



VALIDATION REPORT

KMS POWER 6 MW RENEWABLE SOURCES BIOMASS POWER PROJECT IN INDIA

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DET NORSKE VERITAS



VALIDATION REPORT

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Client: KMS Power Private Limited	Client ref.: Mr. Madan Mohan

Summary:

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the “KMS Power 6 MW Renewable Sources Biomass Power Project” 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 consisted of the following three phases: i) a desk review of the project design document, ii) follow-up interviews with project stakeholders and iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

In summary, it is DNV’s opinion that the project, as described in the revised project design document of 26 March 2006, meets all relevant UNFCCC requirements for the CDM is eligible as category I.D small-scale CDM project activity and correctly applies the approved simplified baseline and monitoring methodology AMS-I.D. Hence, DNV requests the registration of the “KMS Power 6 MW Renewable Sources Biomass Power Project” project as a CDM project activity.

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***Abbreviations***

AP	Andhra Pradesh
APERC	Andhra Pradesh Electricity Regulatory Commission
APPCB	Andhra Pradesh Pollution Control Board
APTRANSCO	Andhra Pradesh Transmission Company
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electrical Authority
CEF	Carbon Emission Factor
CER	Certified Emission Reduction
CH ₄	Methane
CL	Clarification request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNV	Det Norske Veritas
DNA	Designated National Authority
DPR	Detail Project Report
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
kWh	Kilo Watt hour
MW	Mega Watts
MNES	Ministry of Non-conventional energy sources
MoEF	Ministry of Environment and Forest
MP	Monitoring Plan
NEDCAP	The Non-Conventional Energy Development Corporation of Andhra Pradesh
N ₂ O	Nitrous oxide
NGO	Non-governmental Organisation
ODA	Official Development Assistance
PDD	Project Design Document
PPA	Power Purchase agreement
USD	United States Dollar
UNFCCC	United Nations Framework Convention on Climate Change



1 INTRODUCTION

KMS Power Private Limited has commissioned Det Norske Veritas Certification Ltd. (DNV) to perform a validation of the “KMS Power 6 MW Renewable Sources Biomass Power Project” in India (hereafter called “the project”). 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 consisted of the following personnel:

Astakala Vidyacharan	DNV, India	Team Leader
Santhosh Jayaram	DNV, India	GHG Auditor
Subhendu Biswas	DNV, India	GHG Auditor.
Michael Lehmann	DNV Norway	Sector Expert, 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 /5/ and the relevant decisions by the CDM Executive Board. The validation team has, based on the recommendations in the Validation and Verification Manual /4/ 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 is a 6 MW (gross) capacity grid-connected biomass based power project. The project was commissioned in July 2002. The project utilises the available biomass in the region, such as rice husk, cotton stalks, chilli stalks, prosopis juliflora etc, for generation of electricity that is exported to the Andhra Pradesh state electricity grid. It uses a condensing type steam turbo generator with a matching boiler of fluidised bed technology capable of firing multiple fuels. The technology used in this project is indigenous.

The objective of the project is to reduce anthropogenic GHG emissions by displacing fossil fuel based electricity generation with renewable biomass. The project thereby helps in reducing the



power deficit in the state of Andhra Pradesh and also contributes towards conservation of natural resource like coal.

Based on a baseline emission factor determined to be 0.830 kgCO₂ per kWh, the project is expected to result in emission reductions of 16 266 tonnes of CO₂ per year during the first renewable seven years crediting period.

2 METHODOLOGY

The validation of the project started in the month of August 2005 with hosting the PDD on the UNFCCC website and inviting stakeholders' comments.

The validation consisted of the following three phases:

- i) a desk review of the project design document
- 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 /4/. 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 "KMS Power 6 MW Renewable Sources Biomass Power 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) is 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.



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Validation Protocol Table 1: Mandatory Requirements for CDM Project Activities			
Requirement	Reference	Conclusion	Cross reference
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (OK), a Corrective Action Request (CAR) of risk or non-compliance with stated requirements or a request for Clarification (CL) where further clarifications are needed.	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.

Validation Protocol Table 2: Requirement Checklist				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
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.	Gives reference to documents where the answer to the checklist question or item is found.	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.	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.	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). A request for Clarification (CL) is used when the validation team has identified a need for further clarification.

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

Figure 1 Validation protocol tables



2.1 Review of Documents

The PDD /1/ submitted by the KMS Power Private Limited (and the earlier version) and additional background documents related to the project design and baseline, such as the baseline calculation data, local stakeholder's comments and the monitoring plan were assessed as a part of the validation.

2.2 Follow-up Interviews

On 19 and 28 September 2005, DNV performed interviews with representatives of KMS Power Private Limited and local stakeholders to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarised in Table 1

Table 1 Interview topics

Interviewed organisation/persons	Interview topics
KMS Power Private Limited.	<ul style="list-style-type: none"> ➤ Further clarifications 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, barriers due to prevailing practice or other barriers. ➤ Clarifications on establishment of baseline, monitoring plan and emission reduction calculations. ➤ Resources, training needs and procedures for operation and maintenance. ➤ Benefits from CDM registration.
Environment engineer, APPCB Guntur division	<ul style="list-style-type: none"> ➤ Over all impact of KMS power project on local environment ➤ Job opportunities ➤ Any complaints on project
Village Secretary LakkaRaju Garlapadu village	<ul style="list-style-type: none"> ➤ Local people reaction to the project ➤ Economic impact on local population
Village President LakkaRaju Garlapadu village	<ul style="list-style-type: none"> ➤ Implications due to biomass plant associated activities ➤ Local benefits due to project



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Local leaders	<ul style="list-style-type: none"> ➤ Overall impact of project ➤ Revenue benefits to village ➤ Job opportunities, direct, indirect
Biomass suppliers	<ul style="list-style-type: none"> ➤ Availability of biomass ➤ Cost of biomass ➤ Benefits due to project activity
Conservator – Forest department Guntur region	<ul style="list-style-type: none"> ➤ Impact of project on forest conservation
Surrounding farmers	<ul style="list-style-type: none"> ➤ Impact due to project emissions on crops ➤ Benefits out of project

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation was to resolve any outstanding issues which needed to be clarified for DNV's positive conclusion on the project design. The initial validation identified three Corrective Action Requests and nine requests for Clarification. These requests were presented to the project participants in DNV's draft validation report and the project participants were invited to provide a response to these requests. The project participants' response, which included the submission of a revised PDD dated 26 March 2006, addressed the Corrective Action Requests and requests for Clarification to DNV's satisfaction.

To guarantee the transparency of the validation process, the concerns raised by DNV and the responses given by the project participant are documented in the validation protocol in Appendix A to this report.

3 VALIDATION FINDINGS

In the following sections the findings of the validation are stated. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.

The final validation findings relate to the project design as documented and described in the revised and resubmitted project design documentation dated 26 March 2006.

3.1 Participation Requirements

The project activity is being proposed as a unilateral project by KMS Power Private Limited, which is the only project participant. The host Party, India meets all participation requirements, and the DNA of India has approved the project on 23 September 2005 and has provided confirmation that the project assists in achieving sustainable development.

3.2 Project Design

The project has a rated generation capacity of 6 MW and aims to export the electricity to the grid. The project will be connected to the APTRANSCO grid through the 33/11 KV sub-station of Sattenapally which is 3.5 km from the project site.



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The technology used in the project is available in India and no transfer of technology is envisaged. The biomass based power plant will generate electricity by utilizing the available biomass in the region, which will be primarily rice husk, and paddy straw with small quantities of juliflora.. The rice husk and paddy straw used in the project are renewable biomass. Small quantities of juliflora twigs that constitute woody biomass as per the NEDCAP are also considered as renewable (as per the definition of renewable biomass provided at the 22nd meeting by the EB) as the growth period for these small branches is approximately 12 to 15 months and the land area remains a cropland. Prevailing practice is that growing of juliflora is unplanned and the normal harvesting practice is restricted to the cuttings from the plants and therefore carbon stocks can be deemed to decrease only temporarily. Hence, the use of juliflora in small quantities can be considered as renewable. The project at present does not use any other woody biomass. The source of any other woody biomass, if used, is to be verified during verification stage, in order to determine whether it can be considered renewable.

