



Industrie Service

Choose certainty.
Add value.

Validation Report

Productivity Centre of Jiangsu Province, P.R.C.

VALIDATION OF THE CDM-PROJECT:
JIANGSU JIAOQIAO CEMENT PLANT'S LOW TEM-
PERATURE WASTE HEAT POWER GENERATION
PROJECT

REPORT NO. 1184934

September 18, 2008

TÜV SÜD Industrie Service GmbH
Carbon Management Service
Westendstr. 199 - 80686 Munich – GERMANY

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
1184934	2007-09-24	2	2008-09-18	-

Subject: Validation of a CDM Project			
Accredited TÜV SÜD Unit: TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 - 80686 Munich Federal Republic of Germany		TÜV SÜD Contract Partner: Jiangsu TÜV Product Service Beijing Branch Unit 918, Landmark Tower 2 8 North Dongsanhuan Road Beijing 100004 P.R. China	
Client: Productivity Centre of Jiangsu Province Longpan road No.175 Nanjing , Jiangsu Province People Republic of China		Project Site(s): Yangxiang Town, Yangxiang City Jiangsu Province People Republic of China	
Project Title: <i>Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project</i>			
Applied Methodology / Version:		Scope(s):	
AM0024 / Version 01 ACM0002 / Version 06		1, 4	
First PDD Version: Date of issuance: 2007-08-22 Version No.: 01 Starting Date of GSP 2007-09-19		Final PDD version: Date of issuance: 2008-06-27 Version No.: 02	
Estimated Annual Emission Reduction:		22,086 tons CO _{2e}	
Assessment Team Leader: Dr. Sven Kolmetz		Further Assessment Team Members: Mr. Zhou Jianyiong Ms. Li Xuemei Robert Mitterwallner	
Summary of the Validation Opinion:			
<input checked="" type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board in case letters of approval of all Parties involved will be available before the expiring date of the applied methodology or the applied methodology version respectively.			
<input type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision.			

Abbreviations

AM	Approved Methodology
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CR	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
GHG	Greenhouse gas(es)
KP	Kyoto Protocol
MP	Monitoring Plan
NGO	Non Governmental Organisation
PDD	Project Design Document
PP	Project Participant
TÜV SÜD	TÜV SÜD Industrie Service GmbH
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

Table of Contents	Page
1 INTRODUCTION	4
1.1 Objective	4
1.2 Scope	4
2 METHODOLOGY	5
2.1 Appointment of the Assessment Team	7
2.2 Review of Documents	8
2.3 Follow-up Interviews	8
2.4 Resolution of Clarification and Corrective Action Requests	9
2.5 Internal Quality Control	9
3 SUMMARY OF FINDINGS	10
4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS	13
5 VALIDATION OPINION	15

Annex 1: Validation Protocol

Annex 2: Information Reference List

1 INTRODUCTION

1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM-EB. The ultimate decision on the registration of a proposed project activity rests at the CDM Executive Board and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:
Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- The Kyoto Protocol, in particular § 12
- Decision 2/CMP1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4 – 8/CMP.1)
- Decisions by the EB published under <http://cdm.unfccc.int>
- Specific guidance by the EB published under <http://cdm.unfccc.int>
- Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- The applied approved methodology
- The technical environment of the project (technical scope)
- Internal and national standards on monitoring and QA/QC
- Technical guideline and information on best practice

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.

Once TÜV SÜD receives a first PDD version, it is made publicly available on the internet at TÜV SÜD's webpage as well as on the UNFCCC CDM-webpages for starting a 30 day global stakeholder consultation process (GSP). In case of any request a PDD might be revised (under certain conditions the GSP will be repeated) and the final PDD will form the basis for the final evaluation as presented by this report. Information on the first and on the final PDD version is presented at page 1.

The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD 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.

2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual (for further information see <http://ieta.org/ieta/www/pages/index.php?IdSitePage=392>) an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

In order to ensure transparency, a validation protocol was customised for the project. TÜV SÜD developed a “cook-book” for methodology-specific checklists and protocol based on the templates presented by the Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The validation protocol consists of three tables. The different columns in these tables are described in the figure below.

The completed validation protocol is enclosed in Annex 1 to this report.

Validation Protocol Table 1: Conformity of Project Activity and PDD				
Checklist Topic / Question	Reference	Comments	PDD in GSP	Final PDD
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then further subdivided. The lowest level constitutes a checklist question / criterion.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any Request has to be substantiated within this column</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (☑), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CR) is used when the validation team has identified a need for further clarification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version.</i>

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Clarifications and corrective action requests	Ref. to table 1	Summary of project owner response	Validation team conclusion
<i>If the conclusions from table 1 are either a Corrective Action Request or a Clarification Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the Corrective Action Request or Clarification Request is explained.</i>	<i>The responses given by the client or other project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 1, under "Final PDD".</i>

In case of a denial of the project activity more detailed information on this decision will be presented in table 3.

Validation Protocol Table 3: Unresolved Corrective Action and Clarification Requests		
Clarifications and corrective action requests	Id. of CAR/CR 1	Explanation of the Conclusion for Denial
<i>If the final conclusions from table 2 results in a denial the referenced request should be listed in this section.</i>	<i>Identifier of the Request.</i>	<i>This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.</i>

2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV SÜD certification body "climate and energy". The composition of an assessment team has to be approved by the Certification Body ensuring that the required skills are covered by the team. The Certification Body TÜV SÜD operates four qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Auditor (GHG-A)
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)

It is required that the sectoral scope linked to the methodology has to be covered by the assessment team.

The validation team was consisting of the following experts (the responsible Assessment Team Leader is written in bold letters):

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Dr. Sven Kolmetz	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Jianyiong Zhou	GHG-A	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Ms. Li Xuemei	T			<input checked="" type="checkbox"/>
Robert Mitterwallner	GHG-A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Dr. Sven Kolmetz is physicist and auditor at the department "TÜV Carbon Management Service" located in the head office of TÜV Süddeutschland in Munich. Furthermore he is officially authorized expert in the verification of GHG emissions in the framework of the European Emission Trading Scheme. Before entering TÜV SÜD he worked as energy consultant for industrial companies and as consultant for the German Federal Government on instruments for the reduction of GHG emissions.

Jianyiong Zhou (Jimmy Zhou) is a lead auditor for environmental management systems (according to ISO 14001) at Jiangsu TÜV Product Service Ltd. He is based in Guangzhou. In his position he is implementing validation, verification and certifications audits for anagement systems. He has received extensive training in the CDM validation process and participated already in several CDM project assessments as a trainee.

Ms. Xuemei Li is an auditor for environmental management systems (according to ISO 14001) at TUV SUD China. She is based in Guangzhou. In her position she is responsible for the implementation of validation, verification and certifications audits for management systems. She has received training in the CDM validation process and participated already in several CDM project assessments.

Robert Mitterwallner is a GHG-A with a background as auditor for environmental management systems (according to ISO 14001) and expert in environmental permit procedures. He is located at the headquarter of TÜV SÜD Industrie Service in Munich. He has received training in the JI determination as well as CDM validation process and applied successfully as GHG Auditor for several scopes.

2.2 Review of Documents

The first PDD version submitted by the client and additional background documents related to the project design and baseline were reviewed as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as annex 2 to this report.

2.3 Follow-up Interviews

On September 24, 2007 TÜV SÜD performed interviews on-site with project stakeholders to confirm selected information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in the context of this on-site visit.

Name	Organisation
Mr. Lv Shenghong	Chairman of the Board, Yixing Jiaoqiao Cement Co., Ltd.
Mr. Min Heping	Deputy Manager, Yixing Jiaoqiao Cement Co., Ltd.
Mr. Xiang Xiaoyuan	Vice Manager, Yixing Jiaoqiao Cement Co., Ltd.
Mr. Zou Guoxiang	Vice Manager, Yixing Jiaoqiao Cement Co., Ltd
Mr. Chen Jiuben	Chief Engineer, Yixing Jiaoqiao Cement Co., Ltd
Mr. Yang Yifei	Factory Director, Yixing Jiaoqiao Cement Co., Ltd
Mr. Qian Ximin	Stakeholder
Mr. Duan Jianping	Engineer, Productivity Centre of Jiangsu Province
Mr. Xue Jieming	Director Assistant, Productivity Centre of Jiangsu Province

2.4 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarifications and any other outstanding issues which needed to be clarified for TÜV SÜD's positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarised in chapter 3 below and documented in more detail in the validation protocol in annex 1.

2.5 Internal Quality Control

As final step of a validation the validation report and the protocol have to undergo an internal quality control procedure by the Certification Body "climate and energy", i.e. each report has to be approved either by the head of the certification body or his deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

It rests at the decision of TÜV SÜD's Certification Body whether a project will be submitted for requesting registration by the EB or not.

3 SUMMARY OF FINDINGS

History of the validation process

The audit team has been provided with the first version of the PDD on August 22, 2007. Based on this documentation a document review and a fact finding mission in form of an on-site audit has taken place. Afterwards the client decided to revise the PDD according to the CARs and CRs indicated in the audit process. The final PDD version submitted in June 2008 serves as the basis for the assessment presented herewith. Additional documents that are necessary for registration have been submitted like the IRR calculation sheet (English versions with and without CER), LoAs and MoC. Changes are not considered to be significant with respect to the qualification of the project as a CDM project based on the two main objectives of the CDM to achieve a reduction of anthropogenic GHG emissions by sources and to contribute to sustainable development.

Project description

The following description of the project as per the PDD could be verified during the on-site audit.

