VALIDATION REPORT

SMC Power Generation Limited

SMC WHRB 1 & 2

SGS Climate Change Programme
SGS United Kingdom Ltd
SGS House
217-221 London Road
Camberley Surrey
GU15 3EY
United Kingdom

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Summary:

SMC Power Generation Limited has commissioned SGS to perform the validation of the project: SMC WHRB 1 & 2. 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 primary purpose of the proposed project is to recover the sensible heat content of the waste gases generated from DRI kilns using Waste Heat Recovery Boilers (WHRBs) to generate total 16 MW power. The generated power will meet the process electricity requirement of SMC's steel plant, in the absence of the project activity; the equal amount of electricity would have procured from the carbon intensive grid system. The 33 MW captive power plants shall comprise of 8 MW and a 25MW STG to generate total 33 MW Captive power. Out of which 16 MW power will be generated from waste heat recovery boiler steam, by setting up two nos. of 38 tonnes/h each capacity WHRB to produce total 76 tph steam. The generated power will meet its present and future requirement of power. The balance back up or standby support power required to meet the fluctuating power generation from WHRB, would be drawn from WESCO which is the local grid and which is part of eastern regional grid. The total emission reduction for the 10 years period is 915020 tCO2.

The report is based on the findings of document reviews, the stakeholder consultation process and responses from the project participants to the findings raised in this report.

The report and the annexed validation describes a total of 23 findings which include:

- 11 Corrective Action Requests;
- 12 New Information Requests; and

All findings have been closed out satisfactorily and if the project will be recommended to the EB with a request for registration.

Subject:		**Indexing Terms**
CDM validation		
Work carried out by		
Pankaj Mohan – Lead Assessor Jimmy Sah – Local Assessor		
Technical Review:		☒ No Distribution (without permission from the Client or responsible organisational unit)
Name: Irma Lubrecht Aurea Nardelli (Trainee Technical Reviewer) Date: 28th February 2008 & 11th August 2008		
Authorized Signatory:		☐ Limited Distribution
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Abbreviations

ABC	After Burning Chamber
AFBC	Atmospheric Fluidized Bed Combustion
AIPL	Action Ispat & Power Pvt Limited
BOD	Biochemical Oxygen Demand
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
DRI	Direct Reduced Iron
EIA	Environment Impact Assessment
GHG	Green House Gas(es)
HRSG	Heat Recovery Steam Generator (WHRB)
HSD	High Speed Diesel
HT	High Tension
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
OSERC	Orissa State Electricity Regulatory Commission
OSPCB	Orissa State Pollution Control Board
PDD	Project Design Document
PPA	Power Purchase Agreement
STG	Steam Turbine Generator
UNFCCC	United Nations Framework Convention for Climate Change
WESCO	Western Electricity Supply Company Of Orissa Ltd.
WHRB	Waste Heat Recovery Boiler

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1. Introduction

1.1 Objective

The SMC Power Generation Limited has commissioned SGS to perform the validation of the project: SMC WHRB 1 & 2 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 primary purpose of the proposed project is to recover the sensible heat content of the waste gases generated from DRI kilns using Waste Heat Recovery Boilers (WHRBs) to generate total 16 MW power. The generated power will meet the process electricity requirement of SMC's steel plant, in the absence of the project activity; the equal amount of electricity would have procured from the carbon intensive grid system. The project activity involves the generation of electrical power through the installation of two numbers of waste heat recovery boilers of capacities 38 TPH each respectively, operating at 65 kg/cm^2 and 485±5℃ and two steam turbines.

Baseline Scenario:

Under the baseline scenario, the DRI kiln waste gas would have been allowed to escape unutilized with a considerable amount of SPM load and the electricity demand of the plant would have been met from the Eastern regional grid which is predominantly generated from thermal (fossil fuel based) power plants.

With Project Scenario:

The project activity uses heat content of the DRI kiln waste gas as fuel for generation of power, which in turn contributes to conservation of fossil fuel, a non-renewable natural resource and also reduces GHG emissions.

Leakage:

As per the methodology ACM0004 version 2; no leakage is to be considered.

Environmental & Social Impacts:

According to assessor, there is no negative environmental and social impact expected due to the project activity. This was checked during the site visit and also from the pollution control board consents.

1.4 The Names and Roles of the Validation Team Members

Name	Role	Affiliate
Pankaj Mohan	*Lead Assessor*	*SGS India*
Jimmy Sah	*Local Assessor*	*SGS India*

Statement of Competence of team members are attached at Annex IV.

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 from Host Country was missing so CAR01 was raised. A copy of the letter dated 12-03-2007; issued by the Indian DNA (reference number 4/23/2006 – CCC) has been provided by the client which was verified by comparing it with from the original copy. Hence CAR 01 was closed out.

No Annex I Party has been identified in the PDD and the same also has been verified by cross checking with the project proponent. 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.

CAR2 was raised to obtain a copy of the modalities of communication. The PP provided the modalities of communication. The modalities of communication dated 10th December 2006 was received and checked. This was found to be correct and hence CAR2 was closed out.

3.2 Baseline Selection and Additionality

The project is using baseline methodology ACM0004 version 2 dated 3rd March 2006. The project activity is using baseline as import of power from grid. The baseline selected is "import of power from eastern regional grid " is the most economically attractive baseline and it is as per approved methodology ACM0004 which says that economically attractive baseline should be selected from all the alternatives.

The basis of the consideration of fossil fuel based captive power plant for the baseline scenario consideration was not clear, thus a CAR 10 was raised asking for the justification. The project proponent has identified two plausible alternatives for the baseline selection:

(1) Coal Based Captive power plant and

(2) Power import from the grid.

Among the identified baseline scenario options, the first option, i.e. coal based captive power generation was selected. PP was not able to prove this baseline so the PDD was revised and power import from the grid was selected as the most suitable and conservative baseline scenario for the project activity.

The selection of grid electricity as the most plausible alternative to the project activity has been judged on the basis of initial investment cost, conservativeness of emission factor and common practice in the sponge iron sector of the Orissa State. The project proponent has configured the analysis of most plausible baseline alternative on the basis of the initial investment required for the project not based on the operation cost.

Other issues verified to confirm the barriers discussed for alternative scenarios were: The price of diesel is about Rs.34.00/litre which generate 3 to 3.5 units power thereby fuel cost only is around Rs.10.00/kWh, hence the same is not considered as a feasible option. It was also verified on-site that natural gas is not available in area. Regarding the option "Combination of Grid Power supply and Coal based captive Power plant", it was verified that the cost of drawing power from the grid attracts minimum demand charges on contracted demand, and security deposit as well cost of laying the additional power supply lines, which are verifiable from Orissa State Regulatory commission tariff orders. In addition, the Coal based plant needs to be established and hence this additional burden of finance will be there and the generation cost + grid electricity cost of this combination will be higher so this was also not considered as the feasible option.

During the project inception period, there were already existing sponge iron plants in the state which were operating through procurement of power from State Grid system. Thus, with reference to the common practice the project proponent had highest level of confidence that the same would be applicable to SMC project too. The common practice of grid power procurement has been verified on the basis of Joint Plant Committee (JPC) report which clearly says that only 4 captive power plants are installed out of 33 surveyed in the region. The JPC report page number 38 shows this value. The assurance of power supply from the State Government as per the signed MoU with the project proponent and the sanction of demand contract load of 5000 kVA from State Electricity Board as the reason behind the tendency and feasibility towards option of grid power at the baseline selection has also been cross checked and found satisfactory. The copy of agreement can be uploaded as proof of baseline selection.

The copies of all relevant documentary evidences have been obtained. More over, keeping in mind the CDM Modalities and Procedure the project proponent has settled for the baseline alternative which has comparatively lower carbon intensity, i.e. import from grid power rather than more carbon intensive options like other identified baseline options. All the documentary evidences were found satisfactory along with the explanation from project proponent regarding conservative approach towards selection of power import from the grid as the most plausible baseline scenario for the project activity and taking power from grid does not face any prohibitive barrier.

The project developer also provided all the reference with excel sheet to verify data used for baseline emission reduction calculations. The information has been reviewed by the validator during the site visit and they were able to verify the data. Hence, the CAR 10 was closed out.

The additionality of the project is justified by using the "Tool of demonstration and assessment of additionality" (version 4). The additionality of the project is justified using investment analysis and barrier analysis. In investment analysis, levelized cost comparison analysis is used along with the Project IRR comparison. The IRR calculations sheet along with the formula used and all the assumptions made were also checked from the documentary evidences provided by the PP. The sensitivity analysis was also checked and the spreadsheet will be uploaded along with this report. The investment analysis, and technological barrier proofs were also checked and found to be in order. These are explained below in closure of CAR13.