The project consists of a condensing type steam turbo generator with matching boiler of fluidised bed technology capable of firing multiple fuels. The boiler has a generation capacity of 28 tonnes of steam per hour at 66 kg/cm² pressure and a temperature of 480⁰C.

The project results in reduction of GHG emissions by adding renewable capacity to the grid, which is dominated by fossil fuel based power generators. The added advantage of the project will be in terms of additional income generated for the farmer and also in terms of jobs generated due to the project. The technology applied is deemed current good practice and is not expected to be replaced within the crediting period.

The project activity started (implementation) on 14 December 2000 with a contract order between KMS Power Private Limited and Cethar Vessels Limited for design, engineering and supply of the boiler. The expected operational lifetime of the project is estimated around 25 years and a renewable crediting period of 7 years has been chosen with the starting date of first crediting period as 23 July 2002.

The validation did not reveal any information that indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards India.

3.3 Baseline Determination

Since the projects capacity is less than 15 MW, the project is eligible as type I small-scale CDM project activity and can apply a simplified baseline methodology. The project applies the baseline methodology stipulated for category I.D of the “simplified modalities and procedure for small scale CDM project activity” (AMS-I.D). The simplified baseline methodology AMS-I.D is applicable for grid connected renewable electricity generation projects and includes biomass projects. The application of AMS-I.D is justified as the project generates electricity using biomass and it displaces the grid electricity.

In accordance with AMS-I.D the biomass power plant may co-fire fossil fuels. As per the guidelines of the Non-conventional Energy Development Corporation of Andhra Pradesh Limited, the project can use coal up to 25% as support fuel. To arrive at a conservative ex-ante GHG emission reduction estimates, it was assumed that the project will co-fire 30% coal although actual coal consumption is expected to be less than 25%. The emissions resulting from use of coal is incorporated as project emissions and the capacity of the unit including coal and biomass is 6.0 MW.



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As the project activity is feeding power to Andhra Pradesh state electricity grid which is a part of southern region electricity board, the baseline for this project activity is the function of the generation mix of southern region grid. The selection of the southern region grid as the grid system boundary for the project activity is in line with the recent EB guidance for large countries such as India. Using the methodology available for small-scale project activities as applicable for category I.D, the average of the “approximate operating margin” and the “build margin” emission coefficient for southern grid of India has been estimated to be 0.83 kg CO_{2e} / kWh. The operating margin emission factor has been estimated based on the simple OM approach and based on the generation-weighted average emissions per electricity unit of all fossil-fuelled generating sources serving the system over a three year period. For the build margin, the 20% most recently installed plants have correctly been chosen, in terms of electricity generation. While actual calorific values of coal and lignite have been used, IPCC default values have been used for other fuels such as naphtha and natural gas. The completeness of the set of power plants as well as the correctness of the reported fuel consumption and electricity generation data has been verified. All data has been sourced from data published by the Central Electricity Authority.

3.4 Additionality

As per the Attachment A to Appendix B of simplified modalities and procedures for small-scale CDM project activities, the project demonstrates additionality through the existence of the prevailing practice and other barriers.

DNV was able to verify that CDM revenues were considered at the time of project conceptualisation. The board of director’s report for the year 2000-2001 was verified as evidence for this claim.

DNV could also verify that biomass power generation of about 20 MW constituted less than 1 % of the generation mix of APTRANSCO, thereby establishing that the biomass power generation was not a prevailing practice at the time of project conceptualisation, in spite of governmental promotion of renewable energy.

It was also verified that the estimated IRR of 8.7 % for the project activity without CDM benefit improves to 17.6 % when considering the CDM benefits. Due to the low IRR without CDM benefits, it is demonstrated that the project is not financially attractive even with low raw material cost at the time of the DPR.

DNV was also able to verify the presented steep increase in the cost of biomass with the suppliers.

Another barrier that the project faces is due to policy changes related to the tariff rates, which reduced the electricity incomes from Rs.3.48 per unit in 2003-04 to Rs.2.88 per unit in spite of the increase in the cost of biomass. The policy change by which electricity generated at plant load factors greater than 80 % are priced at less than the actual generating cost is also a main deterrent for biomass plants to operate efficiently at higher plant load factors. The arguments presented in the PDD are deemed to be justified.

Based on the above, it is substantiated that the project faces barriers and is thus additional.



3.5 Monitoring Plan

The project applies AMS-I.D. Since the project also co-fires coal, the amount of biomass and fossil fuel is monitored apart from electricity generated and supplied to grid.

The selected monitoring methodology is in line with the monitoring methodology AMS-I.D – metering the electricity generated by the renewable technology. The total electricity produced and auxiliary consumptions are monitored. The net electricity supplied to the grid by the project activity is multiplied by the emission factor for the grid to determine the baseline emissions for the project activity.

Direct emissions due to usage of coal (based of carbon content of the coal used) as fuel are considered as project emissions. Indirect emissions have also been considered, but are determined to be negligible such as due to transportation of biomass material and possible ash disposal.

Maintenance and calibration are being carried out as per the internal procedures of KMS Power Private Limited and in accordance with the power purchase agreement with APTRANSCO. All data will be archived in paper/electronic form and archived until two years after verification.

While the General Manager of KMS Power Private Limited is responsible for project management, the plant manager is responsible for data recording and archiving and reporting. Procedures for internal audits, performance reviews and corrective actions have also been established. The provided monitoring plan is adequate to provide the necessary information for the calculation of electricity generated, the fuel consumed and analysis of the biomass used.

3.6 Calculation of GHG Emissions

Direct onsite emissions are restricted to the use of fossil fuels in the boiler, when used during shortfall in rice husk supply. Transportation of biomass occurs from biomass sources within a 30 km radius of the power plant. The emissions due to transportation have been estimated to be as 696 t CO₂/year. It has been argued that the same types of GHG emissions occur during transportation of coal from coal mines for which transport distances are much longer. Hence, emissions due to transportation of biomass in comparison are considered negligible and are therefore not considered.

Since the energy generating equipment is not transferred from another activity and no existing equipment is transferred to another activity, no leakage needs to be considered.

Uncertainty is expected to be only on account of non availability of biomass. The substitute will be usage of coal, and the monitoring of coal has been addressed in the PDD.

The project replaces fossil fuel-based electricity generation. Baseline emissions are determined to be 0.830 kgCO₂ per kWh, *ex-ante*, and the project is expected to result in emission reductions of 113 900 tonnes of CO₂, during the first 7 years of crediting period under the following criteria

3.7 Environmental Impacts

The environmental impacts of the project are sufficiently assessed. The project's environmental impacts relate to suspended particulate matter, nitrogen oxides and sulphur dioxide emissions as well as the generation of fly ash. An Electrostatic Precipitator (ESP) has been installed and the



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project is designed to adhere to the stipulations as per the state pollution control board. Ash collected is disposed for manufacturing of fly ash bricks.

As per the MoEF, an EIA is not required for projects costing less than USD 22 million, which is the case for this project.

3.8 Comments by Local Stakeholders

The comments from local stakeholders like local village bearers, biomass suppliers, local NGOs were invited through personal communications. No adverse comments were received from local stakeholders.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PDD of 07 August 2005 (version 01) was made publicly available on DNV's climate change website (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 August 2005 to 07 September 2005.

Two comments were received on 07 September 2005. The comment received (in unedited form) is given in the below text box. DNV also asked the project participant to provide a response to the comments received. The project participant's response is given below in *italic*. Finally, it described how DNV has taken due account of the comments received.