The proposed project is located in Yangxiang Town, Yangxiang City, Jiangsu Province, P. R. China. At present, all waste heat from the senspension pre-heater (rear) of the clinker kiln (2.500 t/d) operated by Jiangsu Jiaoqiao Cement Co. Ltd. is vented directly into the atmosphere without any utilization, disregarding the typically preheating of raw material that occurs without or with the project activity. The project will be using waste heat to feed a two boilers to produce electricity by a steam turbine with 4,5 MW and a generator and supply it via 10kV bus line to the internal electricity system of the plant. The electricity supplied by the proposed project is for plant use only and will replace electricity supplied by the East China Power Grid in the baseline.

The project will achieve emission reductions by supplying zero emission electricity to the corporation and substitute equivalent electricity from the East China Power Grid, which is dominated by thermal power. According to China Electric Power Yearbook 2006, the power generation by thermal plants is dominating. Therefore, the net generation of the project will displace same amount of electricity of the grid and a certain amount of greenhouse gas (GHG) emissions will be consequently reduced as well. The annual emission reductions are expected to be 22,086 tCO₂e.

Findings

As informed above all findings are summarized in table 2 of the attached validation protocol. In total the assessment team expressed 17 Corrective Action Requests and 7 Clarification Requests.

As all the generated electric power is being used to fulfil onsite requirement of Jiangsu Jiaoqiao Cement Co. Ltd. no electricity is being fed into the East China Power Grid. Inconsistencies in the PDD regarding this issue have been resolved (see CAR 1).

Other necessary information of the project has been added or revised in the final version of the PDD: e.g. the manufacturer information (CAR 2), implementation schedule (CAR 3), ex-ante calculation (CAR 10 to CAR 12), monitoring (CAR 14) starting date of crediting period (CAR 16) and detailed information about the baseline in Annex 3 (CAR 17).

Besides some further minor corrections these were the main findings. Most of the requests addressed formal aspects and inconsistencies between the documents delivered during the audit and the PDD.

Baseline calculation

The baseline calculation has been done according to the approved methodologies AM0024, version 1 and ACM0002, version 6. Both calculated OM and BM Emission Factor are identical with the officially ones published by the Office of National Coordination Committee on Climate Change of NDRC for the East China Power Grid (webpage: <http://cdm.ccchina.gov.cn/english/>).

Additionality

The additionality of the project was checked carefully. In doing so the assessment team has put the main focus on the following issues.

The assessment team has reviewed the proof for the early consideration of the project. The decision of the directorate of Jiangsu Jiaoqiao Cement Co. Ltd. to invest on Waste Heat Recovery Project applying for CDM project came in April 2006 (see IRL No. 37). Jiangsu Province Economy and Trade Committee (Government authority in charge of project approval) stated on September 30, 2006 the application of Yixing Shuanglong Cement Plant's Low Temperature Waste Heat Power Generation Project for CDM support (see IRL No. 39). Meanwhile, the construction start of the project measures was in September 2007. The timeline as described in the PDD has been evidenced and the evidences are available as scanned documents.

In step one of applying the tool for the demonstration and assessment of additionality (additionality tool) it is concluded that alternatives to the proposed project activity are existing. The identified barrier that would prevent the implementation of the proposed CDM project activity was an investment barrier for construction and operation which would not prevent the implementation of the baseline alternative: *import of equivalent amount of electricity from East China power grid..* Step two of the additionality tool, the investment analysis (benchmark analysis), describes in detail that the proposed project is not financially attractive without CER revenues.

The assessment team has checked all sources of the IRR calculation (IRL No. 33), as presented in Sub-step 2c. of the PDD. The key parameters for the IRR calculation come from the officially approved Feasibility Study Report, whose approval was in September 2006 (IRL No. 6 and 7). It has been verified by the local Auditor of the DOE that the figures for the investment costs in the feasibility study report is consistent with that one used in the IRR calculation. Altogether it can be concluded that the assumptions are reasonable.

The IRR calculation will be uploaded together with the PDD.

With reference to Economic Assessment method and parameter of Construction Projects by SDPC and MOC, the financial benchmark rate of return (after tax) of Chinese building materials industries accounts for 12% of the total investment IRR, as indicated in the PDD. Presently, the financial benchmark rate of return is used in the analysis of the majority of cement projects in China. Further the source of the IRR benchmark have been checked. The benchmark of 12 % is evidenced by Feasibility Study Report of Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project, issued by Tianjin Design and Research Institute of Cement Industry, incl. financial parameters for IRR calculation, dated May 2006 (IRL No. 6). The selected benchmark is deemed to be suitable for this kind of project activity.

A sensitivity analysis is performed, by taking into account 10% variations in total investment costs, operational and maintenance costs and power sales revenues. The sensitivity analysis has been independently checked. Variations of those parameters deem to be reasonable. It can be stated that under none of the assumed variation of variables the benchmark of 12 % is breached. According to the Jiangsu Yearbook 2005 the 10% range can be considered reasonable for the electricity prize. It

may be concluded that, as result of the sensitivity analysis, the project is financially unattractive without CER revenues, even with a slightly higher range of sensitivity.

The common practice analysis, step 4 of the additionality tool, (see also CAR 8) shows in the PDD that according to statistic data from Economy and Commerce Commission of Jiangsu Province (see IRL No. 38) similar projects in the province of Jiangsu had been registered as CDM projects or the GSP for the application of CDM has been started. One similar project started construction and was approved by DNA of China. Two other ones listed in the PDD started construction and are applying for CDM support. It has been evidenced by the Economy and Commerce Commission of Jiangsu Province (see IRL No. 38) that the three mentioned project activities which are currently not published applied for CDM before the EB38 meeting. It has been taken into account by the Audit team that the additionality tool version 5 indicating additional guideline for sub-step 4a, is not applicable here (see PDD). Thus, it can be concluded that this kind of project activity without CDM is regarded not to be common practice in the region.

Summary

Since all the open questions have been closed by the revised PDD the project is in compliance with the CDM requirements.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the project documents on UNFCCC website by installing a link to TÜV SÜD's own website and invited comments by Parties, stakeholders and non-governmental organisations during a period of 30 days.

The following table presents all key information on this process:

webpage: http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=3968&Ebene1_ID=26&Ebene2_ID=1133&mode=1	
Starting date of the global stakeholder consultation process: 2007-09-19	
Comment submitted by: Long Yan (lon- gyan69@163.com)	Issues raised: The financial indicator analysis on page 14-15 contains too less information to replicate the IRR calculation. Anyhow, IRR for this project is calculated to be 8.81%, which is much less than the industrial average of >15% in WHR projects with similar technology in cement industry. Please see http://www.snsqw.com/news/schq/200705/18219.html http://www.saimasy.com.cn/upimages/200732392742588.doc http://news.sohu.com/20070311/n248649780.shtml What are the essential differences between this project to all other WHR projects? Larger cost? Lower busbar tariff? Or what? And why.
Here is the project owner's response. 1. An IRR table with sufficient information is provided to DOE for validation. Jiaoqiao Cement Company is a small private company, and the scale is small (2500t/d, generation capacity 4.5MW), so the unit investment cost is comparatively high. And another thing is that the project owner has limited capital and need more loan from bank ; it is the first time for the project owner to operate such a WHR project, the project owner need to spend more on human resource and on unit capacity operation cost (Details are showed in IRR). So it is natural for them to have a lower IRR, and that's why they are applying for support from CDM. While the Jidong Cement Company mentioned in comment (http://www.snsqw.com/news/schq/200705/18219.html) and Ningxia Saima Company (http://www.saimasy.com.cn/upimages/200732392742588.doc) are both big companies listed on stock market, that means they are rich in human resource and capital. And their projects' scale is larger, also more than one project, so it is possible that they shall have a lower unit investment and a higher IRR. And another 2 registered projects both have an IRR<8% 1402: BBMG Cement WHR for 10.5 MW power generation project in Beijing(7.44%) ; 1450: 8MW pure low temperature waste heat recovery (WHR) for power generation in SDIC Hainan Cement Co., Ltd.(6.65%) . 2. Financial data in PDD is from Feasibility Study Report, which is made by qualified Institution authorized by national authority (Tianjin Cement Industry Institute Co.,Ltd (TCDRI)) , the financial data is proper and believable. Supporting information TCDRI is provided.	



Response by TÜV SÜD:

The answer of the PP to the comment is deemed to be sensible for this size of cement plant. The more conservative IRR benchmark for this kind of project is regarded to be 12 % which has been considered correctly for this project. It has been demonstrated by the investment analysis that the investment hurdle can be overcome only by CERs of CDM project.

5 VALIDATION OPINION

TÜV SÜD has performed a validation of the following proposed CDM project activity:

Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence TÜV SÜD will recommend the project for registration by the CDM Executive Board.

An analysis as provided by the applied methodology 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. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions as specified within the final PDD version.

The validation is based on the information made available to us and the engagement conditions detailed in this 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, TÜV SÜD 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.

