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# Validation Report

XINYU IRON AND STEEL CO., LTD.

VALIDATION OF THE CDM-PROJECT:

The Waste Heat Recovery Based Coke Dry  
Quenching Power Generation Project of  
Xingang Company

REPORT NO. 1170452

**2009, April 15**

TÜV SÜD Industrie Service GmbH

Carbon Management Service

Westendstr. 199 - 80686 Munich – GERMANY

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<b>Subject:</b> Validation of a CDM Project	
<b>Accredited TÜV SÜD Unit:</b> TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 80686 Munich Germany	<b>TÜV SÜD Contract Partner:</b> Jiangsu TUV Product Service Ltd. Guangzhou Branch 26 Floor & Unit 2703-2710, Dongbao 510600 Guangzhou China
<b>Project Participant:</b> Xinyu Iron and Steel Co Ltd., Xinyu City, Jiangxi province, 338001, P.R. China  Deutsche Bank AG, London Branch, Winchester House, 1 Great Winchester Street, EC2N 2DB, London, The United Kingdom of Great Britain and Northern Ireland	<b>Project Site(s):</b> Xinyu City, Jiangxi Province, P.R. China, Longitude: 114°55'23" E Latitude: 27°46'54" N
<b>Project Title:</b> The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company	
<b>Applied Methodology / Version:</b> ACM0012 / Version 02	<b>Scope(s):</b> 1,4
<b>First PDD Version:</b> Date of issuance: 18-03-2008 Version No.: 01 Starting Date of GSP 27-04-2008	<b>Final PDD version:</b> Date of issuance: 07-04-2009 Version No.: 07
<b>Estimated Annual Emission Reduction:</b>	<b>127,597 tCO<sub>2</sub>e</b>
<b>Assessment Team Leader:</b> Dr. Sven Kolmetz	<b>Further Assessment Team Members:</b> Sun Baoqi Georgios Agrafiotis
<b>Summary of the Validation Opinion:</b> <p><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(ies) or the applied methodology version respectively.</p> <p><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.</p>	

## Abbreviations

<b>ACM</b>	Approved Consolidated Methodology
<b>AM</b>	Approved Methodology
<b>AMS</b>	Approved Methodology Small scale
<b>BM</b>	Build Margin
<b>CAR</b>	Corrective Action Request
<b>CDM</b>	Clean Development Mechanism
<b>CDM EB</b>	CDM Executive Board
<b>CER</b>	Certified Emission Reduction
<b>CM</b>	Combined Margin
<b>CMP</b>	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
<b>CR / CL</b>	Clarification Request
<b>DNA</b>	Designated National Authority
<b>DOE</b>	Designated Operational Entity
<b>EF</b>	Emission Factor
<b>EIA / EA</b>	Environmental Impact Assessment / Environmental Assessment
<b>ER</b>	Emission Reduction
<b>FAR</b>	Forward Action Request
<b>FSR</b>	Feasibility Study Report
<b>GHG</b>	GreenHouse Gas(es)
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IRL</b>	Information Reference List
<b>IRR</b>	Internal Rate of Return
<b>KP</b>	Kyoto Protocol
<b>MP</b>	Monitoring Plan
<b>NGO</b>	Non Governmental Organisation
<b>OM</b>	Operational Margin
<b>PDD</b>	Project Design Document
<b>PP</b>	Project Participant
<b>TÜV SÜD</b>	TÜV SÜD Industrie Service GmbH
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VVM</b>	Validation and Verification Manual

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Annex 1: Validation Protocol

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## 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 Executive Board (CDM-EB). The ultimate decision on the registration of a proposed project activity rests at the CDM-EB and the Parties involved.

The project activity discussed by this validation report has been submitted under the project title:

The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

### 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 and modalities and procedures for the CDM
- 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 and 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)
- Baselines and monitoring methodologies (including GHG inventories)
- Management systems and auditing methods
- Environmental issues relevant to the sectoral scope applied for
- Applicable environmental and social impacts and aspects of CDM project activity
- Sector specific technologies and their applications
- Current technical and operational knowledge of the specific sectoral scope and information on best practice

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

Once TÜV SÜD receives a first PDD version, it is made publicly available at the UNFCCC webpage and at TÜV SÜD's webpage 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 could be repeated) and the final PDD will form the basis for the final evaluation as presented in this report. Information on the first and the final PDD version is presented in page 1.

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The only purpose of a validation is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD cannot 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 applies standard auditing techniques to assess the correctness of the information provided by the project participants. The assessment is based on the "Clean Development Mechanism Validation and Verification Manual" version 01. The work starts with appointment of team covering the technical scope(s), sectoral scope(s) and relevant host country experience for evaluating the CDM project activity. Once the project is made available for the stakeholder consultation process, members of the team carry out the desk review, follow-up actions, resolution of issues identified and finally preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control by the CB "climate and energy" before submission to the CDM-EB.

In order to ensure transparency, assumptions are clear and explicitly stated; the background material is clearly referenced. TÜV SÜD developed methodology-specific checklists and protocol customised for the project. 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 and any adjustment made to the project design.

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 sub-divided. 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 <b>Request</b> has to be substantiated within</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (✓), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). <b>Clarification Request (CR)</b> is used when the validation team has identified a need for further clarification. <b>Forward action request</b> to highlight issues related to project implementation that require review during the first</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.</i>



		<i>this column</i>	<i>verification.</i>	
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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, a Clarification or a Forward action Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 1 where the issue 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 discussion on and revision to project documentation together with the validation team's responses and final conclusions. The conclusions should be reflected 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 with a clear reference to the requirement which is not complied with.</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 (CB) ensuring that the required skills are covered by the team. The CB 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.

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Dr. Sven Kolmetz	ATL	☑	☑	☑
Sun Baoqi	GHG-A	☑	☑	☑

Georgios Agrafiotis	GHG-T	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
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**Dr. Sven Kolmetz** is physicist and ATL at the department “TÜV Carbon Management Service” located in the head office of TÜV SÜD Industrie Service GmbH in Munich, Germany. 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.

**Sun Baoqi** is an auditor for quality management systems (according to ISO 9001) at Jiangsu TUV Product Service Ltd. He is based in Shanghai. In his position he is responsible for the implementation of validation, verification and certifications audits for management systems. He has received training in the CDM validation process and participated already in several CDM project assessments as an auditor.

