VALIDATION REPORT

Vikash Metal & Power Limited

10MW Waste Heat Recovery based Captive Power Project at Vikash Metal & Power Limited

SGS Climate Change Programme
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10MW Waste heat recovery based captive power project at Vikash Metal & Power Limited.	SGS Climate Change Programme
Revision number	Client:
1	Vikash Metal & Power Limited

Summary

SGS India Pvt. Ltd., an affiliate of SGS United Kingdom Ltd. has made a validation of the CDM project activity "10MW Waste heat recovery based captive power project at Vikash Metal & Power Limited" by Vikash Metal & Power Limited, West Bengal state 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 rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The scope of validation is the independent and objective review of the project design document, baseline study and monitoring plan and other relevant document of the project. The information in this document is reviewed against the criteria defined in the Marrakech Accords (Decision 17) and the Kyoto Protocol (Article 12) and subsequent guidance from the CDM Executive Board.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications plan and/or corrective actions may provide input for improvement of the project design document (PDD).

The overall validation process, from Contract Review to Validation Report & Opinion, was conducted using internal procedures (UK.PP.12 issue 2 dated 01/07/2005).

The first output of the validation process is a list of Corrective Actions Requests and New Information Requests (CAR and NIR), presented in Annex 2 of this document. Taking into account this output, the project proponent revised its project design document.

In summary, it is SGS's opinion that the proposed CDM project activity correctly applies the baseline and monitoring methodology as mentioned in approved methodology adopted for the proposed project activity and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Subject.:			
CDM validation			**Indexing terms**
Work carried out by			
Mr. Sanjeev Kumar - Team Leader Mr. Pankaj Mohan - Assessor Mr. Syed Khursheed Zaidi- Local Assessor			
Technical review			
Ms. – Irma Lubrecht		☒	No distribution without permission from the Client or responsible organisational unit
Authorized signatory			
M. van der Linden		☐	Limited distribution
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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEA	Central Electricity Authority
CER	Certified Emission Reductions
CO_2	Carbon Dioxide
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EIA	Environment Impact Assessment
GHG	Green House Gas(es)
I	Interview
IPCC	Intergovernmental Panel on Climate Change
ISHC	International Stakeholder Consultation
kWh	Kilo watt hour
MNES	Ministry of Non Conventional Energy Sources
MoEF	Ministry of Environment and Forest
MoV	Means of Verification
MP	Monitoring Plan
MWh	Mega watt hour
MT	Metric Tonne
NIR	New Information Request
PDD	Project Design Document
PPA	Power Purchase Agreement
UNFCCC	United Nations Framework Convention for Climate Change
WBSPCB	West Bengal State Pollution Control Board

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1. Introduction

1.1 Objective

Vikash Metal & Power Limited has commissioned SGS to perform the validation of the project: "10MW Waste heat recovery based captive power project at Vikash metal & Power Limited" with regard to the relevant requirements for CDM project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

1.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

1.3 GHG Project Description

The proposed CDM project activity is waste heat based power generation project for captive use in sponge iron manufacturing unit; located at West Bengal state in India. The project activity is the effective trapping of the waste heat from the sponge Iron industry and fed into the boiler which produces steam and the steam produced is fed to the turbo generator to produce electricity. The electricity generated is consumed in house as well as sold to the grid. The project activity is still in commissioning stage.

Baseline Scenario:

Under the baseline scenario, there would have been more direct on-site emissions through burning of fossil fuels as a fuel in the Power generation by installing coal based power generation plant for meeting electrical energy requirements in manufacturing of sponge iron.

With Project Scenario:

The project activity uses waste heat for generation of power. The project activity is using waste heat generated by the kiln and fed it in the power generation unit to generate power which in turn contributes to conservation of coal, a non-renewable natural resource and also reduced GHG emissions.

Leakage:

As per the methodology ACM0004; applicable for the project activity, leakage is not to be considered.

Environmental & Social Impacts:
According to local assessor, there is no negative environmental and social impact expected due to the project activity.

1.4 The names and roles of the validation team members

Name	***Role***
Sanjeev Kumar	Lead Assessor
Pankaj Mohan	Assessor
Syed Khursheed Zaidi	Local Assessor
Irma Lubrecht	Technical reviewer

2. Methodology

2.1 Review of CDM-PDD and additional documentation

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline. Additional information can be required to complete the validation, which may be obtained from public sources or through telephone and face-to-face interviews with key stakeholders (including the project developers and Government and NGO representatives in the host country). These may be undertaken by the local SGS affiliate. The results of this local assessment are summarized in Annex 1 to this report.

2.2 Use of the validation protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements are linked to checklist questions the project should meet.	*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 (**Y**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **New Information Request (NIR)** is used when the validation team has identified a need for further clarification.*

The completed validation protocol for this project is attached as Annex 2 to this report

2.3 Findings

As an outcome of the validation process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **New Information Request (NIR)** specifying what additional information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR).** A 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 verified.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

Observations may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex 3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

2.4 Internal quality control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

3. Determination Findings

3.1 Participation requirements

The host Party for this project is India. India has ratified the Kyoto protocol on 26th Aug 2002. A Letter of Approval was missing so CAR01 was raised. The project proponent provided the letter dated 11th September 2006; issued by the Indian DNA (reference number 4/16/2006-CCC) has been provided by the client which was verified from the original copy during the site visit. Hence CAR01 was closed out.

No Annex I Party has been identified in the PDD and therefore no further Letter of Approval was available. It is observed that the CDM EB has agreed that the registration of a CDM project activity can take place without an Annex I Party being involved at the stage of registration although it should be noted that before CER can be transferred to an Annex I Party, a Letter of Approval will need to be submitted.

3.2 Baseline selection and additionality

The baseline selected by the project proponent was the likely baseline scenario

The project has applied baseline as mentioned in the large scale methodology ACM0004 version 02 dated 3rd March 2006 for "Consolidated Baseline methodology for waste gas and / or heat and / or pressure for power generation" as per the CDM project activities. The project activity is producing the electricity for captive use and will fall under the category ACM0004.

The project has adopted the Investment barrier for the present project activity to justify the additionality of the project. In addition to this project proponent has also mentioned few technological barriers faced during early operation period of the project activity. The start date was also not mentioned properly. The common practise analysis was also not clearly mentioned. The impact of CDM registration was also not mentioned properly. In order to get all the related documents on which basis the project was shown additional, CAR04 was raised.

The additionality of the project was assessed using the investment barrier. The major barrier identified by the board members of the company was funds for the project activity in terms of equity capital to invest in the project. The board members were of the opinion that they should go for grid power instead of WHRB as WHRB is not the proven technology. The project proponent made the decision to go ahead only after considering CDM benefits and discussing the same with the potential CER buyer. This made the project activity financially viable. Hence CDM was found a drive in going ahead with the project activity. The communication between the buyers and the various board resolutions were also seen and obtained the copy for the same. The copy of bank loan documents were also obtained and verified with original copies during site visit as well. The loan was obtained at 12.5% rate of interest.