Munich, 2008-09-18



Javier Castro
Certification Body "climate and energy"
TÜV SÜD Industrie Service GmbH

Munich, 2008-09-18



Dr. Sven Kolmetz
Assessment Team Leader

Validation of the CDM Project:
Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat
Power Generation Project



Industrie Service

Annex 1: Validation Protocol

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A. General description of project activity				
A.1. Title of the project activity				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1, 2	The project is titled with the name of the project location including company name, the power capacity and the energy source of the project. Hence, it can be clearly identified.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1, 2	The available PDD is indicated as 1 st version dated on 22/08/2007. The starting date of GSP was September 19, 2007.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1.3. Is this consistent with the time line of the project's history?	1, 2	The version 1 is the one used for document review before the on-site assessment and under the GSP.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2. Description of the project activity				
A.2.1. Is the description delivering a transparent overview of the project activities?	1, 2	<p>A pure low temperature waste heat generating unit will be constructed to utilize the waste heat from the rear (preheater) of the cement clinker production line (2500t/d) in the proposed project. The total installed capacity is 4.5MW, expected annual power generation is 2736×10⁴kW·h and the net electricity used within the cement work is 2517×10⁴kW·h per year.</p> <p>After the construction completed, the expected annual CO₂ emission reductions is 22,087t; 220,874 tCO₂ is expected within the 10 years credit period.</p> <p><u>Clarification Request No. 1.</u></p> <p>In A.2. of PDD, the expected annual power generation is 2736×10⁴kW·h, whereas, the net electricity available for sale to the grid is 2517×10⁴kW·h per year. The difference of 8% is the</p>	CR1 CAR1	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		captive power demand? <u>Corrective Action Request No.1.</u> 1 "2736×10 ⁴ kW·h" should be written in "2.736×10 ⁷ kW·h" format. Please extend this correction for the rest of the PDD. 2 The statement that the net electricity is available for sale to the grid does not comply with the applicability criteria of the methodology, please amend. 3 The sentence of the second paragraph is not completed. 4 The total estimated reductions are 220,874 tCO ₂ . It is indicated the annual CO ₂ emission reductions are 22,087 tCO ₂ which should be 22,086.9 tCO ₂ or 22, 086 for conservative.		
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1, 2, 6, 7, 8, 9	The project activity is the displacement of purchasing electricity by coal fired power plants with electricity generated by utilizing the waste heat from the rotating kiln of the cement production. The following data deliver evidences for the project activity: - Feasibility Study Report (approved on 30 th September, 2006, issued by Jiangsu Province Commerce and Trade Committee) - EIA Repot (approved on 29 th September, 2006, issued by Jiangsu Province Environmental Protection Bureau) These data have been evidenced during the audit.	☑	☑
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1, 2, 6, 7, 8, 9	The required data and background are delivered in the PDD and have been evidenced during the audit.	☑	☑
A.2.4. Is all information presented consistent with details provided by further chapters of	1, 2	Yes, all information presented is consistent with details provided by further chapters of the PDD.	☑	☑

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
the PDD?					
A.3. Project participants					
A.3.1.	Is the form required for the indication of project participants correctly applied?	1, 2	The required form is applied correctly.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.3.2.	Is the participation of the listed entities or Parties confirmed by each one of them?	1, 2, 34, 35, 36	Open issue Pls. deliver the LoA issued by China and Japan together with MoC to DOE before raising the request of registration.	Open	<input checked="" type="checkbox"/>
A.3.3.	Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1, 2	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4. Technical description of the project activity					
A.4.1. Location of the project activity					
A.4.1.1.	Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1, 2, 6	The project locates in YangxiangTown, Yixing City, in the southern mountainous area of Jiangsu Province, The specific site location is at longitude 119°36'0.05"E and at latitude 31°19'51.8"N.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.1.2.	How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1, 2, 6, 7, 8, 9	The application report of the project was approved by Jiangsu Province Commerce and Trade Committee. The EIA Repot was approved by Jiangsu Province Environmental Protection Bureau.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.2. Category(ies) of project activity					
A.4.2.1.	To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?	1, 2	The project falls within the sectoral scope 1: Energy Industries, and 4: Manufacturing Industries, which has been clearly identified in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
A.4.3. Technology to be employed by the project activity				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1, 2, 6, 10	<p>The waste heat recovery system consists of Suspension Preheater boiler (SP boiler), Air Quenching Chamber (AQC boiler), steam turbine generator, controlling system and water circulation system etc. The waste heat is fed into the SP and AQC boilers where steam is produced. Then, the steam from SP and AQC boiler is fed into the steam turbine generator to produce electricity. The technical design of the project activity reflects current good practices.</p> <p><u>Corrective Action Request No.2.</u></p> <ol style="list-style-type: none"> 1. Please add the equipments manufacturer and the types of the equipments including the generator and the boilers into the table A-3. 2. In the table of A.4.3, it is 2500t/d not 5000t/d in fact. Please revise them. 3. The description of the connection system is different from the FSR, please resolve this inconsistency. 	CAR2	<input checked="" type="checkbox"/>
A.4.3.2. Does the description of the technology to be applied provide sufficient and transparent input/ information to evaluate its impact on the greenhouse gas balance?	1, 2, 6	Yes, the project activity comprises the recovering and utilization of waste heat to generate electricity for the substitution of grid supplied electricity mainly from coal fired plants. There is no doubt that this technology will reduce the GHG emissions significantly.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.3. Does the implementation of the project activity require any technology transfer from annex-I-countries to the host country(ies)?	1, 2, 6	There is no technology to be transferred to the host Party.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	1, 2, 6, 7, 8, 9	The project activity is electricity generation by utilizing the waste heat from the rotating kiln of cement production. Through the recovery process of waste heat, the harmful emissions (including	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		SO _x , NO _x and floating particles) of fossil fuel fired power plants in East China Power Grid could be significantly reduced.		
A.4.3.5. Is the information provided in compliance with actual situation or planning?	1, 2, 6, 7, 8, 9	The key equipments and the operation procedure are listed in Figure 4, and the Table in chapter A.4.3. of the PDD. The information is in compliance with actual situation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.6. Does the project use state of the art technology and / or does the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2, 6	Yes. The project adopts advanced technology and equipments which will result in a significantly better performance than commonly used technologies in the host country.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2, 6	We do not expect that there will be a substitution. The life cycle of boilers and the turbine are under normal circumstances longer than the project period.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.8. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period?	1, 2, 22, 23, 24, 26	Yes, there are additional training needs to guarantee safe operation during the life time of the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1, 2, 22, 23, 24, 26	Yes, "Training Agreement" Part A: Jiangsu Jiaoqiao Cement Co., Ltd. Part B: Manufacturing Dept. of Changxing Wutong Electricity Co., Ltd., signed on 16 th June, 2007, which has been verified by the audit team.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1, 2, 12	The Progress Schedule for Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project has been verified by the audit team. <u>Corrective Action Request No.3.</u> Please add a time schedule of the project activity into the revised	CAR3	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		PDD.		
A.4.4. Estimated amount of emission reductions over the chosen crediting period				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1, 2	The project emission reductions are shown in chapter A.4.4 Table 2 of the PDD according to the guidelines.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	1, 2	Yes, it is. Clarification Request No. 2. Please clarify why the estimated reductions of 2009 is 21,062tCO ₂ e.	CR2	<input checked="" type="checkbox"/>
A.4.5. Public funding of the project activity				
A.4.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1, 2	According to the investment records reviewed by the DOE there is no public funding necessary.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.5.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)?	1, 2	The statement in Annex 2 is consistent with that in chapter A.4.5 of PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B. Application of a baseline and monitoring methodology				
B.1. Title and reference of the approved baseline and monitoring methodology				
B.1.1.1. Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1, 2	The methodology AM0024 (version 01) is applied to this project. It is clearly indicated in B.1. of the PDD. The Additionality Tool version 4 has been applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.1.1.2. Is the applied version the most recent one and / or is this version still applicable?	1, 2	Yes, the 1 st version of AM0024 is valid from 30 Sep. 2005 to 1 Nov. 2007.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD								
B.2. Justification of the choice of the methodology and why it is applicable to the project activity												
B.2.1.1. Is the applied methodology considered the most appropriate one?	1, 2	The project activity fulfils the applicability criteria of AM0024; hence, the project developer chose this methodology. As this methodology is the latest one and refers to the latest revision of ACM0002 the DOE agrees with the project developer that this will be the more appropriate methodology.	☑	☑								
Integrate the required amount of sub-checklists on the applicability criteria as given by the applied methodology and comment on at least every line answered with “No”;												
B.2.2. Criterion 1: The applicability is limited to project activities that waste heat gas to produce electricity.	1, 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>Through recovering and utilizing the waste heat from the rotating kiln of cement clinker production line, the project generates electricity to replace the power imported from East China Grid Network, a grid that delivers electricity mainly generated with fossil fuels.</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.3. Criterion 2: The electricity produced is used within the concerned cement works. Excess electricity is supplied to the grid.	1, 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	☑	☑
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.4. Criterion 3: Electricity generated under project activi-	1, 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr></table>	Applicability checklist	Yes / No	☑	☑						
Applicability checklist	Yes / No											

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
ties displaces either grid electricity or electricity produced from an identified specific generation source (existing captive power generation or new generation source)		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		
B.2.5. Criterion 4: Grid or identified specific generation source has to be clearly identifiable	1, 2	Applicability checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		
B.2.6. Criterion 5: Waste heat is only to be used in the project activity	1, 2	Applicability checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		
B.2.7. Criterion 6: In the baseline scenario the recycling of waste heat is used within the energy balance boundary of the clinker making process (reflected in the specific fuel consumption - Type 1)	1, 2	Applicability checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		
		Hence, type 1 of methodology is applicable here.			