**Georgios Agrafiotis** is environmental engineer with M.Sc. in Sustainable Resource Management. He has work experience in the field of industrial environmental technology and protection and also in technical environmental projects. As GHG trainee he has been appointed scopes 1,5 and 13 as per UNFCCC definition

## 2.2 Review of Documents

A first version of the PDD was submitted to the DOE in April 2008. The first PDD version submitted by the PP and additional background documents related to the project design and baseline were reviewed to verify the correctness, credibility and interpretation of the presented information, furthermore a cross check between information provided and information from other sources (if available) have been done 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 28<sup>th</sup> April 2008 TÜV SÜD performed interviews and physical site inspection with project stakeholders to confirm relevant information and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

Name	Organisation
Mr. Li Pin	Xinyu Iron & Steel Co., Ltd
Mr. Fu Zhenggen	Xinyu Iron & Steel Co., Ltd
Ms. Yang Huifang	Xinyu Iron & Steel Co., Ltd
Ms. Liu Ping	Xinyu Environment Protection Bureau
Mr. Hu Weichu	Xinyu Economy & Trading Commission
Mr. Fei Yuwen	Xinyu Economy & Trading Commission
Mr. Wang Donglei	Beijing Changjia Investment Co., Ltd.
Ms. Mao Lian	Beijing Changjia Investment Co., Ltd.

## **2.4 Further cross-check**

During the validation process, the team makes reference to available information related to similar projects or technologies as the CDM project activity. The documentation has also been reviewed against the approved methodology/ies applied to confirm the appropriateness of formulae and correctness of calculations.

## **2.5 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 conclusion on the project design. The CARs and CRs 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 documented in more detail in the validation protocol in annex 1.

The final PDD version that was submitted in April 2009 serves as the basis for the final assessment presented herewith. 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, i.e. to achieve a reduction of anthropogenic GHG emissions and to contribute to a sustainable development.

## **2.6 Internal Quality Control**

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

After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform.

### **3 SUMMARY**

The assessment work and the main results are described below in accordance with the VVM reporting requirements. The reference documents indicated in this section and Annex 1 are stated in Annex 2.

#### **3.1 Approval**

The project participants are Xinyu Iron and Steel Co Ltd of People's Republic of China and Deutsche Bank AG of United Kingdom of Great Britain and Northern Ireland. The host Party China and further participant Party United Kingdom of Great Britain and Northern Ireland meet the requirements to participate in the CDM.

The DNA of the United Kingdom has issued a LoA (IRL 29) on 08 April 2009 authorizing Deutsche Bank AG, London Branch as a project participant. The DNA of China has also issued a LoA (IRL 28) on January 2008 authorizing Xinyu Iron and Steel Co Ltd as a project participant. TÜV SÜD received these letters from the project participants directly and considers the provided letters as authentic.

The China LoA has further been double-checked with the CDM project webpage sponsored by the Department of Climate Change, NDRC (<http://cdm.ccchina.gov.cn>), which further confirming the approval of this CDM project.

Furthermore, after checking the provided LoAs, TÜV SÜD confirms that both letters refer to the precise proposed CDM project activity title in line with the title in the PDD "The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company".

Both letters also indicate that each participating Party is a Party to the Kyoto Protocol, and that the participation in the The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company project is voluntary. The Chinese LoA also confirms that the proposed CDM project activity contributes to the sustainable development of China (host country). Based on the information given in these letters, TÜV SÜD considers the approval as unconditional with respect to these items.

Both LoAs have been issued by the respective Party's DNA, National Development and Reform Commission of the People's Republic of China and DEFRA Department for Environment, Food and Rural Affairs, respectively.

TÜV SÜD considers the requirements of the VVM (§§ 45-48) to be complied with.

The LoA does not specify a version number of the PDD or validation report. The corresponding references included to LoA, PDD and validation report are consistent.

#### **3.2 Participation**

The participants of the project activity have been approved by the corresponding Parties, which is confirmed by the issued LoAs.

The means of validation were equivalent to those described in section 3.1 in regard to the approval process of the project activity.

#### **3.3 Project design document**

The PDD is compliant with relevant form and guidance as provided by UNFCCC.

The most recent version of the PDD form was used.

TÜV SÜD considers that the guidelines for the completion of the PDD in their most recent version have been followed. Relevant information has provided by the participants in the applying PDD sections. Completeness was assessed through the checklist included to Annex 1 of this report.

### **3.4 Project description**

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

The proposed CDM project involves the use of waste steam from Coke Dry Quenching process in order to produce electricity. Two CDQ systems will be installed with capacity 90t/h each, two boilers and one electricity generator with capacity of 25 MW. The steam, from the quenching process would otherwise be released unused to the atmosphere and the equivalent electricity would be delivered to the plant from the grid, produced from fossil fuels. The estimated annual power generation by the Project is approximately 205 GWh and the annual net power supply of the Project around 197 GWh, which otherwise would be supplied by Central China Power Grid (CCPG). Therefore, this amount of electricity from CCPG will be replaced due to the Project and annual GHG emission reductions of 127,597 tCO<sub>2</sub>e can be generated.

The information presented in the PDD on the technical design is consistent with the actual planning and implementation of the project activity as confirmed by:

- review of data and information (see annex 2), cross check the same with other sources if available.
- An on-site visit has been performed and relevant stakeholder and personnel with knowledge of the project were interviewed, in case of doubt further cross checks through additional interviews have been done.
- Finally information related to similar projects or technologies as the CDM project activity have been used if available to confirm the accuracy and completeness of the project description.

In light of the above, TÜV SÜD confirms that the project description as included to the PDD is sufficiently accurate and complete in order to comply with the requirements of the CDM.

### **3.5 Baseline and monitoring methodology**

#### **3.5.1 Applicability of the selected methodology**

Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology ACM0012 Version 02 has been demonstrated.

The assessment was carried out for each applicability criteria and included among others the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures. This assessment also included the review of secondary sources which sustain that applicability conditions are complied with.

The Methodology specific protocol included to the Annex 1 documents the assessment process, including the steps taken. The results on the compliance check as well as the relevant evidence are explicitly presented in annex 1.

TÜV SÜD confirms that the chosen baseline and monitoring methodology is applicable to the project activity.

Emission sources which are not addressed by the applied methodology and which are expected to contribute more than 1% of the overall expected average annual emissions reduction have not been identified.

### 3.5.2 Project boundary

The project boundary was assessed in the context of physical site inspection, interviews and based on the secondary evidence received on the design of the project.

As project boundary is defined the industrial facility where waste heat is generated, the facility where electricity is generated from the waste heat and the Central China Power Grid because its plants are connected to the project plant.