1. Comment by: Axel Michaelowa, Hamburg Institute of International Economics (HWWA)

Inserted on: 2005-08-31

Subject: Baseline and additionality problems

Comment:

1. The relevant grid is the regional (multi-state), not the state grid.
2. Build margin power plant efficiencies are assumed and not substantiated. Even under Indian conditions, efficiencies of new coal plants are higher than 30% (new CCGT plants as likely above 45%) and thus the build margin is not conservative.
3. Arguing additionality on the basis of 2004/5 biomass prices for a plant that started operations in mid-2002 is not acceptable. The argument should be based on prices of the time when financial closure was achieved.
4. If the plant allows dual fuel use, the additionality argument is not convincing as the cheaper fuel will be used if the plant operators behave rationally.
5. I assume that the project proponent wants to start the crediting period in 2002, not 2003 if the plant is fully operational since 2002.

The project participants' response:

1. *Regional grid is considered and modified accordingly in the PDD.*
2. *The efficiency values of the power plants was collected from the CEA reports and the average efficiency of these power plants selected under build margin calculations is corresponding to the average efficiency of power plants evaluated in CEA's general review reports. Now, the actual*



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fuel consumption values are used for baseline estimation and hence there is no relevance for the efficiency values.

3. Though the additionality argument based on biomass prices should be for the year of financial closure, considering the resolution of the plant to consider the CDM revenue in the eventuality of abnormal price rise in coming years at the start of the project conceptualization, the comparison was made with the current prices of biomass though there was a continuous increment in the price of biomass every year. The price of the biomass at the initial stage was assumed based on the reports submitted by the NEDCAP on biomass availability in the region during the DPR stage and from the field data collected on pricing of the biomass material in the region. The increased price from DPR stage to project commissioning stage itself indicates the uncertainty in predicting the fuel prices in the region. Hence, it may not be relevant to compare the biomass prices during financial closure to comment on the sustainability of the project.

4. Generation using coal is shown to estimate baseline emissions on conservative basis as usage of coal is permitted by MNES for up to 25% of generation in case of shortage of biomass fuel. Though regulation permits usage of coal in case of shortage, it does not allow using coal as a fuel for power generation. Plant is restricted to use the biomass as primary fuel for power generation even if it is costlier than any other fuel that can be fired in the boiler. The sustainability of the project requires an additional revenue to the project due to the rise in the prices of the biomass year after year which this increases the generation cost.

5. Yes, the project proponent wants to start the crediting period in 2002 only. This is modified accordingly in the project design document.

How DNV has considered the comment received in its validation:

1. The selection of the Southern India grid as the electricity grid system boundary is justified and in accordance with recent EB guidance on selecting the electricity grid system boundary.
2. In the final PDD, the calculation of baseline emissions is based on the combined margin approach, using actual fuel consumption data and no longer plant efficiencies. The combined margin calculations were verified and accepted by DNV. Hence, the project participant's response is considered justified.
3. The main barrier for establishing the additionality of the project is the barrier due to prevailing practice. The price rise and other barriers were presented to highlight the additional barriers that have come up since the detailed project report stage.
4. The plant does not allow use of dual fuel. The normal and main fuel for the plant will be biomass irrespective of the cost factor. The existing regulations allow the usage of coal up to 25 % as an alternate fuel in case of shortage of biomass / or to increase the availability period of biomass. Hence the calculation of baseline considering maximum coal permitted is accepted as a conservative figure.
5. Start date of crediting period is verified as 23 July 2002.

2. Comment by: Sripur, EnerGHG

Inserted on: 2005-09-07

Subject: Comment on KMS 6 MW Biomass Power Project

Comment:



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In the Project Design Document (PDD), it is mentioned that the project is operational since 21st July 2002 and the start date of the crediting period as 21st July 2003. And also it is stated that the CDM fund was initially considered to cover the project risk in future. Project developers presented several financial barriers and policy threats in support of the project activity for CDM. India very well recognized the importance of renewable energy sources and their contribution to energy security and environment development in early Nineties. To give a fillip to the development of renewable energy sources, Ministry of Non-conventional Energy Sources (MNES) announced a policy in the year 1994-95 which set an attractive tariff of Rs.2.25 per kWh with an annual escalation of 5%. This was adopted at State level by many State Governments including Andhra Pradesh. Government of AP (through Non-conventional Energy Development Corporation of Andhra Pradesh or NEDCAP) made a public call in the year 1999 for project proposals to set up biomass power projects in the State of Andhra Pradesh. With the attractive tariff, other incentives and also due to the encouragement given by MNES & other stakeholders, many entrepreneurs showed interest to set up biomass power projects. Most of the proposals were approved by NEDCAP and projects were implemented between 2000 and 2002. During this period the procedures, modalities, market and the capacity of CDM are not existed / clear. With this short background, I would like to state that CDM fund was not at all considered for all these projects. My comments on some of the aspects mentioned in the PDD are furnished below.

Project is operational since 21st July 2002: One question remains to be answered is if CDM fund is initially considered then why the validation process is started only after 3 years of operation? Only after the reduction of tariff by the APERC? As yet no buyers have been identified? Appendix A of Annex B, Indicative simplified baseline and monitoring methodologies for selected Small-Scale CDM project activities clearly states that project participants shall provide a qualitative explanation to show that the project activity would not have occurred anyway. But, all these projects have occurred anyway. Project developers shall present credible evidence (to the DOE) in support of the role of the CDM fund for the project activity. The reason why the crediting period starts exactly after one year of starting of plant operation is not clear.

Increase in cost of fuel: In the PDD, it is shown that the cost of biomass is increased to double within 3 to 4 years, which was not anticipated by the project developers. At this rate of increase, though the economic viability of the project activity is at risk as demonstrated through cost of generation, the biomass source is not sustainable. Other biomass users might be switching over to fossil fuels or any other fuels. This aspect needs to be clarified by the project developers. Also, if the CDM project activity is not registered, then will the plant cease its operation? Or to be switched-over to a conventional coal firing? What would be baseline options for the project activity? These questions need to be clarified by the project developers.

Reduction in Tariff by APERC: There was a clause in the policy adopted by the Government of AP for renewable energy projects, which stated that the tariff would be revised after completion of 10 years from 1994-95. Accordingly, the tariff was worked out and revised in 2004-05 by the Andhra Pradesh Electricity Regulatory Commission (APERC), which is an independent regulatory body constituted to look after the electricity regulatory issues in Andhra Pradesh State. APERC has worked out the tariff taking into consideration several factual data, conducting independent surveys, trends in variations of biomass prices, operational history of biomass power plants etc. and concluded the tariff after several deliberations with project developers. APERC brought out a workable tariff such that it would neither hamper the sustainability of projects nor burden the power purchasers / utilities. In view of the above, revision of the tariff is not an



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unexpected thing, but known to all project developers in advance and hence does not represent a policy barrier. Also, the project developer's statement in Page 14 "This would result in heavy financial losses and put an additional burden on the financial sustainability of the project" is not correct. For further details Tariff Order released by APERC may be referred.

Restriction on fixed part for 80% PLF: APERC has concluded the tariff in two parts viz. fixed part and variable part. Fixed part corresponds mainly to the investment and fixed expenses. Variable part corresponds mainly to the fuel prices and other variable expenses. Fixed part is calculated such that at 80% PLF all (100%) fixed expenses including investment part are recovered. Hence, up to 80% PLF all fixed expenses of the plant are fully recovered. Any electricity generation above the 80% PLF is actually expense-free to the developer and fixed part need not be paid. But, APERC offered an incentive of Rs.0.25 per kWh (+ variable part) for the electricity generation above 80% PLF. Hence, the project developer's statement in Page 16 that "Thus it is imperative that the present tariff is not sufficient and will significantly impact the sustainability of the project" is not correct.

Switching over to lower interest rate debt: It is stated in page 14 of PDD that CDM funds would enable the proponent to switch their debt from a high interest debt to a lower interest debt and ensure sustainability of the project. Again the question will arise of what will happen in case the CDM project activity is not registered. Another point to be clarified, most of the biomass projects have almost the same interest rate of 12.5%.