The documentary evidence for the technological barrier was not submitted by the project proponent. Later in response to the CAR04 Project proponent has submitted the JPC report which talks about the technological barriers faced by the Sponge Iron industry in terms of raw material, Power, etc. The report also states that the sector lacks technical expertise as well. The project proponent also provided the communication with the supplier which states the reasons for low penetration of the technology and also mentions the other operational & Maintenance risks related to the project activity. The communication with supplier was also seen by the local assessor and obtained the copy for the same.

The start date of Project was also not mentioned in the PDD clearly. Documentary evidence was also not provided. The project proponent replied by providing the copy of contract signed between the project proponent and the contractor Balmer lawrie & Company limited for supply, design, installation, testing & Commissioning. This was verified with original copy and same was accepted.

The Project proponent provided documentary evidence for the common practice analysis mentioned in the JPC report. The JPC report clearly states that none of the plants in West Bengal are having WHRB installed. The same was verified by obtaining the copy of Page 30 of JPC report.

Impact of registration was also not mentioned clearly. The project proponent replied that the project proponent went ahead with the project only after talking to the potential buyer of the CERs and this helped them in overcoming the investment barrier. This was accepted and hence CAR04 was closed out.

The project proponent is claiming credits for renewable seven years crediting period from date of registration.

Based on the findings above, it was concluded that the project activity was not a likely baseline scenario and hence additional to any that would occur in absence of project activity.

3.3 Application of Baseline methodology and calculation of emission factors

The proposed CDM project activity is the power generation using waste gases and uses baseline methodology as described under Type ACM0004 version 02 dated 3rd March 2006 for "Consolidated Baseline methodology for waste gas and / or heat and / or pressure for power generation" as per large scale CDM project activities.

The emission reduction calculation sheet was not provided with the PDD and hence the CAR03 was raised. Responding to CAR03 project proponent provided the calculations for emission reduction. It was checked by the local assessor and found that the emission reductions are calculated in accordance with the methodology ACM0004. The local assessor checked the background information used for arriving at the value selected as benchmark for baseline emissions during the site visit. Also the calculations for baseline activity are included in emission reduction calculation spreadsheet. The baseline emission calculations and emission reductions were found to be in order during the desk review and during the local assessments at the site. The actual emission reduction figures would further be checked during verification. The CAR03 is closed out.

3.4 Application of Monitoring methodology and Monitoring Plan

The present CDM project activity uses monitoring methodology as described in ACM0004 version 02 dated 3rd March 2006 for "Consolidated Baseline methodology for waste gas and / or heat and / or pressure for power generation" as per CDM project activities.

The monitoring plan given in the PDD was not clear about the baseline emissions. CAR05 was raised for same. In response to CAR05 project proponent made necessary changes in the monitoring plan and same was included in the rephrased PDD. They also provided the monitoring report i.e. how parameters will be monitored. This was accepted and hence CAR05 was closed out.

NIR06 was raised as the PDD was not clear on monitoring plan of the parameters measured and nothing was mentioned about Authority and responsibility of project management, Registration, Monitoring, Measurement, Reporting, Training, Internal Audit, Emergency preparedness, Calibration, Maintenance, day to day record handling and corrective actions. The project proponent in his response to NIR06 made all necessary corrections required and all the necessary parameters have been included in the monitoring plan given in the rephrased PDD. This was accepted and hence NIR06 was closed out.

3.5 Project design

The Project Design Document (PDD) was designed as per version 2 of guidelines laid for preparing PDD of large scale CDM project activity hence the format of the present PDD was checked against it.

The project boundary given in the PDD was not clear and hence CAR02 was raised for the same. The project proponent made required corrections in the project boundary and same are included in the rephrased PDD, this was also verified during site visit by the local assessor and hence CAR02 was closed out.

NIR09 was raised to know whether the technology will be changed during the crediting period or not. The project proponent replied by providing the undertaking that it will not be changed during the crediting period and same was verified by asking the executive director of the company. This was accepted and hence NIR09 was closed out.

NIR10 was raised to know if some training was provided for operating the project activity or not. The project proponent replied by providing the training schedule and as the project is still in commissioning stage this can be verified during verification as well. It this was accepted and hence NIR10 was closed out.

CAR11 was raised to check the starting date of the project activity. The project proponent has submitted contract copy signed between project proponent and contractor Balmer Lawrie & Company Limited of 1st August 2006 in which project activity was considered. The document copy is obtained and verified during discussions with Project proponent and CAR 11 was closed out.

3.6 Environmental Impacts

The compliance with local environmental regulations in that EIA requirement for the project activity was checked and also project proponent submitted consent to establish and operate from Pollution control Board (PCB), a local authority responsible for giving Environmental clearance. The project proponent in table under section F in the PDD mentions in details regarding the Environmental Impacts on various parameters like Air quality, Water, Land, Noise generation and ecology and benefits to these parameters due to project activity. This was also checked from the copy of EIA which was given by the project proponent to the local assessor. These were in compliance and even during local stakeholder consultation carried out by local assessor no negative comment was reported.

3.7 Local stakeholder comments

The project proponent in the PDD has not mentioned the media used to get the comments from the local stakeholders so NIR07 was raised. The project proponent replied by telling that villagers and local authorities were briefed in person. This was cross checked during the meeting with the local assessor. This was accepted and hence NIR07 was closed out.

The project proponent carried out the local stakeholder consultation as mentioned in the PDD but no documentary proof was provided so NIR08 was raised. The project proponent provided the documentary proof i.e. minutes of meeting and same was verified during the site visit by the local assessor. This was accepted and hence NIR08 was closed out.

The local assessor also verified all the documents during consultation with few people whom he met during the site visit. They praised the project activity and told that it has resulted in positive effects to the people of local community.

4. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

4.1 Description of how and when the PDD was made publicly available

The PDD and the monitoring plan for this project were made available on the SGS website http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=129 and were open for comments from 19-08-2006 to 17-09-2006. Comments were invited through the UNFCCC CDM homepage.

4.2 Compilation of all comments received

The project was up loaded for International stakeholder consultation (ISHC) for a period of 30 days and received No comment.

4.3 Explanation of how comments have been taken into account

No Comment Received.

5. Validation opinion

SGS has performed a validation of the project: “10MW Waste heat recovery based captive power generation project at Vikash Metal & Power Limited” at West Bengal state in India, by Vikash Metal & Power Limited. The Validation was performed on the basis of the UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting. Using a risk based approach, the review of the project design documentation and the subsequent follow-up interviews have provided SGS with sufficient evidence to determine the fulfilment of the stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by SGS for registration with the UNFCCC.

SGS has received confirmation by the host Party that the project activity assists it in achieving sustainable development.

By using waste gas as fuel for generation of electricity, the project results in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. A review of the investment barrier followed by technological barrier demonstrates that the proposed project activity was not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. The project is under implementation and is likely to achieve the estimated amount of emission reductions.