CAR13 was raised to obtain the justification on investment analysis and barrier analysis which is not transparently mentioned in PDD. The PDD mentioned that technological and financial risks were there. The PDD did not mention the barriers that prevented the implementation of the project activity. The PP replied by providing a revised PDD using the "Tool of demonstration and assessment of additionality" (version 4) and also revised the barrier analysis and provided evidences for the same. Specifically regarding the investment barrier, the project developer provided the letter received from Banks and Financial consultants for similar type of WHRB project activities in which financial support due to fluctuation in power generation from WHRB was denied. The barrier analysis was checked in the revised PDD and found that it is mentioned transparently now.

In the Investment Analysis, levelized cost and Project IRR comparison analysis were used. This is as per the "Tool of demonstration and assessment of additionality" (version 4). The levelized cost of the coal based plant is Rs.1452.75 per MWh (Rs1.452 / kWh) where as the WHRB cost is Rs. 1832.55 per MWh (Rs. 1.832 /kWh). The project IRR of Coal based power plant is 21.91 %. The project IRR of WHRB without CDM is 10.20 %.

By comparing the levelized cost it can be seen that the cost of generation for coal based is less than the cost of generation for WHRB. Considering the project IRR without CDM it is clear that Coal based project IRR is higher than the project IRR of WHRB and it is more financially viable but still the project proponent has gone ahead with the Project activity which is not economically attractive.

The levelized cost analysis and the project IRR calculations provided were also checked and found to be in order. The levelized cost and project IRR calculations sheet with the formula used and all the assumptions considered were also checked from the documentary evidences provided by the PP during on-site visit. The assumptions were checked from the loan documents for the interest rate, cost of machinery was checked from the purchase orders of boiler, turbo-generator etc. The assumptions for the depreciation were checked from rates of depreciation under companies act schedule XIV document. The sensitivity analysis was carried out for the plant load factor and its affect on the levelized cost and the project IRR calculations were also checked and will be uploaded as proof of additionality. The levelized cost and project IRR calculations are also certified by the Chartered Accountant (CA) who are the statutory auditing and certifying authority as per the company act 1956 [Chartered accountants are governed by ICAI i.e. institute of chartered accountants of India and established under Chartered Accountant Act 1949]. The CA letter dated 1st February 2008 will be uploaded as proof of correctness of levelized cost and project IRR calculations.

The Joint Plant Committee report (JPC) "Survey of Indian Sponge Iron Industry 2005-06" was provided for technological barrier proof. The JPC report page number 29 table7 clearly shows that in Orissa only 2 plants have either captive or leased iron ore mines out of 33 plants surveyed. This is very less and shows that there is scarcity of raw material. The JPC report page 39 table 17 shows that Orissa face a constraint in raw material in 14 units out of 33 surveyed, power crisis in 6 units out of 33 surveyed, finance in 1 unit, and labour in 3 units respectively. The JPC report Page 29 and page 39 will be uploaded as proof of technological barrier. The technological barriers affects the financials of the project activity as the WHRB project activity is dependent of kiln and if kiln is not running Project activity cannot run and due to this the Average PLF drops and financials are affected.This was accepted and hence CAR13 was closed out.

During the desk study, it was verified that the project proponent has applied the "Tool for the demonstration and assessment of additionality", version 03, to establish project additionality. This was not done transparently so CAR11 was raised. The PP responded by revising the PDD and using the "Tool for the demonstration and assessment of additionality" (version 04) for demonstrating the additionality. This was cross checked from the revised PDD and found that the revised PDD is using version 4 of the "Tool". This was checked from the document (version 4, EB36). This was accepted and hence CAR11 was closed out.

NIR12 was raised to get the justification on start date of project activity. The PP responded by providing the proof of the start date of project activity. The extract of board minutes dated 18-05-2003 provided by the project proponent was checked along with the board minutes and agenda of board meeting was also checked and obtained the copy of the same. The certified true copy was obtained. The management personnel (Director) was interviewed for the board minutes and resolution during the site visit. During the interview the Director clarified that the documentation for the project was tried internally. When there was no success then only the consultants help was sought and appointed the same in July 2006. The PP also provided the permission to establish dated 30/12/2006 by Orissa state pollution control board which is necessary to establish any plant. The PP also submitted the IEM No. 4963 /SIA/IMO/2005 dated 21/10/2005, from Secretariat of Industrial Approvals, Government of India. These two necessary host country institutional legal requirements are essential to be met before establishing any industrial unit. The documents were checked and found that due to the legal delays the project got delayed. This was accepted after getting the satisfactory replies. Serious CDM consideration was observed by the validator along with the reasons for the delay. The chronology of the project

1.	CDM Consideration	18/05/2003
2.	Purchase Order for 8 MW TG	11/06/2003
3.	Purchase Order for first WHRB Boiler	09/07/2003
4.	Application for seeking permission to establish from State Pollution Control Board	11/11/2003
5.	Permission to Establish received from State Pollution Control Board (for first phase)	29/01/2004
6.	Billing Schedule submitted by Cethar VEssles and approved by SMC Power Ltd. For 38 tph Boiler (First Boiler)	30/07/2004
7.	Consent to Operate received from State Pollution Control Board (for first phase)	17/08/2004
8.	Approval of Methodology for WHRB by UNFCCC	08/07/2005
9.	IEM from Ministry of Commerce and Industries, Govt. of India	21/10/2005
10.	Gram Sabha resolution (26/01/2006)	26/01/2006
11.	Application for Permission to Establish to State Pollution Control Board (2nd Phase)	04/02/2006
12.	Purchase Order for 25 MW TG	09/02/2006
13.	Order for Second WHRB Boiler to Thermal System Hyderabad	10/02/2006
14.	Purchase order for AFBC	27/02/2006
15.	NOC from Sarpanch	27/05/2006
16.	Application for Environment Clearance from Ministry of Environment and Forest	21/06/2006
17.	Search for and Appointment of another consultant (Indus Technical & Financial Consultants Limited)	08/07/2006
18.	Public Hearing / Public Consultation	12/09/2006
19.	Application for Host Country Approval	18/11/2006

20.	Permission to Establish (2nd Phase) – received from State Pollution Control Board which was required essentially to obtain HCA	30/12/2006
21.	letter from DNA for submission of documents to establish serious CDM consideration, statutory clearances etc.	11/01/2007
22.	Validator Appointment	24/01/2007
23.	Host Country Approval	12/03/2007
24.	Environment Clearance received	24/04/2007
25.	Commissioning of 25 MW Power plant	23/12/2007

From the above chronology it was concluded that the total project was conceived in May 2003 and serious CDM consideration was observed at the time of investment decision. The letter dated 11-01-2007 from Indian DNA also mentions that proof (Board Resolution) to the effect that CDM was taken into consideration at the time of inception of the project. This shows that even DNA has taken the note of this that the CDM was considered in May 2003 and after going through these documents submitted by PP. Hence NIR12 was closed out.

CAR14 was raised to get the clarification on common practice analysis. The project proponent provided the joint plant committee report (JPC) report and UNFCCC website as proof and also mentioned the projects gone or going for CDM in revised PDD. The revised PDD along with JPC report page number 38 which shows that only 4 plants have captive power plant (CPP) out of 33 surveyed units. The UNFCCC website was also checked and found that all the plants installing the WHRB in the region are on the basis of CDM. The revised PDD mentions the projects already registered and in process of registration in appendix III. This was accepted and hence CAR14 was closed out.

3.3 Application of Baseline methodology and calculation of emission factors

The baseline methodology applied for the project activity is ACM0004 version 2. The methodology is applicable and checked against the applicability criteria of the methodology which states that "The methodology applies to electricity generation project activities that displaces electricity generation with fossil fuels in the electricity grid or displaces captive electricity generation from fossil fuels". The methodology also states that it covers both existing and new facilities. The project activity is a new facility so the methodology is applicable as mentioned in ACM0004 version 2, dated 3rd March 2006.

The project activity is using eastern regional grid emission factor as baseline emission factor. This is taken from CEA version 3 published on CEA website (http://www.cea.nic.in/planning/c%20and%20e/Government%20of%20India%20website.htm).

The value applied is 1.01 tCO2 / MWh. This was checked from the website and found to be matching with the value used in the PDD hence this was accepted. The EF grid provided by CEA follows the ACM0002 version 7.

NIR15 was raised for getting the clarification on uncertainties in emission estimation. The project proponent replied by providing the justification that the emission estimation is calculated on the basis of nameplate data and the value is coming in DCS. Hence the uncertainties are taken care of for estimation. During the crediting period actual measurements will be taken and the calculation will be done on the actual measurements. This was accepted after checking the emission estimation excel sheet and going through the project implementation during the site visit. Hence NIR15 was closed out.

NIR16 was raised as the PDD is not mentioning the data as per the methodology. The project participant provided the revised PDD mentioning the data as per the methodology, which was checked and found to be OK. Hence NIR16 was closed out.

NIR17 was raised as the PDD is not mentioning the monitored data & need not be monitored data correctly. The project participant provided the revised PDD mentioning the data need to be monitored and need not be monitored correctly which was checked and found to be OK. Hence NIR17 was closed out.