Removal of 3rd party sale: APTRANSCO has removed the third party sale and increased the wheeling charge to 28.4% only to encourage the power off-take by industries and major consumers through APTRANSCO, since APTRANSCO is formed to act as a state owned power transmission company in the state of Andhra Pradesh. However, as explained above, APERC concluded the tariff keeping in view the economic viability of biomass power projects. Hence, removal of 3rd party sale and increase of wheeling charges would in no way affect the financial stability of biomass power projects.

Grid emission factor: From the attached calculation sheet, it appears that "weighted average emissions of the current generation mix" as per 29.b. is not correctly applied. The project developers has considered only net emission factor for thermal generation (generation by coal and gas) instead of weighted average emissions for the entire grid system according to 29.b. of SSC CDM modalities. Also, the grid emission factor is not monitored ex post, although the dynamic grid emission factor is chosen. This is not appropriate and results in substantial errors in the calculation of emission reductions. Project developers shall revise the estimation of baseline / grid emission factor.

I believe in the concept of Clean Development Mechanism, which is innovatively designed to combat the climate change at the same time assisting developing countries in achieving the sustainable development and also benefiting from the transfer of environment friendly technologies. I, also strongly believe that CDM should not subsidize business as usual projects diverting the CDM funds. Let the real project cases, which are additional and contributing, get the CDM opportunities.

I request the DOE to look into the above aspects during validation of the CDM project.

The project participants' response:

Kyoto protocol has gained the legal status only in the month of Feb 2005 and till then there were lot of uncertainties on the whole mechanism. In addition, the first project got only registered

VALIDATION REPORT

during Nov 2004. Hence, the project developer decided to wait and watch the happenings in the CDM market to get matured. It is decided to register unilaterally and hence no buyer identification done. Credible evidence in support of the role of CDM fund for the project activity is available and is provided to the DOE during the validation process. The project proponent wants to start the crediting period in 2002 only and will be modified accordingly in the document.

Biomass plants are not allowed to switchover to other fuels even if the biomass cost is higher and leading to financial instability of the plant. Plants are allowed to use up to 25% coal only to meet the fuel demand in cases of shortage of biomass. The prices of the biomass were estimated based on the reports on availability of the biomass in the region during DPR stage and has not predicted such steep increase in the prices of the fuel. The increase in fuel prices is also attributed to the emergence of many other applications and installation of more biomass plants leading to demand of the fuel. In addition, it was not expected the reduction in the tariff by APERC which would have offset the additional investment due to higher fuel prices to maximum extent. This has resulted in to significant financial loss to the power plants in the state. If the project is not registered and CDM revenue is not available, plants may have to operate with heavy losses. As a policy, it may not be possible to switch over completely to conventional coal firing in power plants meant for biomass usage.

Though it was expected revision in the prices during 2004-05 as per the clause in APERC, it was not expected reduction in the price from the existing. APERC has considered very less kcal/kWh value to estimate the unit cost which is very distant from the actual value. The very fact that all the Biomass Power Projects are not satisfied with APERC Tariff Order and approached the Hon'ble High Court in the absence of Electricity Tribunal for upward revision of tariff in April 2004. The Hon'ble High Court has passed an interim order for paying the 50% of differential tariff. This is an indication that there is no economic viability of the project with the APERC tariff. The projects are operating in anticipation of the CDM benefits.

As mentioned above, APERC had estimated pricing based on certain efficiency of the power plants which is not the realistic one and plant owners accordingly approached High Court of AP to put a stay on the tariff order. The incentive APERC providing to operate at more than 80% PLF is not meeting the actual cost of generation at more than 80% PLF (as discussed in PDD). In addition, all the biomass plants in the state are opting to shut down once they achieve the target generation for the month. This also builds up the inefficiency in the operation of power plants and hence more financial loss to the project promoter.

Those plants obtained loans from IREDA have interest rate of 12.0%. Subsequently, few other banks came forward to sanction loans to the projects at lower interest rates than IREDA. Power plants were not able to switchover to other banks for loans due to high repayment charges (about Rs. 1.05 crores) from IREDA.

The project has been envisaged with the aim for sale of power to Third Party. However, APERC in their Tariff Order Notification dated March 6, 2000 has withdrawn the benefit of third party sale and directed all Renewable Energy Projects to sell the power only to APTRANSCO. Selling power to third party at previous wheeling charges would have fetched more revenue to the project activity but revised tariff order with higher wheeling charges will definitely affect the economic viability of the project.



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Baseline emission factor is revised as per EB guidance and used generation mix of southern regional grid to estimate the same. The baseline emission factor is estimated using combined margin approach. Considering the higher monitoring costs to monitor the emission factor every year, the baseline calculations are modified and fixed at one value based on the ex-ante monitoring.

How DNV has considered the comment received in its validation:

The starting date of the project, i.e. 14 December 2000, is the date when the contract was signed between the project proponent and Cethar Vessels Limited for the design, engineering and supply of boiler. DNV was able to verify the contract and is satisfied that the same is in line with the definition of starting date as given in the “glossary of terms”. Evidence has also been provided to the effect that CDM was considered at the start of the project activity through the report of the Board of Directors. The additionality of the project is now mainly based on the prevailing practice and has been appropriately addressed as a response to the Clarification Request No. 3 raised by DNV.

The project started operation on 22 July 2002. It has been demonstrated that the income as per the initial PPA with APTRANSCO was INR 3.48 per kWh against the actual generation cost of INR 3.15 per kWh. Thus the revenue per kWh was INR 0.33. However due to the subsequent APERC tariff order, the income has come down to INR 2.88 per unit and the loss of revenue to the project proponent is thus INR 0.36 per unit. Thus the revised tariff is unattractive to the biomass power producers.

DNV agrees with the project proponent that as per the regulation, biomass power producers can use up to 25 % of coal along with the biomass.

The revised baseline calculations have been verified and ex-ante monitoring is accepted considering the project being a small scale activity.

The *ex-ante* determination of the average of the “approximate operating margin” and the “build margin” emission coefficient is as the EB guidance.



5 VALIDATION OPINION

Det Norske Veritas Certification Ltd. (DNV) has performed a validation of the “KMS Power 6 MW Renewable Sources Biomass Power Project” in Sattenapally mandal, Guntur district, Andhra Pradesh in India, on the basis of UNFCCC criteria for the Clean Development Mechanism and host country criteria 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 and the subsequent decisions by the CDM Executive Board.

The project participant is KMS Power Private Limited. The host Party India meets all participation requirements and the DNA of India approved the project.

The validation has confirmed that the project is eligible as category I.D small-scale CDM project activity and correctly applies the simplified baseline and monitoring methodology AMS-I.D. The determination of the baseline is well elaborated, transparent and sufficiently supported with facts. The selected baseline scenario is reasonable for the selected 7 year crediting period. Moreover, an analysis of the barriers facing the project demonstrates that project is not a likely baseline scenario.

The project will contribute to sustainable development by generating renewable energy, providing benefits such as employment generation during construction and operation of the project, ensuring environmental well being and aid in bridging the gap between demand and supply of power. The DNA of India has confirmed that the project assists in achieving sustainable development and has accorded the approval for the project on 23rd September 2005.

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

The project results in the reduction of GHG emissions those are real, measurable and give long-term benefits and that are additional to what would have occurred in the absence of the project.

The monitoring plan makes sufficient provision for monitoring relevant project and baseline emission indicators. Responsibilities and authorities for project management, monitoring and reporting and QA/QC procedures have also been addressed.

A local stake holder consultation process has been carried out by the project participant. DNV published the PDD on the DNV climate Change web site and comments by Parties, stakeholders and UNFCCC accredited NGOs were invited through the CDM web site. Two comments were received and DNV has taken due account of these comments in its validation of the project.