The most relevant documentation assessed in order to confirm the project boundary are following:

- Feasibility Study Report for coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, issued by Beijing Capital Iron & Steel Design Institute, dated in September, 2006 (IRL 6)
- Contract of electricity purchase and sale, signed by Jiangxi Ganxi Power Supply Company and Xinyu Iron & Steel Co., Ltd, dated Mar 20, 2007 (IRL 23)

The same have been validated during the validation process using standard audit techniques, further details of any observation are transparently presented in the annex 1.

Hence TÜV SÜD confirms that the identified boundary and the selected sources and gases as documented in the PDD are justified for the project activity.

### 3.5.3 Baseline identification

In the PDD the following baseline scenario has been defined:

Since there is no waste gas production in the project activity baseline option W1 is excluded and W3 also excluded because waste heat cannot be sold as energy source. Option W2 waste heat released to the atmosphere is plausible and considered as option W4 that foresees that waste heat is used to meet energy demand. Among power generation options all are excluded due to a variety of reasons as non-existence of renewable sources, project is not co-generation, legal requirements prohibit the erection of fossil fired plants with this capacity. Regarding the non-existence of sufficient renewable resources it must be stated that the amount of wind resources that can be developed is only 2.3 GW and it is mainly located in the Poyang Lake area". The project site is about 200 km away from the Poyang Lake and therefore it is not practical for the project owner to develop wind farm power project. Option P1 (Proposed project activity not undertaken as a CDM project activity) and P6 (power from the grid) are correctly considered. All options regarding heat generation are not applicable and not discussed.

The only plausible baseline scenario that is left after the investigation of all possibilities according to the methodology is the release of the waste steam to the atmosphere and the delivery of electricity to the plant from the grid, by combustion of fossil fuels.

The information presented in the PDD has been validated by a first document review of all the data, further confirmation based on the on-site visit and a final step by cross checking the information with



similar relevant projects and/or technologies. The sources referenced in the PDD have been quoted correctly. The information was cross-checked based on verifiable and credible sources, such as:

- Feasibility Study Report for coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, issued by Beijing Capital Iron & Steel Design Institute, dated in September, 2006. (IRL 6). FS indicates clearly that the proposed CDM project is not financially viable without the CDM revenues.
- Notice on Strictly Prohibiting the Installation of Fossil Fuel-fired Generators with the Capacity of 135 MW or below issued by the General Office of the State Council (IRL 27)
- Environment Impact Assessment for coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, issued by Xinyu City Environment Protection Engineering Design Institute, dated September, 2006 (IRL 7)
- Business License of Xinyu Iron & Steel Co., Ltd, re-issued by Jiangxi Industry and Commercial Administration Bureau, dated Jan.18, 2008 (IRL 19). The Business license shows that the delivery of electricity to the plant from the grid faces no technological, legal or financial hurdles and can be continued.

TÜV SÜD has determined that no reasonable alternative scenario has been excluded.

Based on the validated assumptions on calculations TÜV SÜD considers that the identified baseline scenario is reasonable.

TÜV SÜD confirms that all relevant CDM requirements, including relevant and / or sectoral policies and circumstances, have been identified correctly taken into account in the definition of the baseline scenario.

A verifiable description of the baseline scenario has been included to the PDD.

In regard to item 86 of VVM, TÜV SÜD confirms that:

1. All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
2. All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
3. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
4. Relevant national and/or sectoral policies and circumstances are considered and listed in the PDD;
5. The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

### **3.5.4 Algorithm and/or formulae used to determine emission reductions**

TÜV SÜD has assessed the calculations of project emissions, baseline emissions and leakage and emission reductions. Corresponding calculations were carried out based on calculation spreadsheets. The parameters and equations presented in the PDD and further documentation have been compared with the information and requirements presented in the methodology and respective tools. The equation comparison has been made explicitly following all the formulae presented in the calculation files.

The assumptions and data used to determine the emission reductions are listed in the PDD and all the sources have been checked and confirmed.

Based on the information reviewed it can be confirmed that the sources used are correctly quoted and interpreted in the PDD.

The values presented in the PDD are considered reasonable based on the documentation reviewed, further references and the result of the interviews.

The baseline methodology has been correctly applied following the requirements.

The estimated of the baseline emissions can be confirmed as the same have been replicated by the audit team using the information provided.

Detailed information on the verification of the parameters used in the equations can be found in the annex 1. The algorithms for the determination of the baseline, project and leakage are discussed in the following sections.

#### **3.5.4.1 Baseline Emissions**

The calculation of the baseline emissions followed the procedures described in the methodology ACM0012 Version 02. The Central China Power Grid is considered to be the project boundary.

The operating margin emission factor ( $EF_{OM}$ ) was determined based on the simple OM method. The ex-ante option was chosen for this calculation. The calculation of the build margin emission factor ( $EF_{BM}$ ) was based on modified methods agreed by the EB, because plant specific data are not available in China. The emission factor of the thermal power plants was calculated by the proportion of the emissions of coal, gas and oil times the emission factor of the best available coal, gas and oil power plant as defined and published by the Chinese DNA. The new thermal capacity installation that exceeded 20% in the last years, for which data was available, was finally assessed with this factor.

Emissions capping factor  $f_{cap}$  was calculated according to the 3<sup>rd</sup> version of methodology ACM0012, which allows a much exacter and reliable verification.

The value for the combined margin emission factor ( $EF_{CM}$ ) was determined using the weighted average of the  $EF_{BM}$  and  $EF_{OM}$  using the default values for the factors as described in the methodology (i.e. 0.5 for each factor). As per the methodology, the project does not need to consider leakage. On the other hand it considers the project emissions. As a result, the annual emission reductions equal the result of the deduction of the annual project emissions from annual baseline emissions.

#### **3.5.5 Project emissions**

Project emissions occur as a result of consumption of additional electricity from the grid due to the implementation of the project. For the calculation of these emissions the same emissions factor (EF) is applicable, as for the baseline emissions, 0.9223 tCO<sub>2e</sub>/MWh.

#### **3.5.6 Leakage**

Not applicable.

#### **3.5.7 Emission Reductions**

In summary, the calculation of the baseline emissions, project emissions and the emission reductions, respectively, can be considered as correct.



### 3.6 Additionality

The additionality of the project has been presented in the PDD using following approach: the latest version of the “Tool for the Demonstration and Assessment of Additionality” has been applied. Step 2 “Investment analysis” and Step 4 “Barrier analysis” of the additionality tool is being used.