3.4 Application of Monitoring methodology and Monitoring Plan

The monitoring methodology applied for the project activity is ACM0004 version 2. The methodology is applicable and checked against the applicability criteria of the methodology which states that "The methodology applies to electricity generation project activities that displaces electricity generation with fossil fuels in the electricity grid or displaces captive electricity generation from fossil fuels". The methodology also states that it covers both existing and new facilities. The project activity is a new facility so the methodology is applicable as mentioned in ACM0004 version 2, 3rd March 2006.

CAR18 was raised to get the procedures mentioned in section B.7.2 of the PDD. The PP replied by providing the revised PDD by mentioning the procedures and parameters as per ACM0004 version 2. The revised PDD was cross checked and found that the procedures and parameters are now mentioned as per ACM0004 version 2 dated 3rd March 2006. This was accepted and hence CAR18 was closed out.

CAR19 was raised as monitoring of each parameter is not mentioned in the PDD as per methodology. The PP replied by revising the PDD and mentioning the monitoring of each parameter in section B.7.1 as per methodology ACM0004 version 2. The revised PDD was checked and found that it is mentioning the monitoring of each parameter in section B.7.1 and as per ACM0004 version 2 dated 3rd March 2006. This was accepted and hence CAR19 was closed out.

3.5 Project Design

NIR3 was raised to get the emission reduction calculation sheet. The PP responded by providing the excel sheet. This was cross checked and found that it is not correct and there are errors in calculation formula and the values taken for the baseline emission is incorrect. The PP corrected the spreadsheet and provided it again which was rechecked and found that the calculations are now correct and as per methodology ACM0004 version 2. This was accepted and hence NIR3 was closed out.

NIR4 was raised to get the consents which were not clearly mentioned in the PDD. The PP replied that the consents and clearances have been obtained and provided to the DoE. This is also mentioned in the revised PDD. The revised PDD was checked and the necessary clearances and pollution control board consents were also checked during site visit. Hence this was accepted and NIR4 was closed out.

NIR5 was raised for getting the clarification that there will be no change in technology during the entire crediting period with more efficient technology. The PP replied by providing the letter that there will be no change in technology during the entire crediting period. This was checked from the purchase orders of the equipments. This was also checked by interviewing the management people during the site visit and it was also seen by the validator that only 8 MW is installed at present and other 8 MW is under construction. After getting the satisfactory replies to the queries this was accepted along with the letter and hence NIR5 was closed.

The PDD is not mentioning anything about the training & maintenance of the project activity hence CAR6 was raised. The PP replied by clarifying that senior and trained staff is recruited. This staff will provide the training to the new staff and also the on job training will also be provided by the equipment supplier during installation. The PP also provided the revised PDD mentioning the training & maintenance of the project activity. The PP also mentioned that a separate training register is already maintained at the site. The revised PDD received was checked and found to be in line with the query raised. This was also checked from the purchase orders of the equipments which mention that the supplier will provide the training during erection and commissioning of the project activity. This was also cross checked during the interview of operation personnel during the site visit. The training register was also cross checked which was maintained at site and found to be OK. The scanned copy of the same was also obtained. Hence this was accepted and CAR6 was closed out.

The PDD was not clearly mentioning the schedule for implementation and the reasons for delays were also not mentioned hence CAR7 was raised. The PP provided the justification that the project is implemented in phased manner first phase is already implemented and second phase will be implemented by September 2008. The revised PDD was also submitted by the PP. The PDD received was cross checked and found to be OK. The revised PDD is mentioning the implementation schedule and this was also checked during site visit and found that phase 1 of 8 MW is already implemented and running and phase 2 of 8 MW is under construction. Hence this was accepted and CAR7 was closed out.

NIR8 was raised for getting the clarification on no public funding involved in the project activity. The PP responded by providing the letter that there is no public funding involved and they have taken loans from the banks & financial institutions. The letter was checked by interviewing the personnel and the loan documents were also cross checked. There is no Annex 1 country involved at present. The justification was accepted and hence NIR8 was closed out.

CAR9 was raised as the project boundary was not mentioned transparently. The PP provided the revised PDD mentioning the project boundary clearly and transparently. The project boundary was checked during site visit physically by the validator. The revised PDD received was checked and found that the project boundary is mentioned transparently and as checked during the site visit. Hence this was accepted and CAR9 was closed.

NIR20 was raised to get the clarification on start date of project activity. The PP provided the revised PDD mentioning the starting date as 18-05-2003 and also provided the proof for the same. The Proof provided was checked and found that the CDM was considered on this date. The documentary evidences provided were checked and found to be OK. Hence NIR20 was closed out.

The start date of crediting period was mentioned as 01-01-2007 and fixed crediting period of 10 years is mentioned in PDD which is wrongly mentioned hence NIR21 was raised. The PP replied by providing the revised PDD after changing the start date of crediting period. The PP was also questioned for start date of crediting period during the site visit for this which he told that it was a typo error it should have been written 01-11-2007. The revised PDD version 5 dated 15-02-2008 received was checked and found that the PDD is mentioning the start date of crediting period as 01-05-2008 or date of registration which ever is later. This was accepted and hence NIR21 was closed out.

3.6 Environmental Impacts

The project participant was mentioning the environmental impacts of the project activity transparently in the PDD. There is no negative environmental effect seen during the site visit. This was checked from the consent to establish and operate from state pollution control board.

NIR22 was raised to get the clarification on EIA is not required as per the host country legislation. The PP responded by providing the EIA notification from Ministry of Environment and Forest, Government of India. This was checked and found that the project cost is less than 100 crores so EIA is not required to be carried out for the project activity. Hence NIR22 was closed out.

3.7 Local Stakeholder Comments

The PDD was not mentioning the media used to invite local stake holder comments, local stake holder consultation not required as per law, summary and due account of stake holder comments was also not mentioned clearly so NIR23 was raised. The project proponent responded by mentioning that the local stake holder comments were invited through the newspaper advertisement in a local daily and the summary is also mentioned transparently in the revised PDD along with due account of comments received. The newspaper advertisement dated 16-03-2007 in The SAMBAD paper was seen and copy of same was also obtained. The revised PDD dated 15-02-2008 was also received and checked that summary and due account of comments received is mentioned transparently. This was also checked during the stake holder meeting during the site visit. No negative comments received. Hence this was accepted and NIR23 was closed out.

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=247 and were open for comments from 11-04-2007 until 10-05-2007. Comments were invited through the UNFCCC CDM homepage

4.2 Compilation of all Comments Received

Comment Number	*Date Received*	*Submitter*	*Comment*
1	09-05-2007	**Tony Bragza**	This project should not be registered because of the following reasons: 1. In PDD page 3, goals of project activity are very generic in nature and does not indicate the company is actively working to promote environment. 2. The fact that this project would increase direct employment is not a good reason to be CDM project (PDD page 3) 3. No supporting data is provided that the company would give ash for free to cement plants (PDD page 4) 4. It is unclear as to how the project would have faced technology barrier if it would not have been a CDM project (PDD page 10) 5. As the second best option to produce power would have been via coal, the PDD does not mention whether the company has applied for coal linkages to govt 6. Barrier analysis is too brief to understand 7. PDD page 18 mentions that PLF of WHRB is 60%, while in page 29, assumed PLF is 70% Overall the PDD is very weak and does not seems that a true and fair picture has been presented by the company. hence i believe that the project should be rejected.

4.3 Explanation of how Comments Have Been Taken into Account

	Comment	PP Reply	DoE Reply
1	In PDD page 3, goals of project activity are very generic in nature and does not indicate the company is actively working to promote environment.	The proposed project activity to generate power without combusting any fossil fuel is towards the promotion of the environment. Thus the activity itself is sustainable	The justification was accepted after going through the board minutes and interviewing the management and local stakeholders. The people told that they are happy with the project activity as this has improved the environment quality of the nearby area. This was also checked from the pollution control board clearance certificate. Hence this was accepted and comment was closed out.
2	The fact that this project would increase direct employment is not a good reason to be CDM project (PDD page 3)	The company meets all the other conditions to be registered as a CDM project, this is an additional socio-economic advantage due to the project	This was also checked during the site visit that the project activity has resulted in generation of employment and local stakeholders are happy with the project activity. Hence this was accepted and comment was closed out.
3	No supporting data is provided that the company would give ash for free to cement plants (PDD page 4)	Company is committed to provide ash free of cost to the cement plants. The necessary proof will be made available to the DOE.	The ash issuance to the cement companies were provided during the site visit. Hence this was accepted and comment was closed out.
4	It is unclear as to how the project would have faced technology barrier if it would not have been a CDM project (PDD page 10)	In the absence of the CDM support the project activity would have not been established due to number of barriers which are mainly of technology nature as explained in the PDD. This is also mentioned in JPC report.	In the absence of CDM project activity the PP would have taken the electricity from grid and WHRB power plant is dependent on kiln running. As per JPC report of Ministry of steel govt. of India the raw material is the major barrier for running the kiln and this will affect the WHRB running. Hence this was accepted and comment was closed.
5	As the second best option to produce power would have been via coal, the PDD does not mention whether the company has applied for coal linkages to govt	Yes, the company has applied for the coal linkage to the government. It is not necessary to apply for coal linkage to set up power plant.	Though the company has applied for coal linkages but the coal is the raw material to run the kiln as well and without coal and other raw material kiln cannot operate as a result the project activity will also not operate. Hence the comment was closed out.
6	Barrier analysis is too brief to understand	The barriers are analyzed as per the methodology.	The revised PDD is mentioning the barrier analysis in detail and transparently and as per methodology. Hence comment was closed out.
7	PDD page 18 mentions that PLF of WHRB is 60%, while in page 29, assumed PLF is 70%	Assumed PLF of 70% is in accordance to the conservative approach to work out the comparative viability but presently 66% PLF is used.	60% PLF is a general PLF normally obtained by the WHRB power plant. Where as the PP has estimated 66% PLF instead of 70% . This is conservative and hence comment was closed.