The validation is based on the information made available to SGS and the engagement conditions detailed in the report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence SGS can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

The DOE declares herewith that in undertaking the validation of this proposed CDM project activity it has no financial interest related to the proposed CDM project activity and that undertaking such a validation does not constitute a conflict of interest which is incompatible with the role of a DOE under the CDM.

6. List of persons interviewed

Date	*Name*	*Position*	*Short description of subject discussed*
16-10-2006	Mr. Dipankar Dutta	Vice President (Projects)	Technical description of project activity and baseline and data monitoring for project activity
16-10-2006	Mr. Akash Patni	Director	Project proponents view on project activity and CDM funds
17-10-2006	Ms. Bela Kisku	Gram Pradhan	Local stakeholder consultation

7. Document references

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

/1/ HCA letter given by MoEF, Government of India

/2/ Modalities of communication

/3/ PDD version 1 dated 10th August 2006 (web hosted)

/4/ PDD version 2 dated 28th December 2006 (sent for TR)

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

/1/ Undertaking for ODA

/2/ Start date proof

/3/ Minutes of Board Meeting

/4/ DCS work order

/5/ Calibration certificates

/6/ Minutes of meeting of local stakeholder consultation

/7/ List of units covered under JPC study

/8/ Baseline emission and Project emission calculation excel file.

/9/ Technical specifications of the TG set

/10/ Boiler purchase order for specification of boiler

/11/ Damodar valley Corporation sanction letter for power supply

/12/ Letter on Training requirement & Manpower deployed.

/13/ Copy of monitoring plan

/14/ Monitoring procedures

/15/ ACM0004 version 2 dated 3rd March 2006

/16/ JPC Report

/17/ No change in technology letter

/18/ CEA Data for 2003, 2004, 2005.

/19/ Bank Loan documents from UCO Bank, Bank of India, United bank of India

/20/ Design Philosophy of the plant & DPR

/21/ Common practice barrier proof

/22/ Draft monitoring report

Annex 1

TABLE 12ADDITIONAL INFORMATION TO BE VERIFIED BY LOCAL ASSESSORS / SITE VISIT

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Project emissions are taken as zero. To be checked during site visit for any fossil fuel is used for generation start-up, or to provide additional heat gain before entering the waste heat recovery boiler.			It was checked and there is no auxiliary fuel used to provide additional heat gain before entering WHRB.	Y	Y
Monitoring Plan for Baseline emissions and project emissions to be checked during site visit.			Monitoring Plan is OK and in line with methodology.	Y	Y
Emission reduction excel sheet to be checked.			Emission reduction excel sheet is checked for each and every formula and found to be OK.	Y	Y
Project boundary to be checked.			Project boundary was checked during site visit it was in line with methodology.	Y	Y
Local stake holder comments needs to be checked during site visit.			Local stake holder comments were verified during site visit and no negative comments reported or seen during the site visit. MOM received was also checked during site visit.	Y	Y
MoM of board meeting in which CDM was considered for the project activity. To be verified during site visit.			Project proponent submitted the MOM of board meeting which were also verified by seeing the original copy and also interviewing the Managing Director.	Y	Y
It is required to be checked whether the project technology used is likely to be substituted by other or more efficient technologies within the project period.			Project proponent submitted an undertaking that the project activity will not be substituted by other or more efficient technologies within the project period.	Y	Y

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Environmental impacts reported to be checked and verified.			No negative environmental impacts either reported by the local stakeholders or seen during site visit. As per the validation protocol the local stakeholder consultation carried out by local assessor no negative comment was reported or seen.	Y	Y

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Annex 2

TABLE 1 PARTICIPATION REQUIREMENTS FOR CLEAN DEVELOPMENT MECHANISM (CDM) PROJECT ACTIVITIES (REF PDD, LETTERS OF APPROVAL AND UNFCCC WEBSITE)

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
1.1 The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.		PDD	The project assists in emission reduction of Annex1 parties. No Annex 1 party is involved at present.	OK	OK
1.2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	DR	PDD	Letter of approval to be submitted by the project proponent.	CAR1	OK CAR1 closed out
1.3 All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects		UNFCCC	India ratified the Kyoto Protocol on 26th August 2002 and is allowed to participate. (http://unfccc.int/parties_and_observers/parties/items/2109.php)	OK	OK
1.4 The project results in reductions of GHG emissions or increases in sequestration when compared to the baseline; and the project can be reasonably shown to be different from the baseline scenario	DR	PDD	Yes the project activity result in reduction of GHG emissions as it uses waste gas for the generation of electricity.	OK	OK
1.5 Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days (45 days for AR projects), and the project design document and comments have been made publicly available		UNFCCC	The project was listed on UNFCCC website from 19-8-2006 to 17-9-2006. It was also listed on SGS website from 19-8-2006 to 17-9-2006. The link is http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=129	OK	OK
1.6 The project has correctly completed a Project Design Document, using the current version and exactly following the guidance	DR	PDD	Yes, the project has completed the project design document using the current version and exactly following the	OK	OK

REQUIREMENT	MoV	Ref	Comment	Draft finding	Concl
			guidance.		
1.7 The project shall not make use of Official Development Assistance (ODA), nor result in the diversion of such ODA	DR	PDD	No ODA is utilized by the project activity and also not results in diversion of ODA.	OK	OK
1.8 For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?			Not Applicable	N / A	OK
1.9 Does the project meet the additional requirements detailed in: Table 9 for SSC projects Table 10 for AR projects Table 11 for AR SSC projects			Not Applicable	N / A	OK
1.10 Is the current version of the PDD complete and does it clearly reflect all the information presented during the validation assessment?	DR	PDD	The PDD is complete and it does reflect the information clearly.	OK	OK
1.11 Does the PDD use accurate and reliable information that can be verified in an objective manner?	DR	PDD	PDD use accurate and reliable information that can be verified in an objective manner.	OK	OK

TABLE 2 BASELINE METHODOLOGY(IES) (REF: PDD SECTION B AND E AND ANNEX 3 AND AM)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.1 Does the project meet all the applicability criteria listed in the methodology	DR	PDD	The project meets the applicability criteria listed in the methodology.	OK	OK
2.2 Is the project boundary consistent with the approved methodology	DR	PDD	Project boundary is not clear from the PDD.	CAR2	OK CAR2 closed out
2.3 Are the baseline emissions determined in accordance with the methodology described	DR	PDD	Excel sheet to be provided	CAR3	OK CAR3 closed

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
					out
2.4 Are the project emissions determined in accordance with the methodology described	DR	PDD	Project emissions are taken as zero. To be checked during site visit for any fossil fuel is used for generation start-up, or to provide additional heat gain before entering the waste heat recovery boiler. It was checked and there is no auxiliary fuel used to provide additional heat gain before entering WHRB.	TBC	OK
2.5 Is the leakage op the project activity determined in accordance with the methodology described	DR	PDD	Leakage is not considered as described in the methodology ACM0004.	OK	OK
2.6 Are the emission reductions determined in accordance with the methodology described	DR	PDD	Pending CAR3	Pending	OK