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD										
B.2.8. Criterion 7: Project activities do not affect process emissions from the cement plant.	1, 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Compliance verified?	Yes													
B.2.9. Criterion 8: The identified baseline scenario has to be equal to the current waste heat recovery in the clinker production of the cement plant where the proposed project activity will be implemented .	1, 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	Yes													
Compliance verified?	Yes													
B.3. Description of the sources and gases included in the project boundary														
Integrate the required amount of sub-checklists for sources and gases as given by the methodology applied and comment on at least every line answered with “No”														
B.3.1. Source: Grid electricity generation/identified specific generation source Gas(es): CO2 Type: Baseline Emissions	1, 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	Yes	Inclusion / exclusion justified?	Yes	Explanation / Justification sufficient?	Yes	Consistency with monitoring plan?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	Yes													
Inclusion / exclusion justified?	Yes													
Explanation / Justification sufficient?	Yes													
Consistency with monitoring plan?	Yes													

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
B.3.2.	Source: On-site fossil fuel consumption due to the project activity Gas(es): CO2 Type: Project Emissions	1, 2		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			Boundary checklist		
			Source and gas(es) discussed in the PDD?		
			Inclusion / exclusion justified?		
			Explanation / Justification sufficient?		
			Consistency with monitoring plan?		
B.3.3.	Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1, 2	Yes, the boundary of the project includes the rotating kiln generating the waste heat of the project, waste heat recovery equipment, power production equipment and the power plants involved in East China Power Grid; the power grid will be affected by the project activities. The related documents and evidence have been reviewed on site.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario					
B.4.1.	Have all technically feasible alternatives to the project activity been determined (Step 1) and discussed by the PDD? Why can this list be considered as being complete?	1, 2	Yes, the possible alternative scenarios in absence of the CDM project activity would be as follows: 1) The proposed project activity not undertaken as a CDM project activity; 2) Supply from the grid; 3) Supply from existing capacity or in case of increase of captive power generation source, if one exists; 4) Construction of a captive plant with different fuel options if electricity demand is increasing. , such as coal, diesel, natural gas, hydro, wind, etc;	CAR4 CR3	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		5) Other uses of the waste heat and waste gas. <u>Corrective Action Request No.4.</u> <ol style="list-style-type: none"> In the table of B.4, the unit of the total electricity needed should be provided in the revised PDD. Please explain it detailedly why "There are no other potential demands for heat or other industry utilization of the additional waste heat around the project site." in the revised PDD. <u>Clarification Request No. 3.</u> <ol style="list-style-type: none"> The total electricity needed is 80,198,853, but the Electricity consumption of 2500 t/d cement production line is just $5,689.9 \times 10^4 \text{KWh}$. Please clarify the utilization of the other electricity. It is indicated that "there are no other renewable resources like natural gas neither also". Could the natural gas be considered as renewable resources? Please correct this sentence to the correct expression. Please extend this correction for the rest of the PDD. 		
B.4.2. Are the alternatives to the project activity which do not meet the regulatory requirements excluded (Step 2)?	1, 2	Among all the plausible baseline scenarios mentioned above, Alternative 2)-import of equivalent amount of electricity from East China Power Grid can be taken as the proposed project's baseline scenario.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4.3. Is the option with the highest IRR applied to determine the baseline scenario for waste heat recovery and electricity supply to the cement works? (Step 3)	1, 2	<u>Corrective Action Request No.5.</u> Step 3 needs of baseline scenario identification needs to be discussed in detail in the PDD.	CAR 5	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):				
B.5.1. Has CDM been considered before the starting date of the project activity and which evidence has been delivered?		Footnote 10 of substep 3b indicates decision to proceed with CDM, but it is not obvious. <u>Clarification Request No. 4.</u> There is a need to clarify and give evidence that CDM has been considered before the starting date of the project activity.	CR4	<input checked="" type="checkbox"/>
B.5.2. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	1, 2, 3	The Additionality Tool (3 version) provides 3 options. All of them have been fully discussed in the PDD. According to the requirements of the Tool for analysis of Additionality, the analysis of Step2 and the barrier analysis in Step3 are both chosen to demonstrate the additionality of the Project. <u>Clarification Request No. 5.</u> Please provide hardcopy evidences for all the footnotes in Chapter B. of the PDD. <u>Corrective Action Request No.6.</u> It is indicated "According to B4, alternative 1) & 2) are the identified alternative to the proposed project activity." in sub-step 1 a and sub-step 1b, which is different from the conclusion of the chapter B.4. Please resolve this inconsistency.	CR5 CAR6	<input checked="" type="checkbox"/>
B.5.3. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	1, 2, 3	Referring to B.5.1 of the protocol, this section is not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.4. In case of Option II (investment compari-	1, 2,	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
	son analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	3			
B.5.5.	In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1, 2, 3, 33	<p>IRR has been chosen as financial indicator for benchmark analysis.</p> <p>Clarification Request No. 6.</p> <ol style="list-style-type: none"> 1. The choice of benchmark used should be justified and proof should be submitted for the same. 2. The NPV has been mentioned. But there is no correlative discussion. Please clarify it. 3. Please provide the IRR calculation spreadsheet to the audit team and provide the sources of all figures used in IRR calculation (e.g. in the excel spread sheet itself). Furthermore, clarify if these assumptions have been part of the Feasibility Study Report. If the figures are not the same than indicated in the FSR there is a need to discuss the reasons for deviations. 4. Please clarify what the "pool (electricity)" is? 5. "2193.45*10⁵ MWh" should be written in "2.19345*10⁸MWh". Please extend this correction for the rest of the PDD. 	CR6	<input checked="" type="checkbox"/>
B.5.6.	In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	1, 2, 3	Please see B.5.5.	See CR6	<input checked="" type="checkbox"/>
B.5.7.	In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	1, 2, 3, 6	Most of the utilised data for IRR analysis has been referred from feasibility study.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.5.8. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1, 2, 3	Yes, technological barrier and investment barrier have been discussed by the project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.9. In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	1, 2, 3, 14	<p>The evidence of "Guidelines on Financial Services for the Improvement of Energy Saving and Environmental Protection Areas", by the People's Bank of China, #215[2007] for the investment barrier has been verified on-site by the audit team.</p> <p><u>Corrective Action Request No.7.</u></p> <p>Please add the evidence as footnote into the revised PDD.</p> <p>The particular evidences of the project are required to provide in the revised PDD and the correlative evidences to the audit team.</p>	CAR7	
B.5.10. In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	1, 2, 3	<i>The alternative 2)</i> Supply from the East China Power Grid would not face the technological and investment barriers. So the barriers mentioned would not prevent the implementation of <i>the alternative 2)</i> .	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5.11. Have other activities in the host country / region similar to the project activity been identified and are these activities appropriately analyzed by the PDD (step 4a)?	1, 2, 3	<p>Yes, according to Statistic Data of 2007, there are 291 cement companies in Jiangsu, among which 58,6% cement production is from new dry cement lines in Jiangsu Province. That means most of the cement production lines are similar to the production lines of Jiaoqiao cement company. And according to statistic data from <i>Economy and Commerce Commission of Jiangsu Province</i>, there are only 10 cement plants in Jiangsu Province which intend to implement Waste Heat Recovery project and try for CDM (including the proposed project Jiaoqiao project itself).</p> <p><u>Corrective Action Request No.8.</u></p> <p>Since it cannot be excluded that the plants product is supplied within the whole region of the East China Power Grid there is a</p>	CAR8	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		need to extend step 4 to this region.		
B.5.12. If similar activities are occurring: Is it demonstrated that in spite of these similarities the project activity would not be implemented without the CDM component (step 4b)?	1, 2, 3	Yes, the similar cement plants in Jiangsu province are applying CDM actively, and which take a very small part, that means there is no penetration of this technology in Jiangsu Province.	<input checked="" type="checkbox"/>	
B.5.13. Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers?	1, 2, 3	<p>"To summarize, it can be proved that the project activity is not a baseline scenario." which is indicated in the PDD.</p> <p>But the common practice analysis is meant to prove the additionality of the proposed project.</p> <p><u>Corrective Action Request No.9.</u></p> <p>Please clarify the discussion of the Sub-step 4 b in the revised PDD.</p> <p>Discuss whether other cement plants are existing that apply the same project but without CDM.</p>	CAR9	<input checked="" type="checkbox"/>
B.6. Emissions reductions				
<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1, 2	<p>The following steps are described in a transparent manner:</p> <p>-- Step1: Estimate the Baseline Emission (BEy)</p> <p>-- Step2: Determine Baseline Emission Factor (EFy)</p> <p>-- Step3: Estimate the Project Emission (PEy)</p> <p>-- Step4: Estimating leakage (LEy)</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this	1, 2	Yes, the baseline emissions factor for grid has been chosen ex-ante as per the option offered by ACM0002, version 6.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
justification in line with the situation verified on-site?				
B.6.1.3. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2, 3	<u>Corrective Action Request No.10.</u> Yes, the formulae for determination of project emissions are correctly presented in section B.6.3 of the PDD. However, add the corresponding wording to table B.6.1.1 and demonstrate in words how it is ensured that the energy consumption is the same before and with the project.	CAR10	<input checked="" type="checkbox"/>
B.6.1.4. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2, 3	Yes, the baseline emission is product of net electricity supplied to manufacturing facility and grid emission factor determined ex-ante.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.5. Are the formulae required for the determination of leakage emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1, 2, 3	The potential leakage due to construction and fuel handling is negligible and can be ignored.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.6. Are the formulae required for the determination of emission reductions correctly presented?	1, 2, 3	Yes, the emission reduction is difference of baseline and project emissions.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.2. Data and parameters that are available at validation				
B.6.2.1. Is the list of parameters presented in chapter B.6.2 considered to be complete with regard to the requirements of the applied methodology?	1, 2, 3	Yes, the list of parameters presented complies with the requirements of the applied methodology. <u>Corrective Action Request No.11.</u> Please justify, why the data of NCV _i is from China Energy Statistical Yearbook 2004? Please provide the detailed information for "Quote from DNA	CAR11	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																		
		data”.																				
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with “No”																						
B.6.2.2. Parameter Title: OXID _{fuel} Oxidation ratio of fuel used in Clinker production	1, 2, 3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
B.6.2.3. Parameter Title: EI _B Energy consumption per unit clinker production prior to project implementation	1, 2, 3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	NA																					
B.6.2.4. Parameter Title:	1, 2,		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																		
F_B Average annual (fuel) consumption of clinker making process prior to project implementation	3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA			
Data Checklist	Yes / No																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						
Correct value provided?	Yes																						
Has this value been verified?	Yes																						
Choice of data correctly justified?	Yes																						
Measurement method correctly described?	NA																						
B.6.2.5. Parameter Title: $O_{\text{clinker},B}$ Average annual production of Clinker prior to implementation of project	1, 2, 3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	NA		☑	☑
Data Checklist	Yes / No																						
Title in line with methodology?	Yes																						
Data unit correctly expressed?	Yes																						
Appropriate description of parameter?	Yes																						
Source clearly referenced?	Yes																						
Correct value provided?	Yes																						
Has this value been verified?	Yes																						
Choice of data correctly justified?	Yes																						
Measurement method correctly described?	NA																						
B.6.3. Ex-ante calculation of emission reductions																							
B.6.3.1. Is the projection based on the same procedures as used for future monitoring?	1, 2, 3	Yes, estimation is based on same procedures as used for future monitoring.		☑	☑																		
B.6.3.2. Are the GHG calculations documented in	1, 2,	Yes, the calculations are documented in transparent manner.		CAR12	☑																		