The approach use in the PDD has been assessed first based on a document review, where following relevant documents have been reviewed:

- Feasibility Study Report for coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, issued by Beijing Capital Iron & Steel Design Institute, dated in September, 2006 (IRL 6)
- Approval of FSR for coke dry quenching project for 1#~ 4 #coke furnaces in Xinyu Iron & Steel Co., Ltd, numbered Gan Jing Mao Tou Zi Bei [2006] 180, issued by Jiangxi Province Economy & Trading Commission, dated on October 26, 2006. (IRL 7)
- Investment analysis calculation (IRL 29)

On site the additionality has been discussed principally with: Mr. Li Pin from Xinyu Iron & Steel Co., Ltd. Furthermore some documents have been reviewed on-site (for details see annex 2).

Finally the data, rationales, assumptions, justifications and documentation provided have been check using local knowledge and sectoral and financial expertise, the same has been cross checked by:

- Loan Commitment Letter, issued by China Construction Bank Jiangxi Branch, numbered Yi Cheng Bian Hao (2006) 7, dated Oct. 25, 2006 (IRL 16)
- Contract with CDM-developer: CDM Project Commission Contract by Xinyu Iron & Steel Co., Ltd and Beijing Changjia Investment Co., Ltd, dated Dec. 8, 2006 (IRL 20)
- Saving Account Certificate, issued by China Construction Bank Xinyu Branch, numbered 2006-008, dated Oct. 26, 2006 (IRL 18)

Based on this validation steps we can confirm that the documentation assessed is appropriate for this project.

#### 3.6.1 Prior consideration of the clean development mechanism

The starting date of the project activity is determined by the clearly irreversible act of beginning of construction of the project infrastructure on 25/06/2007. In order to confirm the same the assessment team has reviewed the following documents: General contract of CDQ project, signed by Xinyu Iron & Steel Co., Ltd and Beijing Shougang Design Institute, dated June 25, 2007 (IRL 22) additionally the assessment team cross checked this information with: Mr. Li Pin from Xinyu Iron & Steel Co., Ltd.

The starting date of the project activity is determined to be 25<sup>th</sup> June 2006 which is before 02 August 2008 and also before the GSP. The PPs have presented to the assessment team following documentation:

- Contract with CDM developer: CDQ project development status in China, dated Oct 16, 2007, from <http://www.in-en.com/coal/html/coal-0935093515129758.html> (IRL 20)
- Minutes of General Managers Meeting, issued by Office of General Managers in Xinyu Iron & Steel Co., Ltd, dated June 28, 2006 (IRL 12)

The original of the documentation presented has been reviewed and cross checked based on interviews with Mr. Li Pin, hence the document can be considered appropriate to confirm the prior consideration. Additionally in order to confirm that the PPs have taken real actions to continue the activity as CDM, following timeline has been reviewed against the respective documents presented in the table below:

Activity	Document	Auditor conclusion
8/12/2006 Project developer designated	CDM development agreement signed with consultant	The on-going CDM consideration as an indispensable part of the proposed project is indicated by the signing of a contract with a specialized CDM-developer.
25/06/2007 Start of construction activity	General contract of CDQ project, signed by Xinyu Iron & Steel Co., Ltd and Beijing Shougang Design Institute, dated June 25, 2007 (IRL 22)	The beginning of the construction activity is an irreversible act that clearly shows the commitment of the project owner to implement the project.
27/04/2008 GSP starts	See official TÜV Süd web page <a href="http://www.netinform.de">www.netinform.de</a>	Start of validation work by TÜV SÜD also clearly indicates that CDM actions were still on-going.

Hence the project complies with the requirements to demonstrate the prior consideration of the CDM.

### 3.6.2 Identifications of alternatives

The output of the project is electricity.

The list of alternatives to supply the outputs mentioned above, which is presented in the PDD includes the project activity undertaken without being registered as CDM project. The rest of the alternatives presented do include all plausible scenarios taking into account the local and sectoral situations for the outputs mentioned. Hence the list of alternatives is considered to be complete.

### 3.6.3 Investment analysis

The PP uses the investment analysis to demonstrate the additionality.

The financial returns of the proposed project are insufficient to justify the investment.

The parameters used in the financial calculations have been validated based on a revision of the sources presented in the PDD, inter alia:

Feasibility Study Report for coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, issued by Beijing Capital Iron & Steel Design Institute, dated in September, 2006 (IRL 6) (investment costs, the O&M costs, annual power generation and supply, tariff, etc). The same were confirmed verbally on-site. Furthermore the period of time between the finalization of the FSR and the beginning of the project activity is only 9 months, therefore it can be confirmed that it is unlikely that the input values have materially changed. Furthermore based on a cross check with:

- Proof of correct electricity tariff : Contract of electricity purchase and sale, signed by Jiangxi Ganxi Power Supply Company and Xinyu Iron & Steel Co., Ltd, dated Mar 20, 2007 (IRL 23)
- Proof of correct tax-rate: Act of Enterprise Income Tax in P.R.C, dated Mar.16, 2007, from [http://www.gov.cn/flfg/2007-03/19/content\\_554243.htm](http://www.gov.cn/flfg/2007-03/19/content_554243.htm). (IRL 26)
- O&M costs list included in financial analysis (IRL 30)

It can be seen that the parameters are plausible and can be considered acceptable under the project situation. TÜV SÜD also considers the application of a fixed tariff as valid and appropriate, as well as in line with Chinese codes and standards to calculate the economic return of a waste heat recovery project. In addition, TÜV SÜD would like to point out that even with a 10% increase in the tariff, the IRR would still remain below the benchmark, and the project would still not be financially attractive. In addition, TÜV SÜD highly expects that with the increase in the power price, O&M costs are also likely to increase as well, since both parameters are mostly linked to inflation. In summary, TÜV SÜD considers the application of fixed values as appropriate and valid. The sensitivity analysis was checked in detail and we herewith confirm that the underlying assumptions, parameters and chosen values are appropriate and that the calculations have been performed correctly.

The benchmark used for the financial comparison has been obtained from "Methods and Parameters for Economic Assessment of Construction Project" (version 3) compiled by (IRL 24). This value has been checked against the source and the suitability for this project can be confirmed due to the official statement of the National Development and Reform Commission and the Ministry of Construction and also can be confirmed as conservative based on TÜV SÜD's local and sectoral expertise. Hence it can be confirmed that the benchmark used is adequate for this project.

Further assumptions presented in the financial analysis inter alia lifetime of equipment, taxation etc have been also reviewed and were found appropriate based on the results summarized in the FSR (IRL 6), total investment costs against Purchasing Contract of coke dry quenching equipment (IRL 17), electricity tariff against Contract of electricity purchase and sale, signed by Jiangxi Ganxi Power Supply Company and Xinyu Iron & Steel Co., Ltd (IRL 23), total annual operation hours and power production against General contract of CDQ project, signed by Xinyu Iron & Steel Co., Ltd and Beijing Shougang Design Institute (IRL 22). Hence it can be confirmed that the underlying assumptions are appropriate for this project.