In summary, it is DNV’s opinion that the project, as described in the project design document of 26 March 2006, meets all relevant UNFCCC requirements for the CDM, is eligible as category I.D small-scale CDM project activity and correctly applies the approved simplified baseline and monitoring methodology AMS-I.D. Hence, DNV requests the registration of the “KMS Power 6 MW Renewable Sources Biomass Power Project” as a CDM project activity.



REFERENCES

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

- /1/ KMS Power Private Limited: CDM PDD for “KMS Power 6 MW Renewable Sources Biomass Power Project”, version 1 of 7 August 2005 and version 2 of 26 March 2006
- /2/ KMS Power Private Limited: Calculation worksheet for grid emission factor
- /3/ Ministry of Environment and Forests (DNA of India): Letter of Approval dated 23 September 2005

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: 28 November 2005.
- /6/ Revised 1996 IPCC guidelines for national green house gas inventories – Reference manual (Volume 3)

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

- /7/ Mr. Madan Mohan, Director, KMS Power Private Ltd.
Mr. Chintamaneni Prakash Ramaiah, Financial Advisor, KMS Power Private Ltd.
Mr. Katukuru Sammaiah, GM, KMS Power Private Ltd.

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APPENDIX A

VALIDATION PROTOCOL FOR SMALL-SCALE CDM PROJECT ACTIVITIES

Table 1 Mandatory Requirement 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.	Clarifications pending. 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	OK	Approval from the DNA of India, dated 23 September 2005 has been made available. Annex I party has not yet been identified.
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	Clarifications pending. 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	Clarifications pending. OK	Table 2, Section B.2.1
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Decision 17/CP.7	OK	The project is proposed as a unilateral Project

Requirement	Reference	Conclusion	Cross Reference/ Comment
8. Parties participating in the CDM shall designate a national authority for the CDM	CDM Modalities and Procedures § 29	OK	DNA of India: National Clean development Mechanism Authority, Ministry of Environment and Forests
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: Ratification in August 2002
10. The participating Annex I Party's assigned amount shall have been calculated and recorded	CDM Modalities and Procedures §31b	Not applicable	Annex I party has not yet been identified
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	Not applicable	Annex I party has not yet been identified
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	Clarifications pending. OK	Revised PDD dated 26 March 2006
14. The proposed project activity shall conform 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
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 Local stake holders are consulted by the project proponent
16. If required by the host country, an analysis of the environmental impacts of the project activity is carried	Simplified Modalities and Procedures for Small	OK	Table 2, Section F

Requirement	Reference	Conclusion	Cross Reference/ Comment
out and documented	Scale CDM Project Activities §22c		
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 was made publicly available on www.dnv.com/certification/climatechange and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during a 30 day period from 09 August 2005 to 07 September 2005. Two comments were received, made publicly available and taking into account in DNV's validation of the project.

Table 2 Requirements Checklist

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
A. Project Description The project design is assessed.					
A.1. Small scale project activity 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	The project comprises a 6 MW power generation unit using renewable energy as source of fuel. The project qualifies as Type I, Category D small scale CDM project and as the generation capacity is below the stipulated limit of 15 MW.		OK
A.1.2. The small scale project activity is not a de bundled component of a larger project activity?	/1/	DR	No, the project participant does not propose another biomass plant. The project participant has not registered any small scale CDM project in the last 2 years and the project boundary is not within 1 km radius of any other proposed small scale CDM 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 conforms to the category I.D for small scale CDM projects. The project is a grid connected renewable electricity generation unit (Biomass).		OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
A.2. Project Design 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	Yes, it is clearly defined. The spatial boundary of the project includes the project site (up to the evacuation point of electricity to state grid) and includes biomass collection and storage. The project is located at Vandavelli village, Satenapalli Mandal, Guntur District, Andhra Pradesh, India. The evacuation point will be the Satenapalli sub-station approximately 3.5 Km from the project.		OK
A.2.2. Are the project's system (components and facilities used to mitigate GHG's) boundaries clearly defined?	/1/ /7/	DR I	Components including storage of biomass material and the generation unit are included in the project boundary. For the calculation of the baseline emission factor the power plants generating and exporting to the AP electricity grid are included in the system boundary.		OK
A.2.3. Does the project design engineering reflect current good practices?	/1/ /7/	DR I	Yes, The project consists of a fluidised bed boiler capable of firing multi fuels like rice husk, Juliflora, cotton and chilli stalks. But the PDD indicates travelling grate boiler. The applicability of the fluidised bed technology needs to be clarified, since travelling grate could have been a more appropriate technology, to demonstrate good practices.	CL-1	OK
A.2.4. Will the project result in technology transfer to the host country?	/1/	DR	The technology is already available in the country and thus no technology transfer is envisaged in the project		OK