Table 3 Additionality (Ref: PDD Section B5 and AM)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
3.1 Does the PDD follow all the steps required in the methodology to determine the additionality	DR	PDD	The PDD follows the steps required in the methodology to determine the additionality.	OK	OK
3.2 Is the discussion on the additionality clear and have all assumptions been supported by transparent and documented evidence	DR	PDD	The discussion on additionality is not clear. Step 0:- start Date of project is not mentioned. Documentary evidence needs to be provided Step 3: - All The barriers mentioned in this step are not transparent and clear and not supported by documentary evidences. Step 4: - common practice analysis is not clear and supporting	CAR4	OK CAR4 closed out

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			documentation is to be provided. Step5: Impact of CDM registration is not clear.		
3.3 Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	DR	PDD	Baseline selected is the likely baseline scenario among the scenarios discussed in the PDD.	OK	OK
3.4 Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	DR	PDD	Pending CARs / NIRs	Pending	OK

Table 4 Monitoring methodology (PDD Section B6 and AM)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4.1 Does the project meet all the applicability criteria listed in the monitoring methodology	DR	PDD	The project meets the applicability criteria listed in the monitoring methodology of ACM0004	OK	OK
4.2 Does the PDD provide for the monitoring of the baseline emissions as required in the monitoring methodology	DR	PDD	Monitoring of baseline emissions is not clear.	CAR5	OK CAR5 closed out
4.3 Does the PDD provide for the monitoring of the project emissions as required in the monitoring methodology	DR	PDD	Project emissions are taken as zero so to be checked at site visit. So Monitoring plan is also not considering the measurement of it.	TBC	OK
4.4 Does the PDD provide for the monitoring of the leakage as required in the monitoring methodology	DR	PDD	As per the methodology the leakage is not considered so there is no requirement for monitoring the leakage	OK	OK
4.5 Does the PDD provide for Quality Control (QC) and Quality Assurance (QA) Procedures as required in the monitoring methodology	DR	PDD	The PDD provide the quality control and quality assurance procedures as required in the monitoring methodology.	OK	OK

Table 5 Monitoring plan (PDD Annex 4)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
5.1 Monitoring of Sustainable Development Indicators/ Environmental Impacts	DR	PDD	Pending CAR1	Pending	OK
5.1.1 Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?			Not Applicable	N/A	OK
5.1.2 Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?			Not Applicable	N/A	OK
5.1.3 Will it be possible to monitor the specified sustainable development indicators?			Not Applicable	N/A	OK
5.1.4 Are the sustainable development indicators in line with stated national priorities in the Host Country?			Pending CAR1	Pending	OK
5.2 Project Management Planning					
5.2.1 Is the authority and responsibility of project management clearly described?	DR	PDD	Authority and responsibility of project management is missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.2 Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	DR	PDD	Authority and responsibility for registration is missing in Annex4.	NIR6	OK NIR6 closed out.
5.2.3 Are procedures identified for training of monitoring personnel?	DR	PDD	Procedures for training of monitoring personnel missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.4 Are procedures identified for emergency preparedness for cases where emergencies can cause unintended	DR	PDD	Procedures for emergency preparedness missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
emissions?					
5.2.5 Are procedures identified for calibration of monitoring equipment?	DR	PDD	Procedures for calibration of monitoring equipments missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.6 Are procedures identified for maintenance of monitoring equipment and installations?	DR	PDD	Procedures for maintenance of monitoring equipment and installations are missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.7 Are procedures identified for monitoring, measurements and reporting?	DR	PDD	Procedures for monitoring, measurements and reporting are missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.8 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	DR	PDD	Procedures are identified for day to day record handling missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.9 Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?	DR	PDD	Procedures are identified for dealing with possible monitoring data adjustments and uncertainties missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.10 Are procedures identified for review of reported results/data?	DR	PDD	Procedures for review of reported results / data are missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.11 Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	DR	PDD	Procedure for internal audits of GHG project compliance with operational requirement is missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.12 Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	DR	PDD	Procedure for performance review of data is missing in Annex4 of PDD.	NIR6	OK NIR6 closed out.
5.2.13 Are procedures identified for corrective actions in order to	DR	PDD	Procedure for corrective	NIR6	OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
provide for more accurate future monitoring and reporting?			actions of data is missing in Annex4 of PDD.		NIR6 closed out.

Table 6 Environmental Impacts (Ref PDD Section D and relevant local legislation)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
6.1 Has an analysis of the environmental impacts of the project activity been sufficiently described?	DR	PDD	The analysis of environmental impacts of project activity is sufficiently described. To be checked during site visit.	TBC	OK
6.2 Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	DR	PDD	EIA was not required as per host party. To be checked during site visit.	TBC	OK
6.3 Will the project create any adverse environmental effects?	DR	PDD	No adverse environmental effect reported in PDD. To be checked during site visit.	TBC	OK
6.4 Are transboundary environmental impacts considered in the analysis?	DR	PDD	No transboundary environmental impacts. To be checked during site visit.	TBC	OK
6.5 Have identified environmental impacts been addressed in the project design?	DR	PDD	To be checked during site visit	TBC	OK
6.6 Does the project comply with environmental legislation in the host country?	DR	PDD	The project complies with the environmental legislation in the host country.	OK	OK

Table 7 Comments by local stakeholders (Ref PDD Section E)

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
7.1 Have relevant stakeholders been consulted?	DR	PDD	The relevant stakeholders have been consulted as mentioned in PDD.	OK	OK
7.2 Have appropriate media been used to invite comments by local stakeholders?	DR	PDD	Media used is not mentioned in PDD clearly.	NIR7	OK NIR7 closed out
7.3 If a stakeholder consultation process is required by regulations/laws in the	DR	PDD	Stakeholder consultation	NIR8	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?			process is not required as per law. The stakeholder consultation was carried out by project proponent for CDM process. MOM to be provided.		NIR8 closed out
7.4 Is a summary of the stakeholder comments received provided?	DR	PDD	Summary of stakeholder consultation is provided in the PDD.	OK	OK
7.5 Has due account been taken of any stakeholder comments received?	DR	PDD	Due account of stakeholder comments is mentioned in PDD.	OK	OK

TABLE 8 OTHER REQUIREMENTS

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
8.1 Project Design Document					
8.1.1 Editorial issues: does the project correctly apply the PDD template and has the document been completed without modifying/adding headings or logo, format or font.	DR	PDD	The project has correctly applied the PDD template.	OK	OK
8.1.2 Substantive issues: does the PDD address all the specific requirements under each header. If requirements are not applicable / not relevant, this must be stated and justified	DR	PDD	Pending CARs / NIRs	Pending	OK
8.2 Technology to be employed					
8.2.1 Does the project design engineering reflect current good practices?	DR	PDD	The project design is reflecting current good practices.	OK	OK
8.2.2 Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	DR	PDD	The project is using state of art technology.	OK	OK
8.2.3 Is the project technology likely to be substituted by other or more efficient technologies within the	DR	PDD	Project technology is not likely to be substituted. Proof to be submitted by	NIR9	OK NIR9 closed