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
a complete and transparent manner?	3	<u>Corrective Action Request No.12.</u> The figure for the annual average electric power supply of 5414×10^4 kWh does not comply with the figure used in the formular later on, please clarify.		
B.6.3.3. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1, 2, 3	Yes, the calculations are documented in transparent manner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4. Summary of the ex-ante estimation of emission reductions				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1, 2, 3	The project activity is going to replace the electricity supplied from the East China Power Grid, a grid mainly consisting of coal-fired plants. Hence, the project activity will result in fewer GHG than baseline scenario.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1, 2, 3	Yes, the required form is applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1, 2, 3	The project activity is likely to be commissioned in Jan. 2008 however; the crediting period will start after the registration.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.4.4. Is the data provided in this section in consistency with data as presented in other chapters of the PDD?	1, 2, 3	<u>Corrective Action Request No.13.</u> The estimated value of the project activity's net emission reduction in the 10 years' crediting period is 227,700 tCO ₂ e which is different from the total emission reductions 220,869 tCO ₂ in the form. Please clarify it.	CAR13	<input checked="" type="checkbox"/>
B.7. Application of the monitoring methodology and description of the monitoring plan				
B.7.1. Data and parameters monitored				
B.7.1.1. Is the list of parameters presented in	1, 2,	Yes, there is a list of parameters presented in chapter B.7.1 con-	CAR14	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																								
chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	3	sidered to be complete with regard to the requirements of the applied methodology. <u>Corrective Action Request No.14.</u> The measurement method, accuracy, QA/QC procedures should be clearly described in the revised PDD.																										
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with “No”																												
B.7.1.2. Parameter Title: PE _y Project emissions	1, 2, 3	. <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.3. Parameter Title: COEF _{fuel,y} Emissions factor for fuel used in Clinker production	1, 2, 3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
		Has this value been verified?	Yes		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.4. Parameter Title: NCV _{fuel,y} Caloric Value of fuel used in Clinker production	1, 2, 3	Please see B.7.1.1. of the protocol		See CAR14	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.5. Parameter Title: EF _{CO2,fuel,y} Emission factor of fuel used in Clinker production	1, 2, 3	Please see B.7.1.1. of the protocol		See CAR14	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>		Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No										
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	No																												
Correct reference to standards?	No																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	No																												
QA/QC procedures appropriate?	No																												
B.7.1.6. Parameter Title: El _{P,y} Energy (fuel) consumption per unit Clinker production after project implementation	1, 2, 3	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.7. Parameter Title: F _{P,y} Annual energy (fuel) consumption of	1, 2, 3	<div>Please see B.7.1.1. of the protocol</div> <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	See CAR14	<input checked="" type="checkbox"/>																				
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
clinker making process after project implementation		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
		QA/QC procedures appropriate?	No		
B.7.1.8. Parameter Title: O _{clinker,y} Annual production of Clinker after implementation of project	1, 2, 3	Please see B.7.1.1. of the protocol		See CAR14	☑
Monitoring Checklist	Yes / No				
Title in line with methodology?	Yes				
Data unit correctly expressed?	Yes				
Appropriate description of parameter?	Yes				
Source clearly referenced?	Yes				
Correct value provided for estimation?	Yes				
Has this value been verified?	Yes				
Measurement method correctly described?	No				
Correct reference to standards?	No				
Indication of accuracy provided?	No				
QA/QC procedures described?	No				
QA/QC procedures appropriate?	No				
B.7.1.9. Parameter Title:	1, 2,			☑	☑

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
EG _{ATEXIST} Net Electricity generation of existing cap- tive generation plant prior to project	3	Monitoring Checklist	Yes / No		
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.10. Parameter Title: E _{cement} Electricity consumption of cement works prior to project	1, 2, 3	Please see B.7.1.1. of the protocol		See CAR14	☑
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided for estimation?	Yes		
		Has this value been verified?	Yes		
		Measurement method correctly described?	No		
		Correct reference to standards?	No		
		Indication of accuracy provided?	No		
		QA/QC procedures described?	No		
QA/QC procedures appropriate?	No				

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD																								
B.7.1.11. Parameter Title: E _{load} Electricity consumption of other loads in the Cement work complex prior to project	1, 2, 3	<div>Please see B.7.1.1. of the protocol</div> <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	See CAR14	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	No																											
Correct reference to standards?	No																											
Indication of accuracy provided?	No																											
QA/QC procedures described?	No																											
QA/QC procedures appropriate?	No																											
B.7.1.12. Parameter Title: EB _y Baseline emission for year y	1, 2, 3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											
Correct value provided for estimation?	Yes																											
Has this value been verified?	Yes																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		QA/QC procedures appropriate?	NA																								
QA/QC procedures appropriate?	NA																												
B.7.1.13. Parameter Title: EG _{CP,y} Quantity of electricity supplied to cement plant	1, 2, 3	<div>Please see B.7.1.1. of the protocol</div> <table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	See CAR14	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	No																												
Correct reference to standards?	No																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	No																												
QA/QC procedures appropriate?	No																												
B.7.1.14. Parameter Title: EF _{Elec,y} Emission factor of electricity displaced by project implementation	1, 2, 3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	NA	Correct reference to standards?	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA																				
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.15. Parameter Title: EG _{Grid,y} Quantity of electricity supplied to the grid	1, 2, 3	Please see B.7.1.1. of the protocol <table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr><tr><td>Correct reference to standards?</td><td>No</td></tr><tr><td>Indication of accuracy provided?</td><td>No</td></tr><tr><td>QA/QC procedures described?</td><td>No</td></tr><tr><td>QA/QC procedures appropriate?</td><td>No</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	No	Correct reference to standards?	No	Indication of accuracy provided?	No	QA/QC procedures described?	No	QA/QC procedures appropriate?	No	See CAR14	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	No																												
Correct reference to standards?	No																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	No																												
QA/QC procedures appropriate?	No																												
B.7.1.16. Parameter Title: COEF _{i/igs} Emission coefficient of fuel i used for power generation or for identified generation source (igs)	1, 2, 3	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA																
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.17. Parameter Title: NCV _{i/igs} Caloric Value of fuel i used for power generation or for identified generation source (igs)	1, 2, 3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.18. Parameter Title: EF _{i/igs} Emission factor of fuel i used for power generation or for identified generation source (igs)	1, 2, 3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	☑	☑														
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
		<table><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA													
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.19. Parameter Title: OXID _{Fuel/igs} Oxidation ratio of fuel i used for power generation or for identified generation source (igs)	1, 2, 3	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided for estimation?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided for estimation?	Yes	Has this value been verified?	Yes	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA		☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												
Appropriate description of parameter?	Yes																												
Source clearly referenced?	Yes																												
Correct value provided for estimation?	Yes																												
Has this value been verified?	Yes																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.20. Parameter Title: EF _{IGS} Emission factor if he baseline electricity supply is from an identified electricity sup-	1, 2, 3	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA		☑	☑																		
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD																								
ply source		Appropriate description of parameter?	NA																										
		Source clearly referenced?	NA																										
		Correct value provided for estimation?	NA																										
		Has this value been verified?	NA																										
		Measurement method correctly described?	NA																										
		Correct reference to standards?	NA																										
		Indication of accuracy provided?	NA																										
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.21. Parameter Title: FI _{IGS} Fuel intensity of power generation for identified generation source	1, 2, 3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.22. Parameter Title: FI _{IGS}	1, 2, 3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr></table>		Monitoring Checklist	Yes / No	☑	☑																						
Monitoring Checklist	Yes / No																												

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PPD in GSP	Final PDD
Annual average fossil fuel consumption of the identified generation source		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
		B.7.1.23. Parameter Title: GEN _{IGS} Annual average generation of the identified generation source	1, 2, 3		
Monitoring Checklist	Yes / No				
Title in line with methodology?	NA				
Data unit correctly expressed?	NA				
Appropriate description of parameter?	NA				
Source clearly referenced?	NA				
Correct value provided for estimation?	NA				
Has this value been verified?	NA				
Measurement method correctly described?	NA				
Correct reference to standards?	NA				
Indication of accuracy provided?	NA				
QA/QC procedures described?	NA				
QA/QC procedures appropriate?	NA				