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

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Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
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/ /7/	DR I	Yes, the project will require trained and qualified manpower in order to work as presumed during the project period. Qualified personnel as per statutory requirements in India should carry out the boiler operations. The certificate of qualification of the personnel operating the boiler was evidenced during site visit.		OK
A.3. Contribution to Sustainable Development 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/ /7/	DR	Yes, The project has resulted in direct (150 employees) and in-direct employment opportunity to the local population. The project has also generated an additional revenue stream to farmers on account of supply of biomass.		OK
A.3.2. Will the project create any adverse environmental or social effects?	/1/ /7/	DR I	The uncontrolled use of firewood cut from forests and prohibited species of wood by biomass plants has figured as a concern area for the Andhra Pradesh Electricity Regulatory Commission (as evident in page 86 of "commissions analysis on substantive issues" detailed in tariff order 2005~2006) , Andhra Pradesh Pollution Control Board has issued the consent for establishment (Order no: 214/PCB/C.Estt/RO-VJYEE-N/300/99-4768 dt. 03/02/2000). As per the consent order the project is permitted to use Juliflora/rice husk/ cotton stalk as fuel. During site visit, it was found that wood from mango trees is used.	CL-2	OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			A clarification as how the issue is being dealt with and mechanism to ensure continual supply of permitted biomass material for the project needs further elaboration.		
A.3.3. Is the project in line with sustainable development policies of the host country?	/1/	DR	Yes, The project is in line with sustainable development policies of India. Host country approval granted vide letter no: F.No. 4/14/2005-CCC dt. 23 September 2005 by Government of India, Ministry of Environment and Forests (DNA of India).		OK
A.3.4. Is the project in line with relevant legislation and plans in the host country?	/1/	DR	<p>Factory Licence no: 12943, registration no: 53887 dt. 21/11/2002 is available.</p> <p>Andhra Pradesh boiler inspection department has issued the certificate for use of a boiler (Registry no: AP-3656) valid up to 01-03-2006.</p> <p>Andhra Pradesh Pollution Control Board has issued the consent for establishment (Order no: 214/PCB/C.Estt/RO-VJY/EE-N/300/99-4768 dt. 03.02.2000).</p> <p>Andhra Pradesh Pollution Control Board has issued the consent for operation of plant under Air act, 1981 valid up to 31/01/2006.</p> <p>Andhra Pradesh Pollution Control Board has issued the consent for operation of plant under Water act, 1974 valid up to 31/01/2006.</p>		OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
<p>B. Project Baseline</p> <p>The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.</p>					
<p>B.1. Baseline Methodology</p> <p>It is assessed whether the project applies an appropriate baseline methodology.</p>					
<p>B.1.1. Is the selected baseline methodology in line with the baseline methodologies provided for the relevant project category?</p>	/1/	DR	<p>Yes. The project applies one of the simplified baseline methodologies proposed for the small-scale project activity category I.D, i.e. for renewable energy that displaces electricity the simplified baseline is the electricity consumption times the relevant emission factor calculated as the kWh produced by the renewable generating unit multiplied by an emission coefficient (measured in kgCO₂/kWh).</p> <p>The project uses biomass and supply electricity to the grid dominated by fossil fuel based generation units.</p> <p>The baseline emission coefficient is calculated using the combined margin approach.</p>		OK
<p>B.1.2. Is the baseline methodology applicable to the project being considered?</p>	/1/	DR	<p>Simplified small scale CDM project category I.D is applicable since the project is a biomass based power plant.</p>		OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
<p>B.2. Baseline Determination</p> <p>It is assessed whether the project activity itself is not a likely baseline scenario and whether the selected baseline represents a likely baseline scenario.</p>					
<p>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?</p>	/1/ /7/	DR	<p>As per the Attachment A to Appendix B, the project has been analysed in light of other barriers (financial and policy related) and barriers due to prevailing practice</p> <p>The main barrier perceived is the barrier due to prevailing practice. At the time of project conceptualisation, only 1% of total generation mix of APTRANSCO was through biomass plants,</p> <p>The project participants have considered the revenue from CDM supporting the sustainability of the project against possible increase in input cost. (Proof provided as director's report presented in the first annual report dt. 31/08/2000).</p> <p>To substantiate the barrier analysis a more detailed report on the IRR/NPV of the project in light of the changes in government policies and tariff is required to be evaluated. The same is not evidenced.</p> <p>Moreover, the argument that changes in tariff has also resulted in loss of revenue and rendered the project as unattractive needs to be justified as the changes to the tariff were made in 2004 while the project has started in 2002.</p>	CL-3	OK
<p>B.2.2. Is the application of the baseline methodology and the discussion and determination of the chosen baseline</p>	/1/	DR	<p>It is not transparent, whether the baseline estimation will consider an ex-ante weighted average emission factor or the emission factor will</p>	CL-4	OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
transparent and conservative?			be calculated using ex-post monitored data. In either case, the project proponent needs to demonstrate the conservativeness of the approach. Analysis of the Table provided under section E.2 indicates that the emission factor will be calculated using ex-post monitored data, but the data to be monitored is not included in the monitoring plan.		
B.2.3. Are relevant national and/or sectoral policies and circumstances taken into account?	/1/	DR	Yes, the selection of combined margin approach is justifiable considering that the generation pattern will not change significantly over the crediting period.		OK
B.2.4. Is the baseline selection compatible with the available data?	/1/	DR	Yes, the data available is adequate and compatible to evaluate the baseline emissions.		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	Yes, all data are drawn on the most recent years and all future expansion data are based on sanctioned projects in both renewable and fossil fuels based sectors and thus represent the most likely scenario in absence of the project.		OK
C. Duration of the Project / Crediting Period 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/ /7/	DR	The exact project starting date is not clearly defined; it is defined as between the period January 2000 to 21 July 2002. The proof of starting date is submitted as design, engineering and supply contract for boilers between M/s KMS Power Private Limited, and M/s Cethar Vessels Ltd., dt. 14tDecember 2000. The date is not consistent with the information provided in the PDD. The operational life time of the project is defined as	CAR-4	OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			25 years.		
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/ /7/	DR	The renewable crediting period is chosen and the first period of 7 yrs is clearly defined in the PDD. The starting date of the crediting period is indicated as 2003, whereas the project has started operation from July 2002. The proof of commercial production is provided as the permission granted by transmission corporation of Andhra Pradesh limited, which indicates the commercial production date as 22 July 2002.	CAR4	OK
D. Monitoring Plan The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.					
D.1. Monitoring Methodology 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	The project falls under category I.D of appendix B of the simplified modalities and procedures for small scale CDM project activities and the monitoring methodology used is in line with the same.		OK
D.1.2. Is the monitoring methodology applicable to the project being considered?	/1/	DR	The project is a renewable energy generation project and thus the monitoring requirement under category I.D. is used in this project. Since the project is co-fires biomass with coal, the amount of biomass and fossil fuel is monitored apart from electricity generated and supplied to grid.		OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
D.1.3. Is the application of the monitoring methodology transparent?	/1/	DR	Yes.		OK
D.1.4. Will the monitoring methodology give opportunity for real measurements of achieved emission reductions?	/1/	DR	Yes, since the monitoring methodology involves metering of the actual amount of electricity generated from the project and direct measurement of quantity of biomass and coal.		OK
D.2. Monitoring of Project Emissions 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/ /7/	DR	The following clarifications requested on the monitoring plan presented under D.3 of PDD: a) D.3.6, D.3.7 and D.3.8 – data is not evidenced as per recording frequency. b) Archival of data is given as 2 years; not specific to indicate 2 years after crediting period. c) D.3.7 and D.3.8, analysis will be carried out through an outside lab, no qualification criteria for labs are evidenced.	CL5	OK
D.2.2. Are the choices of project GHG indicators reasonable?	/1/	DR	The choice of indicators is sufficient to monitor the CO ₂ the relevant GHG. CH ₄ can get generated due to biomass storage, but since the storage of biomass does not exceed 6 months, it is assumed negligible.		OK
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	/1/	DR	Yes it is possible with the data being monitored.		OK
D.2.4. Will the indicators give opportunity for real measurements of project emissions?	/1/	DR	Comments reserved till comments under D.2.1 are resolved.	CL5	OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
D.3. Monitoring of Leakage 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/ /7/	DR	Since the energy generating equipment is not transferred from another activity and no existing equipment is transferred to another activity, no leakage needs to be considered.		OK
D.4. Monitoring of Baseline Emissions 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/ /7/	DR I	The following clarifications are requested on the monitoring plan presented under D.3 of PDD. <ul style="list-style-type: none"> a) Proportion of data to be monitored is given as >95%, it is not clear why it is limited to 95%. b) D.3.1, D.3.2, D.3.2, It is indicated that data will be archived in electronic form, but no electronic archiving system was evidenced during site visit. c) D.3.4 and D.3.5– data not evidence as per recording frequency. d) D.3.1, D.3.2 and D.3.3, the identification and location of meters are not specified. e) Archival of data is given as 2 years; not specific to indicate 2 years after crediting period. f) D.3.5 analysis will be carried out through 	CL-6	OK