8	Overall the PDD is very weak and does not seems that a true and fair picture has been presentated by the company. hence i believe that the project should be rejected.	The strength of the project lies in the recovery of waste heat from the flue gases, this facts has been explained well and the need for the CDM support arises due to the of barriers faced by the project. The relevant issues have been properly addressed in the PDD. The project promoters are prepared to provide all the other relevant documents during validation to the DOE.	The PP has provided all the documentary evidences to prove the baseline and additionality of the project and the documents are authenticated documents. Hence this was accepted and the comment was closed out.

5. Validation Opinion

SGS has performed a validation of the project: “SMC WHRB 1 & 2” at jharsuguda, Orissa, India by M/s SMC Power Generation 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 utilizing waste heat 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 analysis, technological barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. The project is yet to start its commercial operation and is likely to achieve the total estimated emission reductions of 915020 tCO_2e for the selected crediting period of 10 years.

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*
28-06-2007	Mr. Mool Chand Aggarwal	CMD	*CDM project discussion in general. CDM consideration questioned*
28-06-2007	Mr. U C Govil	V.P works	*CDM project discussion in general. CDM consideration questioned. Need of power plant was discussed.*
28-06-2007	Mr. J R Mahapatra	Manager Power plant	*Specification, monitoring, measurement, data recording, Project boundary discussion.*
28-06-2007	Mr. Gopal Bordia	consultant	*Baseline, Additionality, Monitoring Plan was discussed in detail.*

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/ PDD version 1 dated 09-02-2006 (document available for global stakeholder consultation)

/2/ PDD version 2 dated 25-10-2007

/3/ PDD version 3 dated 29-10-2007

/4/ PDD version 4 dated 30-11-2007

/5/ PDD version 5 dated 15-02-2008

/6/ PDD version 6 dated 03-03-2008

/7/ Letter of Approval dated 12th March 2007

/8/ Modalities of communication dated 10th December 2006

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):

/9/ Board resolution dated 18-05-2003 as start date proof

/10/ Electricity bill as proof of baseline

/11/ Emission reduction calculation

/12/ Consent to operate from pollution control board

/13/ Energy meter test certificate

/14/ Specifications of boiler & turbo-generator

/15/ Power supply agreement with the electricity board as proof of baseline selection

/16/ Stakeholder comments

/17/ The IEM No. 4963 /SIA/IMO/2005 dated 21/10/2005, from Secretariat of Industrial Approvals, Government of India .

/18/ Training register as proof of training provided for maintenance & operation

/19/ Purchase Orders as proof of investment and proof of training

/20/ Survey of The Indian Sponge Iron Industry - A Report 2005 – 2006 Joint plant Committee (JPC) constituted by Govt. of India as proof of technological barrier and common practice proof.

/21/ Levelized cost and Project IRR calculation sheets

/22/ Sensitivity analysis spread sheets

/23/ CA letter dated 01-02-2008 as proof of additionality

/24/ Permission to establish dated 30/12/2006 vide letter number 31520 by Orissa state pollution control board

/25/ Central Electricity Authority (CEA) Data version 3 from the CEA Website and following web link is mentioning the data as per ACM0002 version 7
http://www.cea.nic.in/planning/c%20and%20e/Government%20of%20India%20website.htm

/26/ Certified true copies of Notice of board meeting, CDM consideration resolution, minutes of Board meeting and Agenda.

/27/ 5000 kVA Power agreement with WESCO as proof of baseline selection

/28/ Loan agreement for the project as proof of interest rate in project IRR calculation.

/29/ Rates of depreciation under companies act schedule XIV document for project IRR calculation.

A.1 Annex 1: Local Assessment Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Use of any Official Development Assistance (ODA)	SV	I/DR	The funding for the project is on term loan from Bank. No ODA is utilised	Y	Y
Project design and technical details. all information provided in compliance with actual situation or planning	SV	SV	It was found that the installed turbine is of 8MW capacity. Another 8 MW is in construction. Total of 16MW will be installed as mentioned in PDD as well and checked during site visit. The PO and construction status was also checked during site visit.	Y	Y
Project Boundary & the project create any adverse environmental effects?	SV	SV	The project boundary is in accordance as per PDD. This was checked during site visit by physical verification as well as by interviewing the local stakeholders.	Y	Y
CDM Management structure	SV	I	The management structure is robust. It does ensure comprehensive QA/QC.	Y	Y
List of stakeholders consulted has to be checked	SV	I/DR	Reasonable as checked from the documents provided and interaction with the stakeholders during site visit.	Y	Y
Supporting documents for summary of comments provided	SV	I/DR	Reasonable as checked from the documents provided and interaction with the stakeholders during site visit	Y	Y
Due Account for stakeholder comment taken	SV	I/DR	Reasonable as checked from the documents provided and interaction with the stakeholders during site visit. No negative comment reported or seen by the validator.	Y	Y

A.2 Annex 2: Validation Protocol

Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

REQUIREMENT	REFERENCE	Comments	CONCLUSION
All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	Marrakech Accords, CDM Modalities §30	India has ratified the Kyoto protocol and is allowed to participate.	Y
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.	Marrakech Accords, CDM Modalities §29 and §30	It will assist the parties included in Annex1 In this project No annex1 party is identified yet.	Y
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	Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a	CAR 01: Letter of Approval from Indian DNA is to be provided by the project proponent.	CAR1 Y CAR1 closed
Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	Provide information on the global stakeholder process: website: http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=247 Starting date and closing date 11-04-2007 to 10-05-2007 Number of comments received: 1	Y Reply of the comment received and checked from the documentary evidences. Mentioned in AR6 validation report section 4.
The project design document shall be in conformance with the UNFCCC CDM-PDD format	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	Yes the project correctly applies the most recent version of PDD template.	Y

REQUIREMENT	REFERENCE	Comments	CONCLUSION
The project participants shall submit a letter on the modalities of communication (MoC) before submitting a request for registration	EB-09 F_CDM_REG form	CAR 02: Modalities of Communication needs to be provided by the client.	Y CAR2 closed
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 (NA) as this is not an AR Project.	Y