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
project period?			the project proponent.		out.
8.2.4 Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	DR	PDD	Training requirement is not mentioned in PDD clearly for the technology employed.	NIR10	OK NIR10 closed out.
8.3 Duration of the Project/ Crediting Period					
8.3.1 Are the project's starting date and operational lifetime clearly defined and reasonable?	DR	PDD	Project starting date is mentioned in PDD clearly. Proof to be provided. The operational life time is mentioned clearly as 30 years.	CAR 11	OK CAR11 closed out
8.3.2 Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	DR	PDD	The assumed crediting time is clearly defined as 3x7 years and resonable.	OK	OK
8.3.3 Does the project's operational lifetime exceed the crediting period	DR	PDD	The operational life time (30 years) exceeds the crediting period (3x7 years)	OK	OK

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Annex 3

FINDINGS OVERVIEW

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
1	CAR	Letter of approval is not provided by the project proponent	1.2
Date: 06/02/2007 [Comments- CLIENT] A Letter of Approval from the Indian government dated Sep 11 2006 File no: 4/16/2006 -CCC has been submitted to the DOE during the site visit.			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] Original DNA approval letter dated 11th September 2006, Reference F. No. 4/16/2006 – CCC was seen by the local assessor and the same has been scan copy obtained; the same has been attached as HCA Letter. CAR 1 could be closed out			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK CAR 1 Closed out			

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
2	CAR	Project boundary is not clearly defined in PDD	2.2
Date: 06/02/2007 [Comments: CLIENT] The project boundary encompasses four 10 TPH waste heat recovery boilers, one number of 10 MW Steam turbo generator and all other power generating equipments, captive consumption units, the transport of the waste gases to boiler after the ABC chamber, the electricity generation terminal that is supplied to VMPL plant .The same is being rephrased in revised PDD version no:2 dated 28th Dec 2006.			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] The project boundary has been checked during the site visit and the same has been incorporated in the rephrased PDD version 02 dated 28th December 2006, CAR2 could be closed out.			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,			

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
3	CAR	Excel sheet for baseline emission reduction calculation was not provided	2.3
Date: 06/02/2007 [Comments: CLIENT] Excel Sheet for baseline emission reduction calculation has been provided to the DOE.			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] Excel sheet received during site visit showing installed capacity, no of days of plant operations, plant load factor etc. CAR3 could be closed out			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,			

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
4	CAR	The discussion on additionality is not clear. Step 0:- start Date of project is not mentioned. Documentary evidence needs to be provided Step 3: - All The barriers mentioned in this step are not transparent and clear and not supported by documentary evidences. Step 4: - common practice analysis is not clear and supporting documentation is to be provided. Step 5:- Impact of registration is not clear	3.2

Date: 06/02/2007

[Comments: CLIENT]

1. Step 0: the starting date of the project activity is the date on which the contract has been signed between the project proponent and the contractor (Balmer Lawrie &Co Ltd.a Government of India Enterprise) for supply, design, installation, testing and commissioning of the equipment owned and supplied by Vikash Metal as a free issue item for the 10 MW power plant based at West Bengal. The proof of the document has been provided to the DOE.

2. Step 3: The PP has identified many hurdles and prohibitive barriers in terms of high capital cost, Cyclic nature of the primary industry, low penetration of such technology etc for the implementation of the project activity.

Required Equity for the project:

The foremost barrier identified by the board members at the time of the inception of the project is the required funds in terms of equity capital to invest in the project. By keeping in view of the penetration of such similar technology in the region and also the other related issues like the market condition, vagaries in the nature of the feed stock material in the DRI, required manpower etc has pushed the board members to decide for adopting grid power against WHR based CPP, however only after the consideration of the CDM through discussion with a suitable CER buyer and a term sheet agreement with the same has only motivated the project proponent to cope up with the risk in developing the project. (The communication between the buyers and the various board resolutions on deciding the project technology/type has been provided to the DOE during the site visit. with the proposed project activity).It could be concluded that without the CDM revenues the project wouldn't have happened.

Technological and managerial barrier:

The report on "Survey of Indian Sponge Iron Industry" published by Joint Plant Committee (constituted by Govt of India) has demonstrated and identified that Indian sponge iron industry lacks in proper/quality raw material source, power, labor etc.As this report has covered almost all the units in the state and more over as this is published by Govt of India entity this would clearly demonstrate that the adaptation of such technology has a prohibitive barrier our argument. The copies of the concerned pages from the report are provided to the DOE. The executive summary on page number seven of the "survey of the Indian sponge iron industry" has accorded the claim by the pp that the sector lacks in technical expertise.

Also the technology supplier has indicated the reasons for such low penetration of the implementation of the technology and the other related operational and maintenance risk related to the project activity and the same also being provided to the DOE.

The water availability for the project is another herculean task to accomplish. Basically the steel plant consume less water, however when the project envisages to have a CPP with CDM benefits necessary approvals has been taken from the concerned authority. The project proponent has laid his water lines on his cost which has incurred an additional investment of more than INR 22.2 million for the execution of the project.

Step:4 Common practice barrier analysis:

The Joint Plant committee report has studied/conducted a survey in all the units in West Bengal and stated that none of the plants are having waste heat recovery/CPP systems installed. Page no: 30 of the report has been provided as proof to the DOE.

More over the client has contacted the Directorate of Industries of West Bengal and collected the list of all the sponge iron units available in the region (List appended to the DOE) and contacted them through email and telephone calls and confirmed that at the time when the board discussed this unit it is the first unit to employ such technology.

Step :5 Impact of registration:

The PP has identified attributable and substantiate barriers in terms of the equity for the project which has been overcome by the CDM revenues in terms of term sheet provided by the buyers to buy the credits.

The main benefits of CDM registration relate to the financial and investment impacts of the CDM revenue stream as highlighted in step 2. Furthermore, the inherent risks in undertaking the project are reduced through the increased return associated with registering the project under CDM, thereby specifically offering the plant greater leeway in its first two years of operation when the promoter is gaining experience of operating the plant efficiently and assisting the project in achieving financial closure. In addition, the registration of the project under the CDM would enhance VMPL's profile as a company that is concerned about the environment that it operates under.

Date: 11/03/2007; Syed Khursheed Zaidi
[Comment Local Assessor]
Response to point no 1 Step 0: the starting date of the project activity has been checked and verified as 1st August 2005, the date on which the contract has been signed between the PP and the Balmer Lawrie & Co. Ltd. A Government of India Enterprise (Contractor) for supply, design, installation, testing and commissioning of the equipment owned and supplied by Vikash Metal. The documentary evidence has been seen and scan copy of the same has been retained as a proof of evidence.