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

Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
			an outside lab; no qualification criteria for labs are evidenced.		
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	/1/	DR	The choice of indicators is sufficient to monitor the CO ₂ emissions, the relevant GHG.		OK
D.4.3. Will it be possible to monitor / measure the specified baseline indicators?	/1/	DR	Yes it is possible with the data being monitored.		OK
D.4.4. Will the indicators give opportunity for real measurements of baseline emissions?	/1/	DR	Comments reserved till comments under D.4.1 are resolved.	CL6	OK
D.5. Project Management Planning 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 management clearly described?	/1/	DR I	The PDD indicates that the project proponent will form a CDM team/committee, which will be responsible for monitoring. But during site visit, no evidence of formation of such a team was evidenced.	CAR-2	OK
D.5.2. Is the authority and responsibility for registration monitoring measurement and reporting clearly described?	/1/	DR	Refer comments under D.5.1.	CAR-2	OK
D.5.3. Are procedures identified for training of monitoring personnel?	/1/	DR	Refer comments under D.5.1.	CAR-2	OK
D.5.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR	No such emergency scenario is envisaged in this project.		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
D.5.5. Are procedures identified for calibration of monitoring equipment?	/1/ /7/	DR I	No procedure identified for calibration of monitoring equipments. (Energy meters and weighing bridge) Calibration certificates for two energy meters were produced during site visit with validity of calibration is up to 31/06/2006. Procedures were not identified for frequency of calibration.	CAR-3	OK
D.5.6. Are procedures identified for maintenance of monitoring equipment and installations?	/1/ /7/	DR	No procedures identified for maintenance of monitoring equipment and installations.	CAR-3	OK
D.5.7. Are procedures identified for monitoring, measurements and reporting?	/1/	DR	Refer comments under D.5.1.	CAR-2	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	No.	CAR-3	OK
D.5.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	/1/	DR	No.	CAR-3	OK
D.5.10. Are procedures identified for internal audits of GHG project compliance with operational requirements as applicable?	/1/	DR	No.	CAR-3	OK
D.5.11. Are procedures identified for project performance reviews?	/1/	DR	No.	CAR-3	OK
D.5.12. Are procedures identified for corrective actions?	/1/	DR	No.	CAR-3	OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
<p>E. Calculation of GHG emission</p> <p>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.</p>					
<p>E.1. Project GHG Emissions</p> <p>The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.</p>					
E.1.1. Are all aspects related to direct and indirect project emissions captured in the project design?	/1/	DR	Direct emissions due to co-firing of coal are captured in the design document. The project participant identifies emissions from off-site transportation of fuels. But the fuel transportation of the power plants considered in baseline can off set these project emissions.		OK
E.1.2. Have all relevant greenhouse gases and sources been evaluated?	/1/	DR	The project only identifies CO ₂ as the relevant GHG as other GHGs like CH ₄ are considered as negligible.		OK
E.1.3. Do the methodologies for calculating project emissions comply with existing good practice?	/1/ /7/	DR	The project proposes to calculate the project emissions resulting from coal usage either considering the default IPCC emission factor or using the actual carbon content of coal. It is not evident which algorithm will be used for calculation.	CL7	OK
E.1.4. Are the calculations documented in a complete and transparent manner?	/1/ /7/	DR I	The calculations demonstrated during site visit do not comply with either of the methodologies described under comments given under E.1.3.	CL8	OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E.1.5. Have conservative assumptions been used?	/1/	DR	Comments reserved till comments under E.1.3, E.1.4 and D.2.1 are resolved.	CL7 CL8	OK
E.1.6. Are uncertainties in the project emissions estimates properly addressed?	/1/	DR	No. The uncertainties can resulting from monitored values of coal are not addressed.	CL9	OK
E.2. Leakage 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.					
E.2.1. Are leakage calculation required for the selected project category and if yes, are the relevant leakage effects assessed?	/1/	DR	Since the energy generating equipment is not transferred from another activity and no existing equipment is transferred to another activity, no leakage needs to be considered.		OK
E.3. Baseline GHG Emissions The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.					
E.3.1. Are the baseline emission boundaries clearly defined and do they sufficiently cover sources for baseline emissions?	/1/	DR	Yes the baseline emission sources are clearly defined.		OK
E.3.2. Are all aspects related to direct and indirect baseline emissions captured in the project design?	/1/	DR	Yes, all aspects related to direct baseline emissions are captured. No significant indirect emissions, hence not captured.		OK
E.3.3. Have all relevant greenhouse gases and sources been evaluated?	/1/	DR	Yes, CO ₂ is the relevant greenhouse gas and the sources are evaluated.		OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
E.3.4. Do the methodologies for calculating baseline emissions comply with existing good practice?	/1/	DR	Comments reserved till comment under B.2.2 is resolved.	GL4	OK
E.3.5. Are the calculations documented in a complete and transparent manner?	/1/	DR	Comments reserved till comment under B.2.2 is resolved.	GL4	OK
E.3.6. Have conservative assumptions been used?	/1/	DR	Comments reserved till comment under B.2.2 is resolved.	GL4	OK
E.3.7. Are uncertainties in the baseline emissions estimates properly addressed?	/1/	DR	Comments reserved till comment under B.2.2 is resolved.	GL4	OK
E.4. Emission Reductions					
Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline case?	/1/	DR	Comments reserved till comments under B.2.2 and section E.3 are resolved.	GL4	OK
F. Environmental Impacts					
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	No, Since the project cost is less than INR 1000 million, it is not required to carry out an EIA for the project.		OK
F.1.2. Does the project comply with environmental legislation in the host country?	/1/	DR	Andhra Pradesh Pollution Control Board has issued the consent for establishment and consent for operation of plant under Water & Air act, valid up to 31/01/2006.		OK
F.1.3. Will the project create any adverse environmental effects?	/1/	DR	Comments reserved till comment under A.3.2 is resolved.	GL2	OK

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Checklist Question	Ref.	MoV*	Comments	Draft Concl.	Final Concl.
F.1.4. Have environmental impacts been identified and addressed in the PDD?	/1/	DR	Yes		OK
G. Comments by Local Stakeholder Validation of the local stakeholder consultation process.					
G.1.1. Have relevant stakeholders been consulted?	/1/	DR	Yes. The biomass suppliers were also consulted, but the PDD has not identified them as stakeholders.		OK
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/	DR	The comments from local stakeholders were invited through personal communication.		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	It is not required for the given size of the project.		OK
G.1.4. Is a summary of the comments received provided?	/1/	DR	Yes the comments received from the stakeholders are summarised.		OK
G.1.5. Has due account been taken of any comments received?	/1/	DR	No adverse comments were received from local stakeholders.		OK

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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
<p>CAR 1</p> <p>The exact project starting date is not clearly defined; it is defined as between the period January 2000 to 21 July 2002. The proof of starting date is submitted as Design, engineering and supply contract for boilers agreement between M/S KMS Power Private Limited, and M/S Cethar Vessels Ltd., dt. 14 December 2000. The date is not consistent with the information provided in the PDD.</p> <p>The date of crediting period is indicated as 2003, whereas the project has started operation from July 2002. The proof of commercial production is provided as the permission granted by transmission corporation of Andhra Pradesh limited, which indicates the commercial production date as 22 July 2002.</p>	<p>C.1.1 C.1.2</p>	<p>The actual project start date is 14 December 2000. This is after January 2000, eligibility to qualify as a CDM project. The Proof for the same is enclosed. The same is incorporated in PDD.</p> <p>The actual crediting period starts a day after the project got commissioned i.e. from 23 July 2002. The proof for the same is provided. The same is modified accordingly in PDD.</p>	<p>The complimentary information provided has been accepted. The starting of the project is 14 December 2000 and first renewable crediting period starts from 23 July 2002.</p> <p>The CAR is closed.</p>
<p>CAR 2</p> <p>The PDD indicates that the project proponent will form a CDM team/committee, which will be responsible for monitoring. But during site visit, no evidence of formation of such a team was evidenced.</p>	<p>D.5.1, D.5.2, D.5.3 and D.5.7</p>	<p>Though the plant personnel are fulfilling the duties as per the requirement of CDM team, the structure for the same is not formulated in proper manner. Management has initiated steps towards this and the copy of policy decision taken in this is attached.</p>	<p>The policy decision was evidenced and accepted.</p> <p>The CAR is closed.</p>
<p>CAR 3</p> <p>No procedures are identified for frequency of calibration of monitoring equipments (Energy meters and weighing bridge), maintenance of</p>	<p>D.5.5 D.5.6 D.5.8 D.5.9</p>	<p>The calibration of monitoring equipment is being maintained as per the requirement of APTRANSCO mentioned in the PPA and weighbridge</p>	<p>The monitoring plan submitted is verified and acceptable.</p> <p>The CAR is closed.</p>