The financial calculation has been completely checked, all the calculation files were checked and no mistakes have been found. Hence it can be confirmed that the calculations are correct.

### 3.6.4 Barrier analysis

Not applicable.

### 3.6.5 Common practice analysis

The region for the common practice analysis has been defined as Jiangxi province. There are no other CDQ projects in the region and thus the proposed project cannot be characterized in any case as common practice. The non-existence of other CDQ projects was checked against

- Planned CDQ project in Pingxiang City, Jiangxi province, dated Jan.13, 2009, from <http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3283> (IRL 25).

The investment environment varies greatly from province to province due to the different infrastructure, economy development situation, local culture, local legal framework, and even climate etc. Therefore, projects located in the same province can with certainty and high reliability regarded as comparable. The above mentioned article from the NDRC website ([cdm.ccchina.gov.cn](http://cdm.ccchina.gov.cn)) provides further to support the argument that there are no similar projects in Jiangxi province.

Hence it can be confirmed that the proposed CDM activity is not a common practice in the defined region.

### **3.7 Monitoring plan**

The monitoring plan presented in the PDD complies with the requirement of the methodology. The assessment team has checked all the parameters presented in the monitoring plan against the requirements of the methodology; no deviations relevant for the project activity have been found in the plan.

The procedures have been revised by the assessment team through document review and interviews with the relevant personnel; this information together with a physical inspection allows the assessment team to confirm that the proposed monitoring plan is feasible within the project design. The major parameters to be monitored have been discussed with the PPs especially regarding the location of the meters, the data management and in general the quality assurance and quality control procedures to be implemented in the context of the project.

The key parameters as the electricity will be monitored throughout the whole crediting period. Other parameters that will be checked are volume and temperature of the circulation gas. Digital electricity meters with accuracy level of 1.0 will be installed for the measurement of the electricity amount. The volume and temperature of the circulation gas will be measured by a flow meter and temperature sensors and will be recorded every day.

Hence it is expected that the PPs will be able to implement the monitoring plan and the emission reductions achieved can be reported ex-post and verified.

### **3.8 Sustainable development**

The LoA of the Host country clearly present a statement that the project contributes to the sustainable development of the host Party.

### **3.9 Local stakeholder consultation**

The relevant local stakeholders have been invited via questionnaire. The evidence of these invitations is "Questionnaire from participants of stakeholder meeting, 30 pieces, dated July 15 2007" (IRL 15). The assessment team has reviewed the documentation in order to validate the inclusion of relevant stakeholders and using the local expertise can confirmed that the communication method used to invite the stakeholders can be considered appropriate. The summary of comments presented in the PDD has been cross checked with the documentation of the stakeholder consultation and it is found to be complete.

The relevant comments presented by the local stakeholders have been taken due account by the PP, the same has been cross checked with the information obtained during the interviews.

Hence the local stakeholder consultation has been adequately performed according to the CDM requirements.

### **3.10 Environmental impacts**

The project participants conducted an environmental impact assessment. The assessment team made a document review of the information presented. The (IRL 8) Environment Impact Assessment for coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, issued by Xinyu City Environment Protection Engineering Design Institute, dated September, 2006 confirms the correctness of the approach used by the PPs. Hence the PPs followed the requirements of the host country regarding the environmental impacts.

#### 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:

<b>webpage:</b> <a href="http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=4668&amp;Ebene1_ID=26&amp;Ebene2_ID=1469&amp;mode=1">http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=4668&amp;Ebene1_ID=26&amp;Ebene2_ID=1469&amp;mode=1</a>	
<b>Starting date of the global stakeholder consultation process:</b> 2008-04-27	
<b>Comment submitted by:</b> None	<b>Issues raised:</b> -
<b>Response by TÜV SÜD:</b> -	

## 5 VALIDATION OPINION

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

The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Standard auditing techniques have been used for the validation of the project. Methodology-specific checklists and protocol customised for the project have been prepared to carry out the audit and present the outcome in a transparent and comprehensive manner.

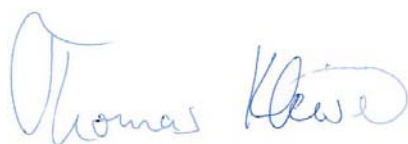
The review of the project design documentation, the subsequent follow-up interviews and the further cross check of references have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria in the protocol. In our opinion, the project meets all relevant UNFCCC requirements 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 following the VVM requirements. 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, 15-04-2009

Munich, 15-04-2009



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



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Assessment Team Leader

Validation of the CDM Project:  
The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project  
of Xingang Company



## **Annex 1: Validation Protocol**



# Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Date of Completion: 15/04/2009

Number of Pages: 1



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
<b>A. General description of project activity</b>				
<b>A.1. Title of the project activity</b>				
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, 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	Yes, version is 1.0 and date is 18/03/2008	<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	Yes, it is consistent with time line of project's history	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.2. Description of the project activity</b>				
A.2.1. Is the description delivering a transparent overview of the project activities?	1,2	Yes, it described technology employed, electricity generated, and GHG emission reductions expected.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1,6,7,8,9	The following documents deliver evidences for the project activity: FSR and Approval of FSR EIA and EIA Approval The documents have been evidenced during the audit. <b><u>Clarification Request No. 1.</u></b> Please revise EIA and its approval to keep them identical to FSR.	CR1	<input checked="" type="checkbox"/>
A.2.3. Is the information provided by these proofs consistent with the information provided by the PDD?	1,6	<b><u>Clarification Request No. 2.</u></b> It is indicated in FSR that CDQ equipments will be employed 345days per year, and during maintenance period (additional 20days), CWQ equipments will still be utilized as coke production is continuous.	CR2	<input checked="" type="checkbox"/>
A.2.4. Is all information presented consistent with details provided by further chapters of	1,2	See A2.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Date of Completion: 15/04/2009

Number of Pages: 2



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
the PDD?				
<b>A.3. Project participants</b>				
A.3.1. Is the form required for the indication of the project participants correctly applied?	1,2	The form is correctly applied. Xinyu Iron & Steel Co., Ltd and Deutsch Bank AG, London Branch was considered as the project participants. <b><u>Corrective Action Request No.1.</u></b> CAR: Pls spell correctly the word London and Deutsche Bank. They must be correct and exactly like in Annex 1.	CAR1	<input checked="" type="checkbox"/>
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1,2	<b><u>Clarification Request No. 3.</u></b> LoA from DNA of two participants is not available during site audit.	CR3	<input checked="" type="checkbox"/>
A.3.3. Is all information on participants / Parties provided consistent with the details provided by further chapters of the PDD (in particular annex 1)?	1,2	Yes, it is consistent with Annex1..	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4. Technical description of the project activity</b>				
<i>A.4.1. Location of the project activity</i>				
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1,6,7,8,9	Yes. The project location could be clearly identified according to the PDD.	<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.)?	1,6,7,8,18	Approval of FSR, EIA for proposed project construction and business license of project participant are available to site auditor.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>A.4.2. Category(ies) of project activity</i>				