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
B.7.1.24. Parameter Title: Use the latest approved version of ACM0002 to calculate the grid emission factor. If the power generation capacity of the project plant is less or equal to 15 MW, project participants may use the average CO2 emission factor of the electricity system, as referred to in option (d) in step 1 of the baseline determination in ACM0002. EF _{grid,y}	1, 2, 3	The ex-ante approach from ACM0002 (ver. 6) is adopted for the EF _{grid,y} estimation. Average of simple operating margin and build margin has been used to calculate the combined margin. Please refer section B.6.2.4 above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2. Description of the monitoring plan				
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1, 2	Yes, the managing structure is clearly depicted in the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1, 2	The project owner will set up a special CDM group to take charge data collection, supervision, verification and recordation. The group director will be trained and supported in technology by CDM consultation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1, 2	Yes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1, 2	No further information attached.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)				
B.8.1.1. Is there any indication of a date when the	1, 2	The baseline was determined on 5 th Nov., 2006.	CAR15	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
baseline was determined?		<u>Corrective Action Request No.15.</u> The date should be written into DD/MM/YYYY.		
B.8.1.2. Is this consistent with the time line of the PDD history?	1, 2	Yes, the PDD version 1 is dated 22/08/2007.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.3. Is the information on the person(s) / entity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	1, 2	Yes. Mr. Xu Jieming and Mr. Duan Jianping had been interviewed on-site by the audit team.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.4. Is information provided whether this person / entity is also considered a project participant?	1, 2	The individuals or organizations are not the project participants.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C. Duration of the project activity / crediting period				
C.1. Duration of the project activity				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1, 2	The indicated project's starting date is reasonable. The expected operational life time of the project activity is 20 years. Please see B.8.1.1 of the protocol.	See CAR15	<input checked="" type="checkbox"/>
C.2. Choice of the crediting period and related information				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1, 2	20 years of life time is expected, hence, the choice of fixed crediting period of 10 years is appropriate. <u>Corrective Action Request No.16.</u> Anyway, the starting date and the length of the fixed crediting period (see A.4.4 of PDD) has to be indicated in C.2.2. Furthermore the starting date should be 2008/11/01 or the regis-	CAR16	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
		tration date, whichever is later. In A.4.4, why is it 222,190 tCO ₂ e till 2012 and 467,770 tCO ₂ e within the 10-year credit period.		
D. Environmental impacts				
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
D.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1, 8, 9	Yes, the environmental impacts of the project activity such as noise pollution, atmosphere pollution, waste water pollution and solid pollution and measures taken during construction and operation periods have been clearly described.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	1, 8, 9	Yes, the project is in conformity with the environmental legislation of P. R. China and the EIA has been approved by Jiangsu Province Environmental Protection Bureau on 29 th September, 2006.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.3. Will the project create any adverse environmental effects?	1, 8, 9	Referring to the EIA and the approval of EIA, the project will create no negative environmental impacts.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.4. Were transboundary environmental impacts identified in the analysis?	1, 8, 9	The proposed project activity is located within China. Hence, this section is not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1, 8, 9	Yes, adequate measures have been taken to control air pollution from the project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.2. Does the project comply with environmental legislation in the host country?	1, 8, 9	Yes, the project complies with the environmental legislation in the host country.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PPD in GSP	Final PDD
E. Stakeholders' comments				
E.1. Brief description how comments by local stakeholders have been invited and compiled				
E.1.1. Have relevant stakeholders been consulted?	1, 25	Yes, in March, 2006, the project owner has pasted some bulletins in government site and factory, and investigated the residents around the power plants of the project by symposium. The summary of the symposium has been narrated in the section E.2. Clarification Request No. 7. Please provide the participation list to the audit team.	CR7	<input checked="" type="checkbox"/>
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1, 25	Please see E.1.1 of the protocol.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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?	1, 25	There are no regulations/laws in China for carrying out the stakeholder consultation process for this project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1, 25	Yes, verified by the detailed documents, such as bulletins and the record of the meeting, the process is described in a complete and transparent manner.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.2. Summary of the comments received				
E.2.1. Is a summary of the received stakeholder comments provided?	1, 25	The comments from stakeholders are collected and recorded in the meeting memo which has been reviewed by the auditor.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.3. Report on how due account was taken of any comments received				
E.3.1. Has due account been taken of any stakeholder comments received?	1, 25	Referring to the PDD and the evidence provided on site, all the received comments are positive.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
F. Annexes 1 - 4					
F.1. Annex 1: Contact Information					
F.1.1.	Is the information provided consistent with the one given under section A.3?	1	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.2.	Is the information on all private participants and directly involved Parties presented?	1	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.2. Annex 2: Information regarding public funding					
F.2.1.	Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1	Pls. refer to A.4.5.1. of the protocol.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.2.2.	If necessary: Is an affirmation available that any such funding from Annex-I countries does not result in a diversion of ODA?	1	Not applicable.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3. Annex 3: Baseline information					
F.3.1.	If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1	The baseline information of the Project Activity and the procedure of calculating the Emission Factor related to the Project Activity is provided in Annex 3 which is consistent with data presented by other sections of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.2.	If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1	<u>Corrective Action Request No.17.</u> "Table A1-A3 are the basic data of the East China Power Grid from 2002 to 2004" which is different from the information of the tables. Please resolve this inconsistency.	CAR17	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

CHECKLIST TOPIC / QUESTION		Ref.	COMMENTS	PPD in GSP	Final PDD
			The data of Coke and Refinery gas are 29.2 and 15.7 based on the original data source: IPCC 2006 values. Please correct them accordingly.		
F.3.3.	Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1	Please see F.3.2. of the protocol.	See CAR17	<input checked="" type="checkbox"/>
F.3.4.	Does the additional information substantiate / support statements given in other sections of the PDD?	1	NA.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4. Annex 4: Monitoring information					
F.4.1.	If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?	1	There's no additional background information in Annex 4 of the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.2.	Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1	See F.4.1.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.4.3.	Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1	See F.4.1.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action requests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
CARs			
<u>Corrective Action Request No.1.</u> 1 "2736×10 ⁴ kW·h" should be written in "2.736×10 ⁷ kW·h" format. Please extend this correction for the rest of the PDD. 2 The statement that the net electricity is available for sale to the grid does not comply with the applicability criteria of the methodology, please amend. 3 The sentence of the second paragraph is not completed. 4 The total estimated reductions are 220,874 tCO ₂ . It is indicated the annual CO ₂ emission reductions are 22,087 tCO ₂ which should be 22,086.9 tCO ₂ or 22, 086 for conservative.	A.2.1.	PP's first response: 1. Revised in PDD. 2. Revised 3. Completed. 4. Revised	<input checked="" type="checkbox"/> The issues have been verified by the local auditor. Issues are considered to be resolved.
<u>Open issue</u> Pls. deliver the LoAs issued by China and Japan together with MoC to DOE before raising the request of registration.	A.3.2.	Will be provided once received from NDRC.	<input checked="" type="checkbox"/> The available LoAs issued by China and Japan together with MoC have been verified by the local auditor.
<u>Corrective Action Request No.2.</u>	A.4.3.1.	1. Manufacturer Added	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project

Date of Completion: 2008-09-18

Number of Pages: 47



Industrie Service

<ol style="list-style-type: none"> Please add the equipments manufacturer and the types of the equipments including the generator and the boilers into the table A-3. In the table of A.4.3, it is 2500t/d not 5000t/d in fact. Please revise them. The description of the connection system is different from the FSR, please resolve this inconsistency. 		<ol style="list-style-type: none"> Revised Resolved 	<p>The issues have been verified by the local auditor in the revised PDD.</p> <p>Issues are considered to be resolved.</p>
<p><u>Corrective Action Request No.3.</u></p> <p>Please add a time schedule of the project activity into the revised PDD.</p>	A.4.3.10.	Time schedule is added in A4.3	<p><input checked="" type="checkbox"/></p> <p>The key points of the project have been verified in A4.3 of the revised PDD.</p> <p>Issues are considered to be resolved.</p>
<p><u>Corrective Action Request No.4.</u></p> <ol style="list-style-type: none"> In the table of B.4, the unit of the total electricity needed should be provided in the revised PDD. Please explain it detailedly why "There are no other potential demands for heat or other industry utilization of the additional waste heat around the project site." in the revised PDD. 	B.4.1.	<ol style="list-style-type: none"> Revised. Revised. See details in PDD. 	<p><input checked="" type="checkbox"/></p> <p>The issues have been verified by the local auditor in the revised PDD.</p> <p>Issues are considered to be resolved.</p>
<p><u>Corrective Action Request No.5.</u></p> <p>Step 3 needs of baseline scenario identification needs to be discussed in detail in the PDD.</p>	B.4.3.	Revised. Because there is only one option, there is no need to conduct the economic analysis.	<p><input checked="" type="checkbox"/></p> <p>The issue has been verified by the local auditor in the revised PDD.</p> <p>Issue is considered to be resolved.</p>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

<p><u>Corrective Action Request No.6.</u> It is indicated "According to B4, alternative 1) & 2) are the identified alternative to the proposed project activity." in sub-step 1 a and sub-step 1b, which is different from the conclusion of the chapter B.4. Please resolve this inconsistency.</p>	B.5.2.	Revised	<p><input checked="" type="checkbox"/></p> <p>The issue has been verified by the local auditor in the revised PDD. Issue is considered to be resolved</p>
<p><u>Corrective Action Request No.7.</u> Please add the evidence as footnote into the revised PDD. The particular evidences of the project are required to provide in the revised PDD and the correlative evidences to the audit team.</p>	B.5.8.	Footnote added.	<p><i>The first response of DOE:</i> The evidences have been added in the revised PDD as footnotes. But some evidences are quoted from websites which would be possibly changed in future. So please provide the hardcopy evidences to the DOE. PP's response: As DOE required, the hardcopy has been provided. DOE's conclusion: The hardcopy evidence has been verified by the local auditor. <input checked="" type="checkbox"/></p>
<p><u>Corrective Action Request No.8.</u> Since it cannot be excluded that the plants product is supplied within the whole region of the East China Power Grid there is a need to extend step 4 to this region.</p>	B.5.11.	<p>According to "Tool for the demonstration and assessment of additionality (Version 04 , EB36) "</p> <p>Step 4. Common practice analysis Analysis should be conducted to the extent which the proposed project type (e.g. technology or practice) has already diffused in</p>	<p><input checked="" type="checkbox"/></p> <p>Issue is considered to be resolved</p>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