Response to point no 2. Step 3: Vikash Metal has been facing many hindrances and unaffordable barriers in terms of high capital cost, cyclic nature of the primary industry, and low penetration of such technology for the implementation of WHR boiler. Several board meeting held on 21st & 30th August 2004 & 3rd, 14th & 29th September 2004 and PP made correspondences with carbon trading and financing agencies such as Carbon Finance through letter dated 4th October 2004 and Enviro Pacific Investments Limited dated 13th & 26th August 2004 and internal evaluation document dated 24th August 2004.

Report of JPC (Joint Plant committee, constituted by Government of India (GoI)) has been read and inferred that Indian sponge iron industry lacks proper/quality of raw material & source, power and labor etc. JPC report indicates that there are 147 such units in India, None out of 30 such

units in west Bengal have Captive power plant (page 38 of report), this report is published by GoI and can be considered as clear constraint to demonstrate prohibitive & Technological barrier. The feasibility report prepared by Development Consultants Pvt Ltd, August 2004 and from EICS power services Pvt Ltd confirms technological and operational barriers. The project proponent also invested additional amount of 22.2 million INR for laying dedicated water transmission line after obtaining necessary approvals to have Captive Power plant keeping CDM revenues in mind. These documents were seen and copies collected, which implies that the project could not have been concluded without the CDM revenues and the project wouldn't have happened. Step:4 Common practice barrier analysis: The JPC report has been reviewed and found that none of the units in West Bengal have CPP using waste heat recovery at the point of time when board decision and purchase orders were placed (1st August 2005) for going for WHR boiler system to have CPP. JPC report can be relied upon as evidence. This report was prepared and published by GoI and a copy of the same has been retained as proof. Step :5 Impact of registration: The project proponent replied that the project proponent went ahead with the project only after talking to the potential buyer of the CERs and this helped them in overcoming the investment barrier. These were accepted and hence CAR4 could be closed out.
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
5	CAR	Monitoring of baseline parameters is not clear.	4.2
Date: 06/02/2007 [Comments CLIENT] The baseline scenario opted for the project is replacement of power from the grid accordingly the PDD has been remodified and provided to the DOE. The baseline emission estimation involves the amount of net electricity generated by the waste heat recovery sources. Along with that proposed monitoring report are provided to the DOE and section B tables clarify the monitoring baseline parameters in revised PDD			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] The baseline scenario for the project is replacement of power from the Eastern grid. The same has been checked and verified through CEA and eastern grid data. The changes have been incorporated in the rephrased PDD version 02 dated 28th December 2006. CAR 5 could be closed out.			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,			

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
6	NIR	Authority and responsibility of project management, Registration, monitoring, measurement, reporting, Training, emergency preparedness, calibration, maintenance of monitoring equipments and installations, record handling, record keeping, data uncertainty and internal GHG audit procedures are not mentioned in Annex4 of PDD.	5.2.1
Date: 06/02/2007 [Comments CLIENT] The parameters on Authority and responsibility of project management, Registration, Monitoring, Measurement, Reporting, Training, Internal Audit, Emergency			

preparedness, Calibration, Maintenance, day to day record handling and corrective actions are included in monitoring plan of Section B and in Annex 4 of revised PDD
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] The authorities and responsibilities are defined under monitoring procedures, the hierarchy starts from General Manager, Manager Power plant, Manager Electrical, Shift inspectors and finally to operators. PDD version 02 dated 28th December has been rephrased and section B.7.2 (Description of monitoring plan) and Annex 4 have been detailed clearly. NIR6 could be closed out.
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
7	NIR	Media used is not mentioned in PDD clearly.	7.2
Date: 06/02/2007 [Comments: CLIENT] The village Panchayats and Villagers were explained in-person. The minutes of meeting of the public hearing held and letter from village panchayat have been shown to the DoE and Xerox copies given.			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] The public hearing for CPP project was held at 11 A.M at plant premises, on July 31st 2006 and Vikash metal management & local villagers attended the meet. The meeting was invited through one to one communication and proceedings were recorded and provided to local assessor during site visit. No adverse comment received about the project activity. NIR7 could be closed out.			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,			

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
8	NIR	The stakeholder consultation was carried out by project proponent for CDM process. MOM to be provided.	7.3
Date: 06/02/2007 [Comments: CLIENT] The village Panchayats and Villagers were explained in-person. The minutes of meeting of the public hearing held and letter from village panchayat are provided to the DOE.			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] The hearing was conducted on July 31st 2006 and was attended by local villagers. Their concerned about green belt development, employment opportunities during construction and operational phase and construction of road to village Poradhia were heard and recorded by General manager, manager works and administrative head of Vikash metal & power limited and is available in company record. Copy of the same was obtained during site visit. An interview was conducted with few of the representatives attended the meeting conducted earlier dated 31.07.2006. NIR8 could be closed out.			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,			

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref

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9	NIR	Project technology is not likely to be substituted. Proof to be submitted by the project proponent.	8.2.3
Date: 06/02/2007 [Comments: CLIENT] The project activity has installed 4 waste heat recovery system and a turbo generator of 10 MW affected by the CDM project. A letter of undertaking has been provided to the DOE by the project participant at the time of the site visit that the project technology will not be altered during the crediting period.			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] Letter of undertaking duly signed by the director (Mr. Akash Patni), responsible for CDM project activity have been obtained during site visit, confirming that there will not be any change or alteration in the project activity: 10 MW Waste heat recovery based captive power project at Vikash metal & power limited" would take place during the entire crediting period. NIR9 could be closed out.			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,			

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
10	NIR	Training requirement for technology used is not mentioned in PDD.	8.2.4
Date: 06/02/2007 [Comments: CLIENT] Proposed training schedule and the letter related to provision of training by the equipment suppliers is being provided to DOE.			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] Training and training schedule for the personnel involved in operations have been incorporated in the PDD. Letter of DCS supplier(Yokogawa India) dated 16/102006 has also been received. This was accepted and hence NIR10 could be closed out.			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,			

Date: 30-11-2006 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
11	CAR	Project starting date is mentioned in PDD clearly. Proof to be submitted for the same.	8.3.1
Date: 06/02/2007 [Comments: CLIENT] The date on which the contract has been signed between the project proponent and the contractor (Balmer Lawrie &Co Ltd.a Government of India Enterprise) for supply, design, installation, testing and commissioning of the equipment owned and supplied by Vikash Metal as a free issue item for the 10 MW power plant based at West Bengal. The proof of the document has been provided to the DOE.			
Date: 11/03/2007; Syed Khursheed Zaidi [Comment Local Assessor] The project start date has been confirmed on reviewing of the contract documents signed between Vikash metal and Balmer Lawrie & Co Ltd dated August 1st 2006. Copy of contract no. 189/CA/VMPL/01 & 02 war received as a proof. CAR11 could be closed out.			
Date: 12/03/2007; Sanjeev Kumar [Acceptance and close out] OK,			

Observations:

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AREAS OF SPECIALIZATION

- CDM Validation & Verification
- Energy audit
- Boiler design to convert from oil-fired to briquette/biomass-fired
- Gasifier & MEEs' design