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Date of Completion: 15/04/2009

Number of Pages: 3



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.2.1. To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?	1,2,3	Yes, the project comes under Sector Scope 1: Energy Industries and Sector Scope 4: Manufacturing Industries.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4.3. Technology to be employed by the project activity</b>				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1,2,6,7,8,	<p>Yes. Coke dry quenching technology and main equipments was imported from Japan, it reflects current good practice in coke quenching industry.</p> <p><b><u>Corrective Action Request No.2.</u></b></p> <p>CAR: Scenario prior to project + list of equipment used for it?</p> <p>An explanation how the situation prior to the project is related to the baseline scenario in B.4.</p> <p>Emission sources and greenhouse gases.</p> <p>Generally apply guidelines from:</p> <p><a href="http://cdm.unfccc.int/EB/041/eb41_repan12.pdf">http://cdm.unfccc.int/EB/041/eb41_repan12.pdf</a></p>	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?	1,2,6,7,8,	Yes, the project activity comprises the use of waste heat recovery from red coke and heat water into steam which drive the generator to generate electricity. Electricity generated will substitute that from grid which is 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)?	1,2,6,7,8,	Yes. See A4.3.1	<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,	Yes. It has been assessed in EIA, and approved by local authority.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.5. Is the information provided in compliance	1,2,6	Yes, it was expected to meet project planning.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Date of Completion: 15/04/2009

Number of Pages: 4



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
with actual situation or planning?	,7,8,			
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 ,7,8,	Yes. Technology employed is expected to replace the technology of coke wet quenching to save energy and protect environment as well in 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 ,7,8,	No. it is foreseeable that technology employed currently will not be substituted within 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?	1,2,6 ,7,8,	Yes, training in operation and maintenance is required and also planed by project owner.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1,2,6 ,7,8,	Yes, it is planed by project owner.	<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?	1,2,6 ,7,8,	project owner introduced project progress on site, and it is expected to meet time schedule. <b><u>Corrective Action Request No.3.</u></b> Page 6, condensing turbine: “Steam pressure at the inlet: 535+10/-15C° ” should be “steam temperature”.	CAR3	<input checked="" type="checkbox"/>
<b>A.4.4. Estimated amount of emission reductions over the chosen crediting period</b>				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1.2,3	Yes. The form is correctly applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Date of Completion: 15/04/2009

Number of Pages: 5



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	1,2,3	Yes, same with data in B6.3 and B6.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>A.4.5. Public funding of the project activity</b>				
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, 15, 17	Yes. There is no public funding from Annex I countries.	<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)?	1,2,3	The statements are consistent within the PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>B. Application of a baseline and monitoring methodology</b>				
<b>B.1. Title and reference of the approved baseline and monitoring methodology</b>				
B.1.1 Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1,2,3	Yes, the latest version of ACM0012 (version 2) has been applied and the reference is clearly indicated. <b><u>Corrective Action Request No.4.</u></b> CAR: It must be also clearly stated that ACM0012 V.3 is applied concerning fcap.	CAR4	<input checked="" type="checkbox"/>
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	1,2,3	Yes, it is.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.1.3. Does the methodology refer to the following tools with its latest approved versions? 1) Tool to calculate the emission factor for an electricity system. 2) Tool for the demonstration and assessment of additionality.	1,2,3	Yes, versions for the tool are v01, v04 respectively. <b><u>Corrective Action Request No.5.</u></b> CAR: Apply additionality tool V.5. Everywhere in PDD.	CAR5	<input checked="" type="checkbox"/>

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Date of Completion: 15/04/2009

Number of Pages: 6



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD 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 Is the applied methodology considered the most appropriate one?	1,2,3	Yes. The approved methodology ACM0012 is applicable to the project activity.	☑	☑								
B.2.2 Criterion 1: The applicability is limited to project activities that utilize waste gas and/or waste heat as an energy source for: - cogeneration or - generation of electricity or - direct use as process heat source or - for generation of heat in element processes (e. g. steam, hot water, hot oil, hot air) and that also use waste pressure: - to generate electricity.	1,2,3	<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.2.3. Criterion 2: Cogeneration of energy is from combined heat and power and not from combined cycle mode of electricity generation.	1,2,3	<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>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	N/A	Compliance verified?	N/A	☑	☑
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.4. Criterion 3: Waste gas/heat/pressure is a by-product of machines and/or technical processes for which no useful application is found, which has not been used prior to and would not be used in absence of the CDM project activity.	1,2,3	<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.2.5. Criterion 4: The project activity is use of waste pressure to generate electricity and the electricity generated using waste gas pressure should be	1,2,3	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	☑	☑				
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Date of Completion: 15/04/2009

Number of Pages: 7



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD								
measurable.		<table><tr><td>Compliance provable?</td><td>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>			Compliance provable?	N/A	Compliance verified?	N/A						
Compliance provable?	N/A													
Compliance verified?	N/A													
B.2.6. Criterion 5: The energy/electricity generated in the project activity - may be used within the industrial facility or - exported outside the industrial facility or - may be exported to the grid.	1,2,3	<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.2.7. Criterion 6: The energy in the project activity can be generated - by the owner of the industrial facility producing the waste gas/heat or - by a third party within the industrial facility.	1,2,3	<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.2.8. Criterion 7: Before implementing the project activity no regulations constrained the industrial facility to generate waste gas from using fossil fuels.	1,2,3	<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>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>			Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	N/A	Compliance verified?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	N/A													
Compliance verified?	N/A													
B.2.9. Criterion 8: If capacity expansion of an existing facility is planned the added capacity must be treated as a new facility.	1,2,3	<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>N/A</td></tr><tr><td>Compliance verified?</td><td>N/A</td></tr></table>			Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	N/A	Compliance verified?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Applicability checklist	Yes / No													
Criterion discussed in the PDD?	Yes													
Compliance provable?	N/A													
Compliance verified?	N/A													
B.2.10. Criterion 9: Either one of the following proofs shall be given if the waste gas/pressure utilized in the	1,2,3	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr></table>			Applicability checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Applicability checklist	Yes / No													