		<p>the relevant sector and region.</p> <p>So, the point is that analysis should be conducted according to project type, but not according to the Power Grid the proposed project connected to. As for the region, different provinces have different situations (with different economic level and technology level), it will not be reasonable to conduct analysis to the all the east China Power Grid provinces, or even the whole China, for there is electricity exchange between Power Grids in China.) The analysis within Jiangsu Province is proper and enough.</p>	
<p><u>Corrective Action Request No.9.</u></p> <p>Please clarify the discussion of the Sub-step 4 b in the revised PDD.</p> <p>Discuss whether other cement plants are existing that apply the same project but without CDM.</p>	B.5.12.	<p>More details provided.</p> <p>As discussed in PDD, <i>similar cement plants in Jiangsu province are all applying CDM, and which take a very small part of the total cement plants in Jiangsu Province, that means there is no penetration of this technology in Jiangsu Province, the proposed project is not a common practice.</i></p>	<p>The more details had been provided by the client in the revised PDD.</p> <p>The first response of DOE:</p> <p>In the revised PDD, it is indicated “to summarize, it can be proved that the project activity is not a baseline scenario.” Please clarify what the baseline scenario is?</p> <p>The baseline scenario is supply from the grid, isn't it?</p> <p>PP's response:</p> <p>To be clearer, this part has been deleted in the revised PDD.</p> <p>DOE's conclusion:</p> <p>This issue has been verified in the revised PDD.</p> <p><input checked="" type="checkbox"/></p>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

<p><u>Corrective Action Request No.10.</u> Yes, the formulae for determination of project emissions are correctly presented in section B.6.3 of the PDD. However, add the corresponding wording to table B.6.1.1 and demonstrate in words how it is ensured that the energy consumption is the same before and with the project.</p>	B.6.1.3.	It has been noted in the revised PDD, that this calculation is only for ex-ante estimation; the exact project emission will be calculated according to the monitor data during the crediting period.	<input checked="" type="checkbox"/> The issue has been verified by the local auditor in the revised PDD. Issue is considered to be resolved
<p><u>Corrective Action Request No.11.</u> Please justify, why the data of NCV_i is from China Energy Statistical Yearbook 2004? Please provide the detailed information for "Quote from DNA data".</p>	B.6.2.1.	Revised.	The issue has been verified by the local auditor in the revised PDD. The first response of DOE: The parameter $OXID_i$ used is from 2006 IPCC Guidelines in B.6.2., which is different from the description B.6.3.5 on page 30. Please resolve this inconsistency. PP's response: The issue has been revised in the revised PDD. DOE's conclusion: The issue has been verified in the revised PDD. <input checked="" type="checkbox"/>
<p><u>Corrective Action Request No.12.</u> The figure for the annual average electric power supply of 5414×10^4 kWh does not comply with the figure used in the formula later on, please clarify.</p>	B.6.3.2.	Revised.	<input checked="" type="checkbox"/> The sentence "According to the feasibility study report, the annual average electric power supply of the project is $EG_y = 5.414 \times 10^7$ kWh (totally supply for cement production)." has been deleted in the revised PDD. Hence, the same figures then in the FSR have been used for the calculations. Issue is considered to be resolved.

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

<u>Corrective Action Request No.13.</u> The estimated value of the project activity's net emission reduction in the 10 years' crediting period is 227,700 tCO ₂ e which is different from the total emission reductions 220,869 tCO ₂ in the form. Please clarify it.	B.6.4.4.	Revised in the PDD.	<input checked="" type="checkbox"/> Finally, in-consistencies have been solved.
<u>Corrective Action Request No.14.</u> The measurement method, accuracy, QA/QC procedures should be clearly described in the revised PDD.	B.7.1.1. B.7.1.4. B.7.1.5. B.7.1.6. B.7.1.7. B.7.1.8. B.7.1.10. B.7.1.11. B.7.1.13. B.7.1.15.	Revised	<i>The first response of DOE:</i> a. The relative information is still missing in the revised PDD. b. Please clarify why some monitoring data are less in the revised PDD than in the GSP version PDD. <i>PP's response:</i> 1. Revised. 2. Some unnecessary data are eliminated. Only data for calculation of project emission and baseline emission reduction is kept. <i>DOE's conclusion:</i> The issue has been verified by the local auditor in the revised PDD. <input checked="" type="checkbox"/>
<u>Corrective Action Request No.15.</u> The date should be written into DD/MM/YYYY.	A.1 B.8.1.1. C.1.1.	Revised	<i>The first response of DOE:</i> 1. The date of completion should be in DD/MM/YYYY in A.1. of the PDD. 2. Please add the version history of the PDD in the revised PDD.

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



			PP's response: 1. Revised 2. Revised DOE's conclusion: The two issues have been verified in the revised PDD by the local auditor. <input checked="" type="checkbox"/>
<u>Corrective Action Request No.16.</u> Anyway, the starting date and the length of the fixed crediting period (see A.4.4 of PDD) has to be indicated in C.2.2. Furthermore the starting date should be 2008/11/01 or the registration date, whichever is later. In A.4.4, why is it 222,190 tCO ₂ e till 2012 and 467,770 tCO ₂ e within the 10-year credit period.	C.2.1.	Revised.	<input checked="" type="checkbox"/> The issues have been verified by the local auditor in the revised PDD. Issues are considered to be resolved.
<u>Corrective Action Request No.17.</u> "Table A1-A3 are the basic data of the East China Power Grid from 2002 to 2004" which is different from the information of the tables. Please resolve this inconsistency. The data of Coke and Refinery gas are 29.2 and 15.7 based on the original data source: IPCC 2006 values. Please correct them accordingly.	F.3.2. F.3.3.	Revised. Revised	<input checked="" type="checkbox"/> The issues have been verified by the local auditor in the revised PDD. Issues are considered to be resolved
CRs			

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

<u>Clarification Request No. 1.</u> In A.2. of PDD, the expected annual power generation is 2736×104kW·h, whereas, the net electricity available for sale to the grid is 2517×104kW·h per year. The difference of 8% is the captive power demand?	A.2.1.	PP's first response: The difference of 8% electricity is consumed by the power generation system itself (consumed by auxiliary equipments). Which can be demonstrated in the FSR. The emission reduction is calculated according to net electricity, i.e., 2.517×10 ⁷ kW·h per year. "The net electricity available for sale to the grid" has been revised as "net electricity".	<input checked="" type="checkbox"/> The issue has been verified by the local auditor. Issue is considered to be resolved
<u>Clarification Request No. 2.</u> Please clarify why the estimated reductions of 2009 is 21,062tCO ₂ e.	A.4.4.2.	See footnote 2 for detailed explanation.	<input checked="" type="checkbox"/> The detailed explanation has been verified in the revised PDD. Issue is considered to be resolved
<u>Clarification Request No. 3.</u> 3. The total electricity needed is 80,198,853, but the Electricity consumption of 2500 t/d cement production line is just 5,689.9 ×10 ⁴ KWh. Please clarify the utilization of the other electricity. 4. It is indicated that "there are no other renewable resources like natural gas neither also". Could the natural gas be considered as renewable resources? Please correct this sentence to the correct expression. Please extend this correction for the rest of the PDD.	B.4.1.	1. Total electricity needed includes all the electricity consumed in Jiaoqiao company, including official electricity cost, production line electricity cost etc. 2. Revised.	<input checked="" type="checkbox"/> The issues have been verified by the local auditor in the revised PDD. Issues are considered to be resolved
<u>Clarification Request No. 4.</u>	B.5.1.	The 2500t/d cement production line was	<input checked="" type="checkbox"/>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47



Industrie Service

There is a need to clarify and give evidence that CDM has been considered before the starting date of the project activity.		<p>put into production in 2003. The waste heat recovery project was started in 07/2006 and is expected to be put into production in 04/2008. CDM issues are taken into consideration in 04/2006, when the directorate meeting was held and decision was made to apply for support from CDM.</p> <p>The above passage has been added to A.2 to show that CDM has been considered before the starting date of the project activity.</p>	<p>The issue has been verified by the local auditor in A.2 of the revised PDD.</p> <p>Issue is considered to be resolved.</p>
<p><u>Clarification Request No. 5.</u></p> <p>Please provide hardcopy evidences for all the footnotes in Chapter B. of the PDD.</p>	B.5.2.	Some of the footnote information has valid web-link. The info which has no web-link is provided.	<p><input checked="" type="checkbox"/></p> <p>The issues have been verified by the local auditor in the revised PDD.</p> <p>Issues are considered to be resolved</p>
<p><u>Clarification Request No. 6.</u></p> <ol style="list-style-type: none"> 1. The choice of benchmark used should be justified and proof should be submitted for the same. 2. The NPV has been mentioned. But there is no correlative discussion. Please clarify it. 3. Please provide the IRR calculation spreadsheet to the audit team and provide the sources of all figures used in IRR calculation (e.g. in the excel spread sheet itself). Furthermore, clarify if these assumptions have been part of the Feasibility Study Report. If 	B.5.4.	<ol style="list-style-type: none"> 1. The choice of benchmark is according to <i>Economic Assessment method and parameter of Construction Projects</i> by SDPC and MOC. Page 202.Proof provided. 2. NPV deleted. 3. The IRR calculation is from FSR design company, i.e., Tianjin Cement Industry Institute Co., Ltd (TCDRI). <p>In fact the IRR spread sheet itself is part of the FSR.</p>	<p><input checked="" type="checkbox"/></p> <p>The issues have been verified by the local auditor in the revised PDD.</p> <p>Issues are considered to be resolved.</p>

Validation Protocol

Project Title: Jiangsu Jiaoqiao Cement Plant's Low Temperature Waste Heat Power Generation Project
 Date of Completion: 2008-09-18
 Number of Pages: 47