ADVANCED COURSE/TRAINING

- Technical Reviewer training in SGS Netherlands
- CDM verification training at Shanghai
- Advanced EMS (ISO14001:2004) Lead Auditor
- Certified energy auditor from Bureau of Energy Efficiency, Ministry of Power, Govt. of India

EDUCATION

School of Energy & Environmental Studies — *M Tech (Energy Management)*
D.A.V.V., Indore, Madhya Pradesh — 2004

S. D. College of Engineering & Technology — *BE (Chemical Engg. Specialized in Sugar Tech.)*
Muzaffarnagar, Uttar Pradesh — 2001

WORK EXPERIENCE

Feb'05 till date — *SGS India Pvt. Ltd.* — *Gurgaon, India*

- Title: Asst. Manager, Climate Change Programme — Hours/Week: 8/5
- ***Duties and Accomplishments:***
  - **Validation & Verification**: Currently working as technical reviewer and developing validation & verification report; the related works are CDM PDD analysis as a lead auditor, raising CAR & NIR if N/C, site visit and fulfillment of all criteria as per UNFCCC guidelines.
  - **Energy Audit**: Carried out energy audit in different type of industries (Vardhman Spinning & General Mills, Govind Rubber Ltd. and DSM Anti-infectives India Ltd.) developed energy audit reports. Worked at the capacity of Team Leader for all the above projects.

Jul'04-Feb'05 — *Yajna Fuel Services* — *Mumbai, India*

- Title: Engineer, Design Division — Hours/Week: 8/6
- **Duties and Accomplishments:**
  - Worked at the capacity of **Designer** of boiler conversion from oil-fired to briquette-fired, gasifiers and multiple effect evaporators. Responsibility included facilitating erection and commissioning. Main clients included Cadbury, Bayer, Color Chem, Pidilite and Pfizer.
  - Worked at the capacity of **Team member** for carrying out energy audit. Main clients included Rama Newsprint and Nirayu (P) Ltd. (Alembic group).

Jul'01-June'02 *S.D. College of Engineering & Technology.* *Muzaffarnagar, UP, India*

- Title: Lecturer, Chemical Department Hours/Week: 4/6
- Subjects:
  - Thermodynamics, Heat Transfer
  - Sugar Manufacturing Process, Sugar Factory Practices
  - Unit operations and lab analysis

TRAININGS & PROJECTS

- Worked on various projects as 'Performance Evaluation of SPV Systems' with Tata BP Solar India Ltd., 'Energy Auditing' with School of Energy & Envn. Studies and 'Sugar Industry Project' with S.D College of Engg. & Tech.
- Have gone through training as an energy auditor at Rayon Applied Engineers and Yajna Fuel Services.
- Have gone through training as a chemist at Triveni Engineering & Industries Ltd., Deoband
- Presented a seminar on Co-generation in Industries.

SPECIAL ACHIEVEMENT

- National Renewable Energy Fellowship (2002-04)

COMPUTER KNOWLEDGE

- C, C^{++}, MS Office

EXTRACURRICULAR ACTIVITIES

- Participate in the general knowledge quiz, cricket tournament and other cultural activities. Actively participated in different training programs related to energy & environment, conducted by **Center for Energy Studies & Research, Indore**.

INTERESTS

- Trekking, Music and Driving

LANGUAGES KNOWN

- English and Hindi

PERSONAL DETAILS

Date of Birth:	05 August 1979
Nationality:	Indian
Marital status:	Married
Passport No.	E – 6030149 (exp date 12 Sep 2013)

I hereby declare that all the information furnished above is true to best of my knowledge

Date: April 2007
Place: Gurgaon

(Sanjeev Kumar)

CURRICULUM VITAE

OF

PANKAJ MOHAN

Skills and Experience

I am a certified energy manager, and had been carrying out energy audits of buildings and industries for over 8 years. I have also developed energy management plans, and managed the calibration and maintenance of instruments and equipments required for energy conservation studies. At present I have been carrying out Validation and Verifications of CDM projects for more than a year.

Education Qualifications

Certified Energy Manager, certified by Bureau of Energy Efficiency, Ministry of Power, Govt.of India through All India examination conducted in 2005.

Diploma in Electronics & Electrical Communication Engineering with Distinction in August 1997.

Pursuing A.M.I.E.T.E.

Computer Skills & Application Packages Known

Windows XP, MS Office 2000, lighting design software, Motor efficiency software, Pump efficiency software, Building simulation software.

Work Experience

Presently working in SGS India Private limited, Gurgaon as "Senior Executive - Climate Change Programme". (10th March 2006 – till date)

I worked with The Energy and Resources Institute (TERI), New Delhi as Research Assistant for more than 8 years. (October 1997 – 6th March 2006)

Key job responsibilities: -

Validation and Verification Presently I am involved in Validation and Verification of CDM projects. The work consists of validation/verification and registration of CDM projects with the UNFCCC/CDM EB for seeking climate change funding under Kyoto protocol.

The assignments undertaken include projects on Methane Recovery, Cement Manufacture, Renewable Energy and Waste Heat Recovery projects. The work involves completing the CDM project cycle including technical assessments and methodology application, validation/project registration with the CDM Executive Board; and/or verification for issuance of CERs.

More specifically, main tasks include:

- check the PDD against 'Applicability' criteria listed in the methodology
- assess 'Additionality' as per the approved methodology and 'Tool for Assessment and Demonstration of Additionality'
- assess whether provisions for monitoring, verification and reporting are in accordance with relevant decisions of the COP/MOP
- check if baseline emissions are in accordance with the methodology described/approved
- check whether project emissions, leakage and emission reductions are in accordance with the methodology described/approved
- check baseline and monitoring methodology compliance with the requirements of the approved methodology
- site verification/certification of projects; and, issuance of CERs

Climate change I was also involved in the NATCOM project for estimating the CO2 emitted by different energy intensive industries under the UNFCCC framework of climate change.

More specifically, main tasks include:

- Compilation of production data of last 20 years for Energy intensive Aluminium industry
- Putting the compiled production data in the software to calculate the CO2 emitted by the energy intensive Aluminium industry in the atmosphere.
- Reporting the same in the formatted report

Energy Audits

Building Energy Conservation Studies of 15 Taj Group of Hotels, Hotel Soaltee Crowne Plaza, Katmandu, Nepal, Hotel Maurya Sheraton, New Delhi, Hotel Imperial, New Delhi. Energy conservation study at BPCL building, Noida. Tata-Tele Services building New Delhi, and Moolchand Hospital, New Delhi. In all these audits Energy demand and Energy distribution was also studied.

Industrial Energy Audits in Different Industries like Hero Honda Motors, Coca Cola India Ltd., Essel Packaging, ITC, HIL, Duncans, Palm prints, Britannia, Modern Industries, and India Glycol limited. In all these audits Energy demand and Energy distribution was also studied.

Power Plant Energy Audit Studies: - Energy Audit of power plants like Hindalco, Nalco, NTPC singrauli and NTPC Talcher.