Table 2 PDD

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of Project Activity					
A.1. Project Title					
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	DR	PDD	The project title used is enabling to identify the unique CDM project activity. The title used is "SMC WHRB 1 & 2"	Y	Y
A.1.2. Are there an indication of a revision number and the date of the revision?	DR	PDD	This is the version 1 of the PDD dated 9th February 2006 and was web-hosted for international stake holder comments. Final version 6 of PDD dated 03-03-2008 was validated.	Y	Y
A.1.3. Is this in consistency with the time line of the project's history?	DR	PDD	Yes, it is consistent with the time line of the project history as it is a future project.	Y	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
A.2. Description of the project activity					
A.2.1. Is the description delivering a transparent overview of the project activities?	DR	PDD	The PDD is providing the information on purpose of project activity, type of technology used and contribution of project activity to the sustainable development. The purpose of project activity is to provide better energy efficiency, achieve sustainable development, and to improve the working environment of the industry.. The technology used in the project activity is the generation of electricity using waste gas as the fuel.	Y	Y
A.2.2. Is all information provided in compliance with actual situation or planning?	DR	PDD	It is a future project and it will be constructed in near future so the information provided according to the PDD is in compliance. The documents to be checked during site visit. The PO and construction status was checked during site visit.	TBC	Y
A.2.3. Is all information provided consistent with details provided in further chapters of the PDD?	DR	PDD	Pending CARs / NIRs	pending	Y
A.3. Project Participants					
A.3.1. Is the table required for the indication of project participants correctly applied?	DR	PDD	The table required for indication of project participant is correctly applied.	Y	Y
A.3.2. Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	DR	PDD	All the information provided in table A.,3 of PDD is consistent with Annex 1 of PDD.	Y	Y
A.4. Technical description of the project activity					
A.4.1. Does the information provided on the location of the	DR	PDD	The information provided on the location of the	Y	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
project activity allow for a clear identification of the site(s)?			project activity is clear and it is located at village Hirma, Dist. Jharsuguda, Orissa.		
A.4.2. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	DR	PDD	Yes the project participant possess ownership which allows the implementation of the project activity.	Y	Y
A.4.3. Is the category(ies) of the project activity correctly identified?	DR	PDD	The project correctly applies the category of the project activity as Scope 1 – Energy Industries (renewable / Non Renewable)	Y	Y
A.4.4. Does the project design engineering reflect current good practices?	DR	PDD	The project activity is using the environmentally safe technology and it reflects the good practices	Y	Y
A.4.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance and is the explanation how the project will reduce greenhouse gas emission transparent and suitable?	DR	PDD	The technology to be applied for the project activity is reducing the GHG emissions and this is consistent with the methodology applied and also with the sources included in the project boundary. NIR 3: The excel sheet for the GHG emission reduction needs to be provided by the project participant.	NIR3	Y NIR3 closed
A.4.6. Is all information provided in compliance with actual situation or planning as available by the project participants?	DR	PDD	All the information provided is in compliance with the planning. This will be checked during the site visit. NIR 04: The clearances from pollution control board, Ministry of industry etc. needs to be provided by the project participant.	NIR4	Y NIR4 closed
A.4.7. 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 technology used is waste heat recovery based captive power generation using the waste heat content of flue gases coming out of after burning chamber (ABC). The technology used is not commonly used in the industry.	Y	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
A.4.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	DR	PDD	The project technology is not likely to be substituted by the project participant by more efficient technology. NIR 05: A letter from the project participant needs to be provided.	NIR5	Y NIR5 closed
A.4.9. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	DR	PDD	CAR 06: The initial training requirement for operation and maintenance is not mentioned in the PDD.	CAR6	Y CAR6 closed
A.4.10. Does the project make provisions for meeting training and maintenance needs?	DR	PDD	Pending CAR6	pending	Y
A.4.11. Is a schedule available on the implementation of the project and are there any risks for delays?	DR	PDD	CAR 07: There is no schedule available for the implementation of the project in the PDD.	CAR7	Y CAR7 closed
A.4.12. Is the table required for the indication of projected emission reductions correctly applied?	DR	PDD	The table required for the indication of projected emission reductions is correctly applied.	Y	Y
A.5. Public Funding					
A.5.1. Does the information on public funding provided conform with the actual situation or planning as presented by the project participants?	DR	PDD	There is no public funding involved in the project activity. NIR 08: A document in this regard will be provided by the project participant.	NIR8	Y NIR8 closed
A.5.2. Is all information provided consist with details provided by further chapters of the PDD (in particular annex 2)?	DR	PDD	Pending NIR8	Pending	Y
A.5.3. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	DR	PDD	There is no ODA from Annex 1 country involved in this project .pending NIR8	Pending	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
B. Baseline and Monitoring Methodology					
B.1. Choice and Applicability					
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	DR	PDD	The project activity is using the Approved methodology ACM0004 version 2 dated 3rd March 2006 and it is still valid. It is mentioned in section B.1 of the PDD.	Y	Y
B.1.2. Is the baseline methodology the one deemed most applicable for this project?	DR	PDD	This methodology is applicable as the project activity will avoid GHG emissions by using waste heat from waste gas for generating electricity and the justification provided in the PDD is Y.	Y	Y
B.1.3. Is the choice of the methodology correctly justified by the PDD and is the project in conformance with all applicability criteria of the applied methodology?	DR	PDD	The project activity is conforming with all the applicability criterion as mentioned in the PDD as well. This is the future project so these will also be checked during verification stage as well.	Y	Y
B.2. Project boundary					
B.2.1. Are all emission sources and gasses related to the baseline scenario, project scenario and leakage clearly identified and described in a complete manner?	DR	PDD	All the emission sources and gases related to baseline scenario, project scenario are clearly identified with proper justification. CAR 09: The project boundary diagrammatic representation is not mentioned in PDD.	CAR9	Y CAR9 closed
B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with EB guidance and the underlying methodology?	DR	PDD	The project activity is replacing eastern grid by utilizing self generated power.	Y	Y
B.2.3. Are the project's spatial boundaries (geographical) and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	DR	PDD	The project boundary is not clearly identified. Pending CAR9	Pending	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
B.3. Identification of the Baseline Scenario					
B.3.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is the application of the methodology and the discussion and determination of the chosen baseline transparent?	DR	PDD	The different steps identified in methodology are correctly applied and the baseline scenario identified is not the most likely baseline scenario. CAR 10: The baseline scenario is not discussed transparently in the PDD.	CAR10	Y CAR10 closed
B.3.2. Does the application consider all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations??	DR	PDD	The project proponent has considered all the possible baseline scenarios by taking into account the policies and trends in the industry. These are mentioned in the PDD clearly. The PDD also discusses each scenario clearly. The baseline selected is not the most likely baseline scenario. Pending CAR10.	Pending	Y
B.3.3. Is the choice of the baseline compatible with the available data?	DR	PDD	The selection of baseline scenario is not in accordance with the methodology and also with the policies of the host country. This will also be checked during site visit by the lead assessor. Pending CAR10	pending	Y
B.3.4. Is conservativeness addressed in the way of identifying the baseline?	DR	PDD	The baseline selected is not conservative. This was concluded on the basis of data provided in the PDD and will also be checked during the site visit as well. Pending CAR10	pending	Y
B.3.5. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	DR	PDD	The baseline selected is the not the most likely baseline scenario among all the possible or discussed scenarios. Pending CAR10.	Pending	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
B.4. Additionality					
B.4.1. Does the PDD clearly demonstrate the additionality using the approach as given by the methodology and by following all the required steps?	DR	PDD	The PDD is using the steps required to be followed in the methodology.	Y	Y
B.4.2. In case of using the additionality tool: Are all steps followed in a transparent manner?	DR	PDD	The PDD uses tool to demonstrate the additionality version 3 as per EB29 . CAR 11: The PDD is not mentioning each and every step clearly and in transparent manner.	CAR11	Y CAR11 closed
B.4.3. Is the discussion on additionality and the evidence provided consistent with the starting date of the project	DR	PDD	The starting date mentioned in the PDD is 10-07-2002. NIR 12: The evidence starting date to be provided by the project proponent along with the fact that the CDM was considered to go ahead with the project activity before the starting date of project activity. The project activity is the future activity.	NIR12	Y NIR12 closed
B.4.4. Is the discussion on additionality consistent with the identification all potential realistic and credible baseline scenarios	DR	PDD	The project scenario is not the likely baseline scenario as discussed in the PDD clearly as well. The discussion on additionality is not consistent with all the possible baseline scenarios. Pending CAR11	Pending	Y
B.4.5. If an investment analysis has been used, has it been shown that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs?	DR	PDD	This is not used to show the project activity additional as per version 2 of PDD which was web - hosted.	Y	Y
B.4.6. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type	DR	PDD	CAR 13: The barrier analysis shown is not transparent. The PDD mentions that the project activity will face Technological and financial risks	CAR13	Y CAR13 closed