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
<p>monitoring equipment and installations, monitoring, measurements and reporting, day-to-day records handling, for dealing with possible monitoring data adjustments and uncertainties, internal audits of GHG project compliance with operational requirements as applicable, project performance reviews, corrective actions.</p>	<p>D.5.10 D.5.11 D.5.12</p>	<p>as per Office of controller of legal metrology and the same is being done regularly. Plant has already initiated calibration activity for the energy meters.</p> <p>Comprehensive monitoring plan has been developed and the same is in the process of implementation. The monitoring plan developed in the plant is attached.</p>	
<p>CL 1</p> <p>The PDD indicates the technology used as travelling grate boiler, but during site visit, it was found that fluidised bed technology in use.</p> <p>The applicability of the fluidised bed technology to be clarified, since travelling grate could have been a more appropriate technology.</p>	<p>A.2.3</p>	<p>Technically speaking, fluidised bed boilers are more efficient than travel grate boilers capable of firing different types of fuels but with little higher auxiliary consumption. So fluidised bed boiler technology was considered. The same is modified accordingly in PDD.</p>	<p>The explanation is technically acceptable and the CL is closed.</p>
<p>CL 2</p> <p>The uncontrolled use of firewood cut from forests and prohibited species of wood by biomass plants has figured as an concern area for the Andhra Pradesh Electricity Regulatory commission (as evident in page 86 of “ commissions analysis on substantive issues” detailed in tariff order 2005~2006).</p> <p>Andhra Pradesh Pollution Control Board has issued the consent for establishment (Order no: 214/PCB/C.Estt/RO-VJYEE-N/300/99-4768 dt. 03/02/2000). As per the consent</p>	<p>A.3.2</p>	<p>NEDCAP has allowed the following Biomass fuels in Biomass Power Plants apart from Fossil fuels:</p> <ol style="list-style-type: none"> 1 Woody Biomass: Juliflora, Casuarina, Subabul, Eucalyptus, Mango Cuttings, Cashew Cuttings and Saw Dust 2 Agricultural Waste: Rice Husk, Bengal gram and Black gram stalks, Maize stalks, Pal moil Wastes, Coconut shell and logs, Chilli stalks, Bagasse etc. 	<p>Although the NEDCAP guidelines allow woody biomass, a formal consent from Pollution control Board has to be given.</p> <p>In line with the EB23 meeting annex 18, on definition of Biomass, the small quantities of juliflora seen used in the project are renewable as the land area where the juliflora grows remains a cropland.</p> <p>It is strongly recommended that any other woody biomass that is non</p>

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
<p>order the project is permitted to use juliflora/rice husk/ cotton stalk as fuel. During site visit, it was found that wood from mango trees is used.</p> <p>A clarification as to how the issue is being dealt with and mechanism to ensure continual supply of permitted biomass material for the project needs further elaboration.</p>		<p>Mango cuttings are used in the plant as per the permitted list available from the NEDCAP.</p> <p>There is a continuous vigilance by forest department on supply of biomass material to the plant. This restricts the permission of non exempted biomass material to the plant.</p>	<p>renewable is to be monitored and used for discounting the CERs. This is to be checked during verification.</p> <p>The CL is closed</p>
<p>CL 3</p> <p>To substantiate the financial and policy related barrier analysis a more detailed report on the IRR/NPV of the project in light of the changes in government policies and tariff is required to be evaluated. The same is not evidenced.</p> <p>Although the project is said to face barriers due to higher interest rates and proof was provided to indicate the debt sanctions by other banks at lower rates, the sanctions were in 2004 and this does not substantiate the higher interest rate during the project commencement.</p> <p>Moreover, the argument that changes in tariff has also resulted in loss of revenue and rendered the project as unattractive needs to be justified as the changes to the tariff were made in 2004 while the project has started in 2002</p>	<p>B.2.1</p>	<p>IRR calculations for the project are furnished. Based on the calculations, it is clear that the project is not financially attractive. Reduction in the tariff further reduced the financial viability of the project.</p> <p>The proof for the availability of relatively lower interest rates during the project construction stage from other financial institutions is attached. It clearly indicates that plant has been incurring additional revenue loss in terms of higher interest paid to the bank.</p> <p>The revised PDD addresses additionality now primarily on prevailing practice and the loss of revenue due to changes in tariff is only further demonstrating the unattractiveness of the project due to policy changes.</p>	<p>IRR calculations provided support the argument, and substantiates the additionality. Revised PDD has been verified.</p> <p>The 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>CL 4</p> <p>It is not transparent, whether the baseline estimation will consider an ex-ante weighted average emission factor or the emission factor will be calculated using ex-post monitored data. In either case, the project proponent needs to demonstrate the conservativeness of the approach. Analysis of the Table provided under section E.2 indicates that the emission factor will be calculated using ex-post monitored data, but the data to be monitored is not included in the monitoring plan.</p>	B.2.2	<p>With the improvements in the power plant technologies, it is assumed that the efficiency of coal based thermal power plants will be improved in future from the present level and hence to estimate the CER emissions on conservative basis, ex post emission monitoring was considered initially. However considering the additional monitoring cost for small scale project like this, it is proposed to use the fixed baseline based on the ex ante emissions and use for the entire crediting period. The same is adopted in the PDD and baseline calculation sheet.</p>	<p>Considering the size of project being a small scale activity this is acceptable.</p> <p>The CL is closed.</p>
<p>CL 5</p> <p>The following clarifications requested on the monitoring plan presented under D.3 of PDD:</p> <ul style="list-style-type: none"> a) D.3.6, D.3.7 and D.3.8 – data is not evidence as per recording frequency. b) Archival of data is given as 2 years; not specific to indicate 2 years after crediting period. c) D.3.7 and D.3.8, analysis will be carried out through an outside lab, no qualification criteria for labs are evidenced 	D.2.1	<ul style="list-style-type: none"> a) The recording frequency for testing biomass and coal is monthly if the fuel is procured from different sources. The frequency is not as per mentioned in PDD due to the procurement of fuels from the same source. b) It is two years after the end of credit period or from the date of last issuance of CERs, whichever is later. c) The analysis of items mentioned in D3.7 and D3.8 is done only in the accredited and government approved labs. 	<p>The corrections have been incorporated.</p> <p>The CL is closed.</p>
<p>CL 6</p> <p>The following clarifications requested on the monitoring plan presented under D.3 of PDD.</p>	D.4.1	<ul style="list-style-type: none"> a) To minimize the monitoring costs, minimum 95% of the data is monitored. However, considering the requirement 	<p>The explanations provided are acceptable.</p> <p>The CL is closed.</p>

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
<ul style="list-style-type: none"> a) Proportion of data to be monitored is given as >95%, it is not clear why it is limited to 95%. b) D.3.1, D.3.2, D.3.2, It is indicated data will be archived in electronic form, but no electronic archival evidenced during site visit. c) D.3.4 and D.3.5– data is not evidence as per recording frequency. d) D.3.1, D.3.2 and D.3.3, The identification and location of meters are not specified. e) Archival of data is given as 2 years; not specific to indicate 2 years after crediting period. f) D.3.5 analysis will be carried out through an outside lab, no qualification criteria for labs are evidenced. 		<p>for the project to assess accurate CER emissions, the same will be done to 100%. Necessary changes are made in PDD accordingly.</p> <ul style="list-style-type: none"> b) Plant has already initiated archival of these data electronically from paper. c) The data is being maintained as per the frequency mentioned and the can be demonstrated during verification stage. d) Mentioned accordingly in the PDD e) Specified accordingly in PDD f) The analysis of items mentioned in D.3.5 is done only in the accredited and government approved labs. 	
<p>CL 7</p> <p>The project proposes to calculate the project emissions resulting from coal usage either considering the default IPCC emission factor or using the actual carbon content of coal. It is not evident which algorithm will be used for calculation</p>	<p>E.1.3</p>	<p>Actual project emissions due to the usage of coal are based on the quantity of coal used in the project. Maximum 30% generation using coal is considered in baseline calculation sheet for the conservative estimation.</p>	<p>The complimentary information provided has been accepted.</p> <p>The CL is closed.</p>
<p>CL 8</p> <p>The calculations demonstrated during site visit do not comply with either of the methodologies described under comments</p>	<p>E.1.4</p>	<p>Project emissions due to coal usage are estimated based on actual quantity of coal consumed and % carbon in the coal.</p>	<p>The complimentary information provided has been accepted.</p> <p>The CL is closed.</p>

Draft report corrective action requests and requests for clarification	Ref. to Table 2	Summary of project participants' response	Final conclusion
given under E.1.3			
<p>CL 9 The uncertainties can resulting from monitored values of coal are not addressed.</p>	<p>E.1.6</p>	<p>It is mandatory to submit details regarding usage of all kinds of fuels in the plant to NEDCAP on monthly basis. Plant submits monthly fuel consumption data including coal to NEDCAP. NEDCAP permits only fixed quantity of coal per annum and restrict its usage or procurement more than the specified tons of coal.</p>	<p>The complimentary information provided has been accepted The CL is closed.</p>

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