More specifically, main tasks include:

- Site visit to measure the operating parameters of the various electrical as well as thermal equipments in various buildings, industries and power plants
- Monitoring the parameters used to calculate the operating efficiency and comparing them with design efficiency for each of the equipments.
- Energy conservation options with techno-economic analysis for all the electrical and thermal equipments monitored. It was also proposed how to reduce energy demand by efficient energy distribution in building and industrial projects.
- Reporting them in the formatted report for the buildings, industries and power plants.

Development of Energy Management plan for Taj Air Caterers Mumbai and New Delhi. Designing of Energy Efficient lighting for Delhi Development Authority New Delhi. Integrated Energy Efficiency master plan for the Royal Kingdom of Bhutan.

Training Programs I have also organized the training programs on Energy Efficiency in Industries for senior level personnel under the Energy Efficiency Support project sponsored by Asian Development Bank (ADB), Manila, Philippines. I have also given the talk on Energy Audit instrumentation in various programs organized by the Institute on energy efficiency in buildings and industries.

Demonstration Projects I had been working in Technology up gradation projects in Small-scale Industries like Brick & Glass sponsored by Swiss Development Corporation (SDC). In the technology up gradation projects the high pollution and low efficient technologies replaced by least pollution and energy efficient technologies. These were done after carrying out pilot plant studies and then in the industry at full scale. These were pretty successful and the industry is going for the technology. I was also involved in renewable energy projects as well. In renewable energy projects I was involved in technical aspects of the projects.

Instruments Looking After the instrumentation of The Division used in Energy conservation studies and Energy audits. I was also involved in the procurement of instruments as well.

Publications I was involved in the text writing part of “Handbook of Energy Audits and Management” and “Managing energy efficiently in hotels and commercial buildings”.

Date: - 26-04-2007 Pankaj Mohan

CURRICULUM VITAE (CV) FOR PROFESSIONAL STAFF

Position on the team: Assessor

Name of Company: SGS India Pvt. Ltd.

Name of Staff: Vikrant Badve

Date of Birth: 11th February 1980

Years with Firm/Entity: Since 31st July 2006 Nationality: Indian

Detailed Tasks Assigned: Desk review of the documents submitted by the client and Preparation of Draft and final Validation report for the project activity.

Education:

A. M. Tech. (Energy Management)

a. **Collage –** School of Energy and Environmental Services, Indore
b. **University –** D. A. University, Indore
c. **Duration -** June 2002 to June 2004
d. **Major Subjects studied -** Energy Auditing Techniques in Thermal and Electrical Energy, Thermodynamics, Heat Transfer, Non-Conventional Energy sources and their potential
e. **Project Work –** Minor project work on 'Energy Auditing in a Chemical Manufacturing Unit at Dewas M.P'.
Major project work on 'Assessment of Potential for Landfill gas and mechanisms to capture the same for Indian Cities a case study of Nagpur'.

B. B.E. (Environmental Engineering)

a. **Collage –** KIT's College of Engineering, Kolhapur
b. **University –** Shivaji University, Kolhapur
c. **Duration -** June 1997 to June 2001
d. **Major Subjects studied –** Environmental Pollution Control, Water and wastewater treatment and analysis, Solid waste Management, Industrial Waste Treatment, Environmental Impact Assessment, Environmental Management and Auditing
e. **Project Work –** Minor Project work on 'Design of sewage treatment plant for a town of 50,000 population'
Major project work on 'Use of Vermicomposting for biodegradable medical waste'.

C. Passed Energy Auditor's Exam conducted by BEE (Govt. of India, Ministry of Power.), New Delhi and NPC, Chennai

Employment Record:

D. Company - **SGS India Pvt. Ltd., Mumbai,** a leading DOE for Validation and Verification under Clean Development Mechanism (CDM) project activities and Verified Emission Reduction (VER) program

Duration - From 31st July 2006 to till date

Designation- Executive (Climate Change Programme)

Job Profile

- Developing validation and verification reports related to CDM projects as per UNFCCC criteria.
- Developing verification reports related to VER projects as per Verified Carbon Standard (VCS) criteria.
- Developing Client base for Climate Change Program.

Worked/Working on different projects for following sectors,

1. Validation of projects under sectoral scope 1 (Energy Industries (Renewable/Non-renewable)) and 4 (Manufacturing Industries)

2. Verification of Projects under sectoral scope 1 (Energy Industries (Renewable/Non-renewable)) and 4 (Manufacturing Industries)

E. Company - **Sudnya Industrial Services Pvt. Ltd., Pune,** an Energy Service Company (ESCO) working in industrial and commercial sectors and implement Energy Conservation projects through **Performance Contracting** route.

Duration - From 1st June 2005 to 29th July 2006

Designation- Energy Engineer

Job Profile

- Conduct Walk through and Detailed Energy Audit Studies.
- Analysis of the data collected for Energy Audit Studies.
- Preparing Energy Audit Report.
- Preparing protocol for the baseline measurement.
- Analysis of the data for preparing baseline.

Worked on different projects for following Industrial/ Commercial sectors,

1. Detailed Energy Audit Study of Battery Manufacturing Unit and preparation of measurement protocols for the baseline study of Energy conservation measures suggested in Energy audit report.

2. Detailed Energy Audit Study of Lead Refinery Unit.

3. Energy Audit Study for Nationalized Bank Head Office.

4. Building Energy Management –
   Preparation of Handbook on Standard auditing procedure for public buildings in Maharashtra and creating a database of energy efficient technologies to be used in public buildings in Maharashtra

F. Company - **Pranam Consultants, Pune,** a consultancy firm working in Renewable Energy field

Duration - 1st June 2004 to 31st May 2005

Designation - Energy Engineer

Job Profile

- Responsible for Field Studies
- Analysis of Field data and Report preparation

Worked on projects for following sectors,

1. Integrated Rural Energy Planning.

2. Socio-Economic Impact Assessment Study of Energy Projects.

3. Biomass Availability Study for Biomass based Power Plants.

4. Feasibility study of Biomass based Power Plants and Waste to Energy Plants.

5. Remote Village Electrification Program.

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G. Company - **MICO, Nashik** Plant manufacturing diesel nozzle body and holder.

Duration - 12th Sept. 2001 to 23rd July 2002

Designation - Trainee Engineer, Environmental Projects Department

Job Profile

- Part of Environmental Management Team

Worked on different projects like,

1. Erection and commissioning of the Industrial Waste Treatment Plant and Oil Reclamation Plant.

2. Daily operation and the maintenance of Sewage Treatment Plant, Solid Waste Incinerator.

Languages:

Language	Speaking	Reading	Writing
Marathi	Excellent	Excellent	Excellent
Hindi	Good	Good	Good
English	Good	Good	Good

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe my qualifications, my experience, and me.

_____Date: 09/05/2007

[Signature of staff member and authorized representative of the Company]

Full name of staff member: Vikrant Badve
Full name of authorized representative: _____