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
of proposed project activity but would not have prevented the implementation of at least one of the alternatives?			as the cost of technology is high so financial risk is also there. The PDD mentions the barriers that prevent the implementation of project activity and does not prevent the wrongly selected baseline scenario. The proof for the technological barrier needs to be provided.		
B.4.7. Has it been shown that the project is not common practice?	DR	PDD	The project activity is not the common practice as discussed in PDD. CAR 14: Proof for the same needs to be provided by the project proponent.	CAR14	Y CAR14 closed
B.4.8. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	DR	PDD	Pending CARs / NIRs	Pending	Y
B.5. Application of the baseline methodology					
B.5.1. Has the approved methodology been applied correctly for determining **baseline emissions**?	DR	PDD	The project proponent has applied the baseline methodology correctly to determine the baseline emissions. The baseline selected is wrong. The steps mentioned in the methodology are followed correctly. The calculation needs to be checked in the excel sheet which needs to be provided by the project proponent. Pending NIR3 & CAR10	pending	Y
B.5.2. Has the approved methodology been applied correctly for determining **project emissions**?	DR	PDD	The project proponent has applied the baseline methodology correctly to determine the project emissions. The steps and formulas mentioned in the methodology are followed correctly in the PDD. Pending NIR3 & CAR10	Pending	Y
B.5.3. Has the approved methodology been applied correctly for determining **leakage**?	DR	PDD	In this methodology leakage is not required to be accounted for so the leakage is taken as 0.	Y	Y
B.5.4. Where applicable, has the approved methodology been applied correctly for the **direct calculation of**	DR	PDD	The excel calculation sheet needs to be provided by the project proponent to check for the	Pending	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
emission reductions			calculations of emission reductions. Pending NIR3		
B.5.5. Have all the methodological choices been explained, have they been properly justified and are they correct	DR	PDD	The PDD explains all the methodological choices clearly. The steps and formulas mentioned in methodology are used correctly in the PDD. The PDD is using the IPCC factors and are mentioned clearly in the PDD. Pending NIR3.	Pending	Y
B.5.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	DR	PDD	NIR 15: The uncertainties in the emission estimation are not mentioned in the PDD.	NIR15	Y NIR15 closed
B.6. Ex-ante data and parameters used					
B.6.1. Are the data provided in compliance with the methodology?	DR	PDD	NIR 16: The parameters mentioned in the PDD are not in accordance with the methodology.	NIR16	Y NIR16 closed
B.6.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	DR	PDD	The data mentioned in the PDD that need not be monitored are from Plant. NIR 17: The parameters that needs to be monitored for the project activity will be checked during verification as the data is not mentioned in PDD.	NIR17	Y NIR17 closed
B.6.3. Is the vintage of the baseline data correct?	DR	PDD	The data assumed in the PDD is not conservative for the data needs to be monitored. Plant data is used for data need not be monitored and available during validation which is incorrect.	Pending NIR17	Y
B.7. Calculation of Emissions Reductions					
B.7.1. Has the approved methodology been applied	DR	PDD	The methodology is applied exactly as defined	Pending	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
correctly for determining **emission reductions**?			for determining emission reductions. The PDD clearly state the equations used in calculating emission reductions. All the required steps/calculations have been followed. Pending NIR3 & CAR10		
B.7.2. Are the emission reduction calculations documented in a complete and transparent manner?	DR	PDD	The PDD has provided the formulas and the calculations but not in a transparent manner. pending CARs / NIRs	Pending	Y
B.7.3. Have conservative assumptions been used to calculate emission reductions?	DR	PDD	According to PDD the conservative assumptions has not been used to calculate emission reductions. The calculation sheet still needs to be checked. Pending NIR3.	Pending	Y
B.7.4. Is the projection based on provable input parameter?	DR	PDD	Projections are based on assumed parameters which are not conservative Pending NIR3 & CAR10	Pending	Y
B.7.5. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	DR	PDD	The projection is based on same procedure that will be used in future monitoring. Pending CARs / NIRs	Pending	Y
B.7.6. Is the calculation of the emission reduction correct?	DR	PDD	According to the PDD the emission reduction calculation seems to be incorrect but excel sheet still needs to be checked. Pending NIR3 & CAR10	Pending	Y
B.8. Emission Reductions					
B.8.1. Will the project result in fewer GHG emissions than the baseline scenario?	DR	PDD	The project will result in fewer GHG emissions than the baseline scenario. Pending CAR / NIR	Pending	Y
B.8.2. Is the form/table required for the indication of projected emission reductions correctly applied?	DR	PDD	Yes the table is correctly applied. Pending CAR / NIR	Pending	Y
B.8.3. Is the projection in line with the envisioned time schedule for the project's implementation and the	DR	PDD	The projection is in line with the indicated crediting period but time schedule for project	pending	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
indicated crediting period?			implementation is not mentioned. Pending CAR10		
B.9. Monitoring Methodology					
B.9.1. Does the monitoring methodology provide a consistent approach in the context of all parameter to be monitored and further information provided by the PDD?	DR	PDD	CAR 18: The monitoring plan is mentioned section B.7.2 but not fully.	CAR18	Y CAR18 closed
B.9.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	DR	PDD	The monitoring methodology is correctly applied in the PDD. Monitoring of parameters are not mentioned clearly in sections B.6.2 & B.7.1. The values used are Plant values for the emission reduction calculations are not conservative. Pending CAR19	Pending	Y
B.10. Data and parameters monitored					
B.10.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	DR	PDD	CAR 19: The monitoring parameters mentioned in PDD will be collected and achieved for the emission reduction calculations. It is not correct monitoring of parameters.	CAR19	Y CAR19 closed
B.10.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	DR	PDD	Pending CAR19	Pending	Y
B.10.3. Will it be possible to determine the specified project GHG indicators?	DR	PDD	Pending CAR19	Pending	Y
B.10.4. Will the indicators enable comparison of project data and performance over time?	DR	PDD	Pending CAR19	Pending	Y
B.10.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the	DR	PDD	Pending CAR19	Pending	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
monitoring plan?					
B.10.6. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	DR	PDD	Pending CAR19	Pending	Y
B.10.7. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	DR	PDD	Pending CAR19	Pending	Y
B.10.8. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	DR	PDD	Pending NIR3, CAR10 & CAR19	Pending	Y
B.11. Quality Control (QC) and Quality Assurance (QA) Procedures					
B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	DR	PDD	The selection of data undergoing quality control and quality assurance procedures is not complete. Pending CAR19	Pending	Y
B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	DR	PDD	Uncertainty of data is not mentioned in PDD. Pending CAR19	Pending	Y
B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	DR	PDD	The project activity safeguards the proper operation of all data to be measured and compiled to analyse the data by the project participant. QA/QC procedures are mentioned under each parameter. Pending CAR19	Pending	Y
B.11.4. Is it ensured that data will be bound to national or internal reference standards?	DR	PDD	The monitoring of data will be done by the instruments which will be traceable to national standards. Pending CAR19	Pending	Y
B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	DR	PDD	The data will be monitored as per the monitoring plan and will be free from conflicts of interests which may result in overestimating emission	Pending	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
			reductions. Pending CAR19		
B.12. Operational and management structure					
B.12.1. Is the authority and responsibility of project management clearly described?	DR	PDD	The authority and responsibility of project management is clearly described in PDD section 7.2.	Y	Y
B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	DR	PDD	This is a future project so all these will be setup during the course of project registration as mentioned in the PDD.	Y	Y
B.12.3. Are procedures identified for training of monitoring personnel?	DR	PDD	Training needs and carrying out training programs is mentioned in PDD.	Y	Y
B.13. Monitoring Plan (Annex 4)					
B.13.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y
B.13.2. Does the monitoring plan completely describes all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y
B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y
B.13.4. Are procedures identified for calibration of monitoring equipment?	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y
B.13.5. Are procedures identified for maintenance of monitoring equipment and installations?	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y
B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
documentation)					
B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems??	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y
B.13.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y
B.13.9. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	DR	PDD	This is mentioned in Annex 4 of PDD.	Y	Y
B.14. Baseline details					
B.14.1. Is there any indication of a date when determine the baseline?	DR	PDD	The baseline was determined on 15-02-2007	Y	Y
B.14.2. Is this in consistency with the time line of the PDD history?	DR	PDD	Yes it is consistent with the PDD	Y	Y
B.14.3. Is all data required provided in a complete manner by annex 3 of the PDD?	DR	PDD	Annex 3 of PDD mentions the data but pending CAR10.	Pending	Y
C. **Duration of the Project / Crediting Period**					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	DR	PDD	The starting date of project activity is 18-05-2003.The operational lifetime is clearly defined as 15 years. NIR 20: Proof for starting date needs to be provided by the project proponent.	NIR20	Y NIR20 closed
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	DR	PDD	NIR 21: The assumed crediting period is fixed for 10 years and expected start date of crediting period is 01-04-2007 which is incorrect. As per EB guidelines the crediting period will start from	NIR21	Y NIR21 closed

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
			date of registration.		
C.1.3. Does the project's operational lifetime exceed the crediting period	DR	PDD	The operational lifetime 15years exceeds the crediting period 10 years.	Y	Y
D. Environmental Impacts					
D.1.1. Does the project comply with environmental legislation in the host country?	DR	PDD	The project comply with the environment legislation of the host country.	Y	Y
D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described?	DR	PDD	The environmental impacts of the project activity has been sufficiently described.	Y	Y
D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	DR	PDD	EIA is not required as per host country legislation. NIR 22: Proof to be provided.	NIR22	Y NIR22 closed
D.1.4. Will the project create any adverse environmental effects?	DR	PDD	There will be negligible adverse environmental effects as described in PDD and will be checked during site visit. This was checked during site visit by physical verification as well as by interviewing the local stakeholders.	TBC	Y
D.1.5. Are transboundary environmental impacts considered in the analysis?	DR	PDD	Transboundary effects have been considered.	Y	Y
D.1.6. Have identified environmental impacts been addressed in the project design?	DR	PDD	Identified environmental effects are addressed in PDD.	Y	Y
E. Stakeholder Comments					
E.1.1. Have relevant stakeholders been consulted?	DR	PDD	The relevant stakeholders have been consulted.	Y	Y
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	DR	PDD	NIR 23: The media used to invite comments from local stakeholder is not clearly described by the project participant. Documentary evidence needs to be provided by the project proponent.	NIR23	Y NIR23 closed

CHECKLIST QUESTION	Ref. ID	MoV*	COMMENTS	Draft Concl	Final Concl
E.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?	DR	PDD	It is not required by Law but conducted as per CDM requirements. MOM needs to be provided.	NIR23	Y NIR23 closed
E.1.4. Is the undertaken stakeholder process described in a complete and transparent manner?	DR	PDD	The stakeholder process is not described in the PDD (see NIR 23).	NIR23	Y NIR23 closed
E.1.5. Is a summary of the stakeholder comments received provided?	DR	PDD	Summary of stakeholder consultation is not mentioned in PDD clearly (see NIR 23) .	NIR23	Y NIR23 closed
E.1.6. Has due account been taken of any stakeholder comments received?	DR	PDD	The query answered during the stakeholder meeting is not described in PDD (see NIR 23).	NIR23	Y NIR23 closed