<p>the figures are not the same than indicated in the FSR there is a need to discuss the reasons for deviations.</p> <p>4. Please clarify what the “pool (electricity)” is?</p> <p>5. “2193.45*10⁵ MWh” should be written in “2.19345×10⁸MWh”. Please extend this correction for the rest of the PDD.</p>		<p>It is not applicable to provide sources of all figures. But we can demonstrate that the FSR design company is qualified enough to conduct such an IRR calculation. Figures in IRR table are the same with FSR.</p> <p>4. Pool is revised as electricity.</p> <p>5. Revised.</p>	
<p><u>Clarification Request No. 7.</u></p> <p>Please provide the participation list to the audit team.</p>	E.1.1.	The evidence has been sent to the DOE.	<p><input checked="" type="checkbox"/></p> <p>The participation list has been verified by the local auditor.</p> <p>Issue is considered to be resolved.</p>

Table 3 Unresolved Corrective Action and Clarification Requests (in case of denials)


Clarifications and / or corrective action requests by validation team	Id. of CAR/CR	Explanation of Conclusion for Denial
-	-	-




Annex 2: Information Reference List

Draft Report	2008-09-18	Validation of the “Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project” Information Reference List	Page 1 of 5	
--------------	------------	--	----------------	---


Reference No.	Document or Type of Information
1.	Project Design Document for CDM project “Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project”, version 01 of August 22, 2007 and version 02 of June 27, 2008
2.	Approved consolidated baseline methodology AM0024/Version 1
3.	Tool for the demonstration and assessment of additionality, version 04
4.	Participant list of on-site interview, signed on 24 th September, 2007
5.	<p>Validation team:</p> <p>Ms. Li Xuemei CDM Auditor Trainee, TÜV SÜD China</p> <p>Mr. Jianyong Zhou CDM GHG Auditor, TÜV SÜD China</p> <p>On-site interviews at the project site at Andong Village, Yangxiang Town, Yixing City, Jiangsu Province, P. R. China, conducted on 24th September, 2007 by audit team from TÜV SÜD:</p> <p>Interviewed persons:</p> <p>Mr. Lv Shenghong Chairman of the Board, Yixing Jiaoqiao Cement Co., Ltd.</p> <p>Mr. Min Heping Deputy Manager, Yixing Jiaoqiao Cement Co., Ltd.</p> <p>Mr. Xiang Xiaoyuan Vice Manager, Yixing Jiaoqiao Cement Co., Ltd.</p> <p>Mr. Zou Guoxiang Vice Manager, Yixing Jiaoqiao Cement Co., Ltd.</p> <p>Mr. Chen Jiuben Chief Engineer, Yixing Jiaoqiao Cement Co., Ltd.</p> <p>Mr. Yang Yifei Factory Director, Yixing Jiaoqiao Cement Co., Ltd.</p> <p>Mr. Qian Ximin Stakeholder</p>

Draft Report	2008-09-18	Validation of the “Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project” Information Reference List	Page 2 of 5	 Industrie Service
--------------	------------	--	----------------	--


Reference No.	Document or Type of Information
	Mr. Duan Jianping Engineer, Productivity Centre of Jiangsu Province Mr. Xue Jieming Director Assistant, Productivity Centre of Jiangsu Province
6.	Feasibility Study Report of Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project, issued by Tianjin Design and Research Institute of Cement Industry, incl. financial parameters for IRR calculation, dated May 2006
7.	Approval of Feasibility Study Report by Jiangsu Province Commerce and Trade Committee. Su Jingmao Huanzi Han [2006] #196. Issued. Date: 30 th September, 2006.
8.	Environmental Impact Assessment of Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project issued by Jiangsu Jiuli Consultant Co., Ltd. Date: 4 th April, 2006.
9.	Approval of the EIA of Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project, issued by Jiangsu Province Environmental Protection Bureau. Date: 29 th September, 2006
10.	The “Certificate for the Use of State-owned Land” by the Chinese Government, #000804[2004].
11.	“Agreement of Name Changing (Jiangsu Jiaoqiao Cement Stock Co., Ltd. – Jiangsu Jiaoqiao Cement Co., Ltd)”, #04270029[2005]
12.	Progress Schedule for Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project
13.	“Blueprint of 10 kV High-Voltage Distribution System”, #646-702EB01, by Tianjin Design and Research Institute of Cement Industry, Issued date: 19 th April, 2007.
14.	“Guidelines on Financial Services for the Improvement of Energy Saving and Environmental Protection Areas”, by the People’s Bank of China, #215[2007]; “Notice of Transmit the ‘Guidelines on Financial Services for the Improvement of Energy Saving and Environmental Protection Areas”, by the People’s Bank of China Nanjing Branch, #111[2007].
15.	”Contract of Hangzhou Boiler Group Co., Ltd.”, #236[2007], date: 5 th March, 2007. Party A: Hangzhou Boiler Group Co., Ltd., Party B:

Draft Report	2008-09-18	Validation of the “Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project” Information Reference List	Page 3 of 5	 Industrie Service
--------------	------------	--	-------------	--

Reference No.	Document or Type of Information
	Jiangsu Jiaoqiao Cement Co., Ltd.
16.	„Equipment Supply Contract “ #2006-X4099 , Production Code: HS4039, Part A: Jiangsu Jiaoqiao Cement Co., Ltd. Part B: Hangzhou CHINEN Steam Turbine Power Co.,Ltd, signed in April, 2007.
17.	“Equipment Supply Contract” #CTH07038, Production Code: TDS-520 Separator, Part A: Jiangsu Jiaoqiao Cement Co., Ltd. Part B: CEMTECH Environmental Protection Machinery Co., Ltd. Date: 10 th September, 2007.
18.	“Application of Connection to the Power Grid”, #2[2007], by Jiaoqiao Cement Co., Ltd.; approved by Jiangsu Yixing Power Supply Company, date: 23 rd January, 2007.
19.	Directorate Decision on the “Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project”, Issued Date: 3 rd April, 2007.
20.	“Agreement of Jiangsu Jiaoqiao Cement Plant’s Low temperature Waste Heat Power Generation Project” by Jiangsu Province Committee of Economies and Trading, #196[2006], date: 30 th September, 2006.
21.	“Decision on CDM Management Group” by Jiangsu Jiaoqiao Cement Co., Ltd. #070410, 10 th April, 2007.
22.	“Training Agreement” Part A: Jiangsu Jiaoqiao Cement Co., Ltd. Part B: Manufacturing Dept. of Changxing Wutong Electricity Co., Ltd., signed on 16 th June, 2007.
23.	Certification for Mr. Zhong Weidong on MACSV System Training, Certification No. MVH070528077, issued date: 2007-08-02; Certification for Mr. Shen Chao on MACSV System Training, Certification No. MVH070528078, issued date: 2007-08-02; both trained by Hangzhou Hollysys Automation Co., Ltd.
24.	License of Boiler Operation: Mr. Sheng Jianfeng , #TS6BWUX00161; Mr. Sheng Yihui, #TS6BWUX00163; Mr. Zhang Yupei,

Draft Report	2008-09-18	Validation of the “Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project” Information Reference List	Page 4 of 5	 Industrie Service
--------------	------------	--	----------------	--

Reference No.	Document or Type of Information
	#TS6BWUX00160; Mr. Xu Jianping, #TS6BWUX00162; Mr. Feng Yinxian, #TS6BWUX00463; Mr. Zhang Defa, #TS6BWUX00462. Certified by: Wuxi Quality and Technical Supervision Bureau.
25.	Inform of Stakeholder Meeting on 6 th April, 2007; Stakeholder meeting on 12 th April, 2007, the record of the meeting is available.
26.	“Contract for Technical Service”, Part 1: Jiangsu Jiaoqiao Cement Co., Ltd., Part 2: Productivity Centre of Jiangsu Province, Date of Issue: June 26 th , 2007.
27.	“Inform of ‘Survey on Potential CDM Resources & Recommend on MDG – Carbon Trade Projects’”, #278[2007], by Department of Science and Technology of Jiangsu Province, date: 25 th July, 2007.
28.	“Inform of ‘Seminar of Developing of the CDM Projects’”, by Productivity Centre of Jiangsu Province, #47[2007], date: 28 th July, 2007.
29.	“Blueprint of Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project (4.5MW)”, code: 646; by Tianjin Cement Industry Design & Research Institute, April, 2007.
30.	“List of Designed Electric, Roboticized Equipments for Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project (4.5MW)”, code: 646; by Tianjin Cement Industry Design & Research Institute, April, 2007.
31.	“List of Water-supply & Sewerage Equipments for Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project (4.5MW)”, code: 646; by Tianjin Cement Industry Design & Research Institute, April, 2007.
32.	“List of Maintenance Equipments for Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project (4.5MW)”, code: 646; by Tianjin Cement Industry Design & Research Institute, April, 2007.
33.	Excel file with IRR calculation, date: June 27, 2008

Draft Report	2008-09-18	Validation of the “Jiangsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project” Information Reference List	Page 5 of 5	
--------------	------------	--	-------------	---

Reference No.	Document or Type of Information
34.	LoA of Japan, January 22, 2008
35.	LoA of China, February 2008
36.	MoC from October 11, 2007
37.	Directorate Meeting Minutes on CDM decision, April 2006
38.	Economy and Commerce Commission of Jiangsu Province, List of companies that prepare to or have applied for CDM; June 27, 2007
39.	Jiangsu Province Economy and Trade Committee (Government authority in charge of project approval): Approval of Jinagsu Jiaoqiao Cement Plant’s Low Temperature Waste Heat Power Generation Project and evidence to apply for CDM support; September 30, 2006
40.	Excel file for Emission Reduction Calculation, dated May 11, 2008