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project activity was flared or released into the atmosphere in absence of the project at an existing facility: 1. direct measurements of energy content and amount of the waste gas for at least 3 years prior to the start of the project activity or 2. energy balance of relevant sections of the plant to indicate that the waste gas/heat was not a source of energy before the implementation of the project activity or 3. energy bills to demonstrate that all the energy required for the process has been procured commercially 4. significant manufacturer’s documents from the construction of the facility for estimating quantity and energy content of waste gas/heat produced for rated plant capacity/per unit of product produced 5.onsite check by the DOE that no equipment for waste gas recovery and use has been installed prior to the implementation of the project activity.		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		
B.2.11. Criterion 10: The credits are claimed by the generator of energy using waste gas/heat/pressure in consideration of: 1. energy exported to other facilities (recipients) which shall not claim the emission reductions for using a zero-emission energy	1,2,3	Applicability checklist	Yes / No	☑	☑
		Criterion discussed in the PDD?	Yes		
		Compliance provable?	Yes		
		Compliance verified?	Yes		



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD										
source or 2. facilities and recipients included in the project boundary generated energy on site prior to implementation of the project activity which can claim credits for the remaining lifetime of equipments currently used and credit period.														
B.3. Description of the sources and gases included in the project boundary														
B.3.1. Source: electricity generation, grid or captive source Description of Source: main emission Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1,2,3	<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													
B.3.2. Source: fossil fuel consumption in boiler for thermal energy Description of Source: main emission Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1,2,3	<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>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	YES	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	YES													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.3. Source: fossil fuel consumption in co-generation plant Description of Source: main emission Gas(es): CO <sub>2</sub> Type: Baseline Emissions	1,2,3	<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>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	YES	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	YES													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													

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B.3.4. Source: emissions from generation of steam used in the flaring process Description of Source: main emission Gas(es): CO2 Type: Baseline Emissions	1,2,3	<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>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	YES	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	YES													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.5. Source: supplemental fossil fuel consumption at the project plant Description of Source: main emission Gas(es): CO2 Type: Project Emissions	1,2,3	<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>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	YES	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	YES													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.6. Source: supplemental electricity consumption Description of Source: main emission Gas(es): CO2 Type: Project Emissions	1,2,3	<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													
B.3.7. Source: emissions from cleaning of gas Description of Source: only in case waste gas cleaning is required and leads to emissions related to the energy requirement of the cleaning Gas(es): CO2 Type: Project Emissions	1,2,3	<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>N/A</td></tr><tr><td>Explanation / Justification sufficient?</td><td>N/A</td></tr><tr><td>Consistency with monitoring plan?</td><td>N/A</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	YES	Inclusion / exclusion justified?	N/A	Explanation / Justification sufficient?	N/A	Consistency with monitoring plan?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	YES													
Inclusion / exclusion justified?	N/A													
Explanation / Justification sufficient?	N/A													
Consistency with monitoring plan?	N/A													
B.3.8. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to	1,2,3	Yes, it comply with site situation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD												
the PDD?																
B.4. Description of how the baseline scenario is identified and description of the identified baseline scenario																
B.4.1. Have all technically feasible baseline scenario alternatives to the project activity been identified and discussed by the PDD? Why can this list be considered as being complete (Step 1)?	1,2,3	<div>Baseline options and combinations which should be considered:</div> <table><tr><td colspan="2">Identified and discussed in PDD?</td><td>Yes / No</td></tr><tr><td colspan="2">industrial facility where waste gas/heat/pressure is generated</td><td>Yes</td></tr><tr><td colspan="2">facility where the energy is produced</td><td>Yes</td></tr><tr><td colspan="2">facility where the energy is consumed</td><td>Yes</td></tr></table>	Identified and discussed in PDD?		Yes / No	industrial facility where waste gas/heat/pressure is generated		Yes	facility where the energy is produced		Yes	facility where the energy is consumed		Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Identified and discussed in PDD?		Yes / No														
industrial facility where waste gas/heat/pressure is generated		Yes														
facility where the energy is produced		Yes														
facility where the energy is consumed		Yes														
B.4.2. Does the project identify correctly and exclude those options not in line with regulatory or legal requirements?	1,2,3	Yes, the options in compliance with regulatory requirements were excluded from the list.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
B.4.3. Have applicable regulatory or legal requirements been identified?	1,2,3	Yes, it is Notice on strictly prohibiting the installation of fossil fuel-fired generators with capacity of 135MW or below which was issued by general office of state council	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
B.4.4. Does the project participants exclude baseline options that depend on fuels (used for generating heat and/or power), that are not available at the project site?	1,2,3	Yes, it was excluded.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
B.4.5. Have all realistic and credible alternatives been discussed for the use of waste gas and the exclusion of options justified (Step 1, W1 – 4)?	1,2,3	<div>Alternative(s) may include, inter alia:</div> <table><tr><td colspan="2">Categories</td><td>Yes / No</td></tr><tr><td>W1</td><td>Waste gas is directly vented to atmosphere</td><td>N/A</td></tr></table>	Categories		Yes / No	W1	Waste gas is directly vented to atmosphere	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Categories		Yes / No														
W1	Waste gas is directly vented to atmosphere	N/A														

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS				PDD in GSP	Final PDD																					
			without incineration;																									
		W2	Waste gas is released to the atmosphere after incineration or waste heat is released to the atmosphere (waste pressure energy is not utilized);	yes																								
		W3	Waste gas/heat is sold as an energy source;	N/A																								
		W4	Waste gas/heat/pressure is used for meeting energy demand.	yes																								
B.4.6. Have all realistic and credible alternatives been discussed for power generation and the exclusion of options justified (Step 1, P1 – 8)?	1,2,3	Alternative(s) may include, inter alia: <table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr><tr><td>P1</td><td>Proposed project activity not undertaken as a CDM project activity;</td><td>Yes</td></tr><tr><td>P2</td><td>On-site or off-site existing/new fossil fuel fired cogeneration plant;</td><td>N/A</td></tr><tr><td>P3</td><td>On-site or off-site existing/new renewable energy based cogeneration plant;</td><td>N/A</td></tr><tr><td>P4</td><td>On-site or off-site existing/new fossil fuel based existing captive or identified plant;</td><td>N/A</td></tr><tr><td>P5</td><td>On-site or off-site existing/new renewable energy based existing captive or identified plant;</td><td>N/A</td></tr><tr><td>P6</td><td>Sourced Grid-connected power plants;</td><td>Yes</td></tr></table>				Categories		Yes / No	P1	Proposed project activity not undertaken as a CDM project activity;	Yes	P2	On-site or off-site existing/new fossil fuel fired cogeneration plant;	N/A	P3	On-site or off-site existing/new renewable energy based cogeneration plant;	N/A	P4	On-site or off-site existing/new fossil fuel based existing captive or identified plant;	N/A	P5	On-site or off-site existing/new renewable energy based existing captive or identified plant;	N/A	P6	Sourced Grid-connected power plants;	Yes	☑	☑
Categories		Yes / No																										
P1	Proposed project activity not undertaken as a CDM project activity;	Yes																										
P2	On-site or off-site existing/new fossil fuel fired cogeneration plant;	N/A																										
P3	On-site or off-site existing/new renewable energy based cogeneration plant;	N/A																										
P4	On-site or off-site existing/new fossil fuel based existing captive or identified plant;	N/A																										
P5	On-site or off-site existing/new renewable energy based existing captive or identified plant;	N/A																										
P6	Sourced Grid-connected power plants;	Yes																										