A.3 Annex 3: Overview of Findings

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
1	CAR	Letter of Approval from Indian DNA is to be provided by the project proponent.	1.3
Date: 20-01-2008 [Comment Client] Host Country Approval reference F.No. 4/23/2006-CCC dated 12.03.2007 is obtained and provided, enclosed herewith. Annex-1			
Date: 12-02-2008 [Pankaj Mohan] Host Country Approval reference F.No. 4/23/2006-CCC dated 12.03.2007 is obtained and checked with original copy. Same is scanned and attached [Acceptance and close out] Y CAR1 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
2	CAR	Modalities of Communication needs to be provided by the client.	1.6
Date: 20-01-2008 [Comment Client] Modalities of communication dated 10.12.2006 is provided. Annex-2			
Date: 12-02-2008 [Pankaj Mohan] Modalities of communication was provided. This was checked and accepted. [Acceptance and close out] Y CAR2 closed			

Date: 04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
3	NIR	The technology to be applied for the project activity is reducing the GHG emissions and this is consistent with the methodology applied and also with the sources included in the project boundary. The excel sheet for the GHG emission reduction needs to be provided by the project participant.	A4.5
Date: 20-01-2008 [Comment Client] Excel Sheet for GHG emission reduction calculation based on the most conservative approach, by selecting Eastern Regional Grid is provided in Annex-3			
Date: 12-02-2008 [Pankaj Mohan] Spreadsheet provided was checked and found to be correct [Acceptance and close out] Y NIR3 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
4	NIR	All the information provided is in compliance with the planning. This will be checked during the site visit. The clearances from pollution control board, Ministry of industry etc. needs to be provided by the project participant.	A4.6
Date: 20-01-2008 [Comment Client] All the necessary consents are obtained and provided.			
Date: 12-02-2008 [Pankaj Mohan] All the necessary clearances were checked during the site visit and obtained the copy for the same. [Acceptance and close out] Y NIR4 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
5	NIR	The project technology is not likely to be substituted by the project participant by more efficient technology. Documentary evidence from the project participant needs to be provided.	A4.8

Date: 20-01-2008 [Comment Client] Undertaking regarding non replacement of technology to a more efficient technology is provided. Annex-4
Date: 12-02-2008 [Pankaj Mohan] The PP provided the letter that the technology will not be changed during crediting period and same was also checked during site visit. [Acceptance and close out] Y NIR5 closed

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
6	CAR	The initial training requirement for operation and maintenance is not mentioned in the PDD.	A4.9
Date: 20-01-2008 [Comment Client] Senior & trained staffs are recruited in the plant who provide & will provide necessary on the job training to the fresh staff. In addition, Initial training on operation and maintenance will also be provided by the equipment manufacturer supplier relevant training, data recording will be done in a separate register maintained for training provided and to be provided.			
Date: 12-02-2008 [Pankaj Mohan] As the project activity is being installed at present and the purchase order clarifies that the training for the operation and maintenance will be provided by the manufacturer / supplier. This was accepted and will also be verified during verification as well. Hence this was accepted. [Acceptance and close out] Y CAR6 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
7	CAR	There is no schedule available for the implementation of the project in the PDD.	A4.11
Date: 20-01-2008 [Comment Client] Project activity is under construction stage.			
Date: 12-02-2008 [Pankaj Mohan] The revised PDD and calculation sheet is mentioning the phase wise implementation and also the calculations as per the plan. Hence this was accepted. [Acceptance and close out] Y CAR7 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
8	NIR	There is no public funding involved in the project activity. A letter in this regard will be provided by the project participant.	A5.1
Date: 20-01-2008 [Comment Client] No public funding is involved in project activity, an undertaking regarding this is provided. Annex-4			
Date: 12-02-2008 [Pankaj Mohan] The PP provided the letter that there is no ODA involvement and at present there is no annex 1 party involved and also the loan documents were also checked so this was accepted [Acceptance and close out] Y NIR8 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
9	CAR	All the emission sources and gases related to baseline scenario, project scenario are clearly identified with proper justification. The project boundary diagrammatic representation is not mentioned in PDD.	B2.1
Date: 20-01-2008 [Comment Client] In line with methodology the project boundary comprises of the source of flue gases i.e. ABC, WHRBs, STGs, Auxiliary equipment, Power synchronising system, steam flow piping, flue gas ducts, where project			

participant has full Control. All these have been included in the project boundary and provided in the revised PDD.
Date: 12-02-2008 [Pankaj Mohan] The revised PDD provided was checked and found that it is correctly shown now in the PDD. Hence this was accepted [Acceptance and close out] Y CAR9 closed

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
10	CAR	The different steps identified in methodology are correctly applied and the baseline scenario identified is not the most likely baseline scenario. The baseline scenario is not discussed transparently in the PDD.	B3.1
Date: 20-01-2008 [Comment Client] Baseline is identified by using “Combined Tool for Assessment of Baseline & demonstration of Additionality” version 2.1 of EB-28 and according to latest tool for demonstration of additionality version-04 of EB 36. As per which the lowest emission option being Eastern Regional Grid and also the same is found to be as alternative scenario to the project activity and hence Eastern Regional Grid is selected as baseline scenario and PDD is revised accordingly.			
Date: 12-02-2008 [Pankaj Mohan] The baseline selected by the project proponent was coal based but as the project proponent has got the grid connection and they are operating with grid electricity since its inception and the coal based power generation was only thought about but it has not been implemented at present and the PP also told that they were thinking of grid as baseline based on initial investment cost and also on the basis of conservativeness of emission factor. The proof provided by the PP was the power supply agreement with the Electricity board. The Revised PDD is providing the justification of baseline as well. This was also checked and hence accepted. [Acceptance and close out] Y CAR10 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
11	CAR	The PDD uses tool to demonstrate the additionality version 3 as per EB29 . The PDD is not mentioning each and every step clearly and in transparent manner.	B4.2
Date: 20-01-2008 [Comment Client] PDD has been revised with latest tools for additionality version-04 as per EB-36 and step wise and in transparent manner the additionality has been established. Please refer to the revised PDD.			
Date: 12-02-2008 [Pankaj Mohan] The revised PDD provided mentions the steps clearly and transparently according to tool of demonstration and assessment of additionality version 4 EB36. This was accepted. [Acceptance and close out] Y CAR11 closed.			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
12	NIR	The starting date mentioned in the PDD is 18-05-2003. The evidence starting date to be provided by the project proponent along with the fact that the CDM was considered to go ahead with the project activity before the starting date of project activity. The project activity is the future activity.	B4.3
Date: 20-01-2008 [Comment Client] Extract of board meeting is provided as the proof of starting date and consideration of CDM at the time of inception. Annex-6			
Date: 12-02-2008 [Pankaj Mohan] The extract of board minutes dated 18-05-2003 provided by the project proponent was checked along with the board minutes and agenda of board meeting was also checked and obtained the copy of the same. The certified true copy was obtained. The management personnel (Director) was interviewed for the board			

minutes. This was accepted. The reasons for delay was also discussed and obtained the documentary proofs for the same. [Acceptance and close out] Y NIR12 closed

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
13	CAR	The investment analysis, barrier analysis shown is not transparent. The PDD mentions that the project activity will face Technological and financial risks as the cost of technology is high so financial risk is also there. The PDD mentions the barriers that prevent the implementation of project activity and does not prevent the wrongly selected baseline scenario. The proof for the technological barrier needs to be provided.	B4.6
Date: 20-01-2008 [Comment Client] The investment analysis, barrier analysis has been done in most transparent manner by using the additionality tool version 4 which requires first to carry out the Investment Analysis and then barrier analysis, For the sake of better credibility we have adopted the provisions under section B.5 of the revised PDD, in which the investment analysis, technology barriers being faced by the project activity are transparently addressed. Please refer to revised PDD, investment barrier, barriers analysis is revised as per latest tool of additionality version 4.			
Date: 12-02-2008 [Pankaj Mohan] The additionality of the project is justified by using Tool of demonstration and assessment of additionality version 4. The additionality of the project is justified using Investment analysis and barrier analysis. In Investment analysis Levelized cost comparison analysis is used along with the Project IRR comparison. The IRR calculations sheet along with the formula used and all the assumptions made were also checked from the documentary evidences provided by the PP. The sensitivity analysis was also checked and the spreadsheet will be uploaded along with this report. The investment Analysis, and technological barrier proofs were also checked and found to be in order. [Acceptance and close out] Y CAR13 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
14	CAR	The project activity is not the common practice as discussed in PDD. Proof for the same needs to be provided by the project proponent.	B4.7
Date: 20-01-2008 [Comment Client] The project activity is not the common practice for this please refer to revised PDD, as there are no other plant in the State of Orissa which have gone ahead with implementation of 16 MW WHRB power project without CDM consideration. Documentary evidences based on the JPC report & UNFCCC-CDM website is provided as Annexure to the revised PDD. These documents transparently establish the establishment of waste heat recovery based power plant is a not a common practice in the region.			
Date: 12-02-2008 [Pankaj Mohan] The revised PDD along with JPC report page number 38 which shows that only 4 plants have captive power plant (CPP) out of 33 surveyed units. The UNFCCC website was also checked and found that all the plants installing the WHRB in the region are on the basis of CDM. The revised PDD mentions the projects already registered and in process of registration in appendix III. This was accepted [Acceptance and close out] Y CAR14 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
15	NIR	The uncertainties in the emission estimation are not mentioned in the PDD.	B5.6
Date: 20-01-2008 [Comment Client] All the data are measured, the meters are regularly calibrated, hence there is very little chance for uncertainty, however if there is any uncertainty found then G.M. (Power Plant) is responsible for immediate action to sort out the problem.			

