer has to achieve certain milestones within a timeframe as stipulated by the Government of Maharashtra once the Letter of Intent (LOI) has been issued. If they fail to do so it is considered a default under section 3.6.2 of the proposal document. In case of default, the allotment of the site can also be cancelled. One of the</p>	<p>decision by the Government to allow privatisation in the power sector. The argument that</p> <ul style="list-style-type: none"> <li>RMMTL entering the power sector despite their lack of technical expertise and experience in the hydro sector</li> <li>Difficulties encountered in achieving the financial closure which has led RMMTL to acquire loan at high interest rates.</li> <li>Maharashtra state is deficient in power and lack of reliable power has in turn affected the core business of RMMTL and therefore this initiative by the proponent as a project activity, and</li> <li>Carbon financing over the 7-year crediting period, as one of the cash in flows of the project, has added more credibility to R.M Mohite Textiles Ltd. loan repayment capability</li> </ul> <p>are considered reasonable and demonstrates that</p>

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
		<p>milestones that RMMTL had to achieve is to secure financial closure within 6 months of receipt of LOI. Due to this time constraint, the project developer could not exercise different options to secure the financial closure. Thus in order to achieve this milestone, a 70 % loan of the total project cost of 33.7 cores was secure at a high interest rate of 9%. If this constraint of achieving the financial closure within the time limits did not exist, the promoter could have exercised different financial options instead of settling for the financial organisations that could provide quick debt. The financial benefit from the revenue obtained by selling the CO<sub>2</sub> emissions reductions is one of the key factors that have encouraged R.M Mohite Textiles Ltd. to invest in the proposed 10 MW small scale hydro project. R.M Mohite Textiles Ltd. did not succeed in its attempt to secure long-term project finance with a low interest rate. Instead, out of the project cost of 7.6 million US \$, RMMTL could secure a 70% loan from the State Bank of India at a high interest rate of 9%, with the remaining funds being obtained from equity investments. Carbon financing over the 7-year crediting period, as one of the cash in flows of the project, has added more credibility to R.M Mohite</p>	<p>RMMTL would otherwise not have gone ahead with the project activity. Data sources have been verified.</p> <p>CL is closed.</p>

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
		<p>Textiles Ltd. loan repayment capability.</p> <ul style="list-style-type: none"> <li>The data sources have been from the (a) Annual Report 2005 Ministry of Non-conventional Energy Sources and (b) Annual Report 2005 Ministry of Non-conventional Energy Sources</li> </ul>	
<p><b>CL 4:</b> Detailed calculations for the baseline estimations shall be forwarded clearly indicating the source of data used</p>	B.2.4	Detailed calculations for the baseline estimations for the state and western regional grids have been provided	<p>Accepted. Calculations for the baseline estimations for the state and western regional grids have been verified. CL is closed</p>
<p><b>CL 5:</b> The following is not clear: 1. Who were the stakeholders consulted? 2. What were the communications processes adopted for intimation/consultation of the stakeholders meeting? Are there recorded minutes of the meeting?</p>	G.1.1	The revised PDD addresses the clarification. A copy of the minutes of the meeting with the stakeholders is also attached.	<p>Accepted The revised PDD now addresses the stakeholders consulted. The Minutes of the meeting with the stakeholders consulted on 4 January 2006 has also been verified. No adverse comments have been received. CL is closed.</p>

- o0o -