More over there is not likely to be any uncertainty in emission reduction estimation, as the same is calculated on the basis of recorded data from DCS, hence the uncertainties is already taken care of. The emission reduction during the crediting period will be calculated based on actual measurement. The ex-ante baseline has already been considered on most conservative basis using official data source of CEA and adopting a conservative approach to select the lowest baseline emission option. The calculation sheet is provided with the revised PDD.
Date: 12-02-2008 [Pankaj Mohan] The justification was accepted after checking the calculation sheet and the project implementation during the site visit. [Acceptance and close out] Y NIR15 closed

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
16	NIR	The parameters mentioned in the PDD are not in accordance with the methodology.	B6.1
Date: 20-01-2008 [Comment Client] The parameters mentioned in revised PDD are accordance with the methodology as all the data which are required to be monitored are as per latest version of ACM0004, and the same have been provided in the revised PDD. The data which need not to be monitored from plant are baseline data and accordingly the details about these data are provided in the revised PDD from official source of CEA. This point is taken care in revised PDD.			
Date: 12-02-2008 [Pankaj Mohan] The revised PDD provided is mentioning the Parameters as per methodology ACM0004 version 2 dated 3rd March 2006 [Acceptance and close out] Y NIR16 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
17	NIR	The data mentioned in the PDD that need not be monitored are from Plant. The parameters that needs to be monitored for the project activity will be checked during verification as the data is not mentioned in PDD.	B6.2
Date: 20-01-2008 [Comment Client] In the revised PDD ex-ante baseline data are obtained from official source of CEA, and have been provided in PDD and same will not be monitored at the plant. The data are parameters required to calculated the emission reduction in accordance to the ACM0004 ver.-02 have only been provided in the revised PDD. PDD is revised and all the parameters which are to be monitored are clearly mentioned in it. Kindly refer to the revised PDD.			
Date: 12-02-2008 [Pankaj Mohan] The revised PDD provided was checked and found that the data need not be monitored is mentioned correctly and hence accepted. [Acceptance and close out] Y NIR17 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
18	CAR	The monitoring plan is mentioned section B.7.2 but not fully. Some procedures /parameters are missing.	B9.1
Date: 20-01-2008 [Comment Client] The detailed monitoring plan in accordance with ACM0004 Ver.02 has been provided in section B.7.2. and Annex 4.			
Date: 12-02-2008 [Pankaj Mohan] The revised PDD provided was checked and found to be in order. [Acceptance and close out] Y CAR18 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
19	CAR	The monitoring parameters mentioned in PDD will be collected and achieved for the emission reduction calculations. It is not correct monitoring of parameters. and not as per methodology	B10.1
Date: 20-01-2008 [Comment Client] The correct monitoring parameters as defined in ACM0004 ver.02 have been provided in the revised PDD which will provide the proportionate calorific value of various sources of energy and fuel used in the power generation system to most reliably calculate the emission reduction due to project activity.			
Date: 12-02-2008 [Pankaj Mohan] The revised PDD provided was checked and found that the parameters are as per ACM0004 version 2 dated 3rd March 2006. [Acceptance and close out] Y CAR19 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
20	NIR	The starting date of project activity is 18-05-2003.Tthe operational lifetime is clearly defined as 20 years. Proof for starting date needs to be provided by the project proponent.	C1.1
Date: 20-01-2008 [Comment Client] Date of Board Meeting, in which the resolution for putting up the project activity is passed, is considered as starting date of project activity, copy of the board resolution is provided herewith as annex-6			
Date: 12-02-2008 [Pankaj Mohan] The extract of board minutes dated 18-05-2003 provided by the project proponent was checked along with the board minutes and agenda of board meeting was also checked and obtained the copy of the same. [Acceptance and close out] Y NIR20 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
21	NIR	The assumed crediting period is fixed for 10 years and expected start date of crediting period is 01-01-2007 which is incorrect. As per EB guidelines the crediting period will start from date of registration.	C1.2
Date: 20-01-2008 [Comment Client] PDD is revised and this point is taken care, and it is stated that the date of registration will be considered as the starting date of crediting period.			
Date: 12-02-2008 [Pankaj Mohan] The revised PDD version 5 mentions 01-05-2008 or date of registration as start date of crediting period. This was accepted. [Acceptance and close out] Y NIR21 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
22	NIR	EIA is not required as per host country legislation. Proof to be provided.	D1.3
Date: 20-01-2008 [Comment Client] Proof for EIA is not required is provided, as MOEF notification is enclosed. Annex-7			
Date: 12-02-2008 [Pankaj Mohan] MoEF notification is provided and checked. [Acceptance and close out] Y NIR22 closed			

Date:04-06-2007 Raised by: Pankaj Mohan

No.	Type	Issue	Ref
23	NIR	The media used to invite comments from local stakeholder is not clearly described by the project participant. Documentary evidence needs to be provided by the project proponent. It is not required by Law but conducted as per CDM requirements. MOM needs to be provided. The stakeholder process is not described in the PDD. Summary of stakeholder consultation is not mentioned in PDD clearly. The query answered during the stakeholder meeting is not described in PDD.	E1.2 to E.1.6

Date: 20-01-2008
[Comment Client]
Newspaper advertisement is used as media to invite the comments from the local stakeholder, copy of advertisement as annex-8.
MOM of stakeholder comments is enclosed herewith as annex-9.
The stake holder consultation was carried out by direct contact in person by the project proponents and their representatives as well as an advertisement in the local newspapers were given, copy of the opinion express by the stake holders is annexed herewith as annex-10. Summary of stakeholders mentioned in PDD now.
No adverse comments were received during the stake holder consultation.

Date: 12-02-2008 [Pankaj Mohan]
The copy of newspaper advertisement along with minutes of meeting copy was provided which was checked and found to be OK. The revised PDD submitted was also checked and found to be mentioning the summary correctly. This was also checked during local stakeholder consultation by the validator during the site visit.
[Acceptance and close out] Y NIR23 closed

A.4 Annex 4: Statement of Competence of Validation Team

Statement of Competence

Name: Pankaj Mohan SGS Affiliate: SGS India Pvt. Ltd.

Status

- Product Co-ordinator ☐
- Operations Co-ordinator ☐
- Technical Reviewer ☐
- Expert ☒

	Validation	Verification
- Local Assessor	☒	☒
- Lead Assessor	☒	☒
- Assessor / Trainee Lead Assessor	☒	☒

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	☒
2. Energy Distribution	☒
3. Energy Demand	☒
4. Manufacturing	☒
5. Chemical Industry	☐
6. Construction	☐
7. Transport	☐
8. Mining/Mineral Production	☐
9. Metal Production	☐
10. Fugitive Emissions from Fuels (solid,oil and gas)	☐
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	☐
12. Solvent Use	☐
13. Waste Handling and Disposal	☐
14. Afforestation and Reforestation	☐
15. Agriculture	☐

Approved Member of Staff by: Marco van der Linden Date: 03-04-07

Statement of Competence

Name: Jimmy Sah SGS Affiliate: India

Status

- Product Co-ordinator ☐
- Operations Co-ordinator ☐
- Technical Reviewer ☐
- Expert ☐

	Validation	Verification
- Local Assessor	☒	☒
- Lead Assessor	☐	☐
- Assessor / Trainee Lead Assessor	☐	☐

Scopes of Expertise

1. Energy Industries (renewable / non-renewable) ☐
2. Energy Distribution ☐
3. Energy Demand ☐
4. Manufacturing ☐
5. Chemical Industry ☐
6. Construction ☐
7. Transport ☐
8. Mining/Mineral Production ☐
9. Metal Production ☐
10. Fugitive Emissions from Fuels (solid,oil and gas) ☐
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride ☐
12. Solvent Use ☐
13. Waste Handling and Disposal ☐
14. Afforestation and Reforestation ☐
15. Agriculture ☐

Approved Member of Staff by: Siddharth Yadav Date: 23-05-2007

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