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS				PDD in GSP	Final PDD																					
		P7	Captive Electricity generation from waste gas (if project activity is captive generation with waste gas, this scenario represents captive generation with lower efficiency than the project activity.);	N/A																								
		P8	Cogeneration from waste gas (if project activity is cogeneration with waste gas, this scenario represents cogeneration with lower efficiency than the project activity).	N/A																								
B.4.7. Have all realistic and credible alternatives been discussed for heat generation and the exclusion of options justified (Step 1, H1 – 9)?	1,2,3	<div>Alternative(s) may include, inter alia:</div> <table> <tr> <th colspan="2">Categories</th> <th>Yes / No</th> </tr> <tr> <td>H1</td> <td>Proposed project activity not undertaken as a CDM project activity;</td> <td>N/A</td> </tr> <tr> <td>H2</td> <td>On-site or off-site existing/new fossil fuel based cogeneration plant;</td> <td>N/A</td> </tr> <tr> <td>H3</td> <td>On-site or off-site existing /new renewable energy based cogeneration plant;</td> <td>N/A</td> </tr> <tr> <td>H4</td> <td>An existing or new fossil fuel based boilers;</td> <td>N/A</td> </tr> <tr> <td>H5</td> <td>An existing or new renewable energy based boilers;</td> <td>N/A</td> </tr> <tr> <td>H6</td> <td>Any other source such as district heat;</td> <td>N/A</td> </tr> </table>				Categories		Yes / No	H1	Proposed project activity not undertaken as a CDM project activity;	N/A	H2	On-site or off-site existing/new fossil fuel based cogeneration plant;	N/A	H3	On-site or off-site existing /new renewable energy based cogeneration plant;	N/A	H4	An existing or new fossil fuel based boilers;	N/A	H5	An existing or new renewable energy based boilers;	N/A	H6	Any other source such as district heat;	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Categories		Yes / No																										
H1	Proposed project activity not undertaken as a CDM project activity;	N/A																										
H2	On-site or off-site existing/new fossil fuel based cogeneration plant;	N/A																										
H3	On-site or off-site existing /new renewable energy based cogeneration plant;	N/A																										
H4	An existing or new fossil fuel based boilers;	N/A																										
H5	An existing or new renewable energy based boilers;	N/A																										
H6	Any other source such as district heat;	N/A																										

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS					PDD in GSP	Final PDD																		
		H7	Other heat generation technologies (e.g. heat pumps or solar energy);		N/A																					
		H8	Steam/ Process heat generation from waste gas, but with lower efficiency;		N/A																					
		H9	Cogeneration from waste gas, but with lower efficiency.		N/A																					
B.4.8. Has a baseline scenario matrix been developed?	1,2,3	Yes, it includes W4+P1 and W2+P6.					☑	☑																		
B.4.9. Has the fuel been identified and justified which were used in the baseline scenario (Step 2)?	1,2,3	Yes, it is discussed in step 2.					☑	☑																		
B.4.10. Has the latest approved version of the “Tool for the demonstration and assessment of additionality” been used to eliminate non feasible baseline options (Step 3)?	1,2,3	Yes, scenario W4+P1 was eliminated as conclusion.					☑	☑																		
B.4.11. Is it demonstrated that the option with the lowest baseline emissions is considered as the most likely baseline scenario, if more than one feasible alternative remain (Step 4)?	1,2,3	Only one scenario was left after discussion in step 3.					☑	☑																		
B.4.12. Follows the identified baseline scenario one of the two project scenarios resulting from combinations of baseline options and scenarios applicable to ACM0012?	1,2,3	Applicability criteria of ACM0012: <table><tr><th colspan="5">Project Scenario: Cogeneration of energy</th></tr><tr><th rowspan="2">Scenario</th><th colspan="3">Baseline options</th><th rowspan="2">Yes / No</th></tr><tr><th>Waste gas</th><th>Power</th><th>Heat</th></tr><tr><td>1</td><td>W2</td><td>P4 or P6</td><td>H4</td><td>N/A</td></tr></table>					Project Scenario: Cogeneration of energy					Scenario	Baseline options			Yes / No	Waste gas	Power	Heat	1	W2	P4 or P6	H4	N/A	☑	☑
Project Scenario: Cogeneration of energy																										
Scenario	Baseline options			Yes / No																						
	Waste gas	Power	Heat																							
1	W2	P4 or P6	H4	N/A																						

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS					PDD in GSP	Final PDD
		2	W2	P2	H2	N/A		
		Project Scenario: Generation of Electricity or Heat only						
		Scenario	Baseline options		Yes / No			
			Waste gas	Power/Heat				
		1	W2	P4 or P6/H4		Yes		
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?	1,2,11	It is clearly indicated in Minutes of General Managers Meeting that CDM was seriously considered in decision of project implementation. <b><u>Corrective Action Request No.6.</u></b> CAR: Pls add a timeline of the project activity where the early CDM consideration can be also seen.					CAR6	☑
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	Yes, benchmark analysis (option III) was selected.					☑	☑
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	N/A					☑	☑
B.5.4. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1,2,3	N/A					☑	☑
B.5.5. In case of Option III (benchmark analysis)	1,2,3	Yes, equity IRR after tax was employed as benchmark.					CAR7	☑

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sis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?		<b><u>Corrective Action Request No.7.</u></b> CAR: Pls apply benchmark 12%, it is more conservative and according to our data closer to average for steel industry in China. Some projects were recently rejected by EB even with 12% benchmark.		
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	It was only calculated for proposed project.	<input checked="" type="checkbox"/>	<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	Yes, document "method and parameters for economic assessment of construction project" (ver 3) was available for analysis and site audit. <b><u>Corrective Action Request No.8.</u></b> 1. Please add documents source for all data input in Table 4. 2. As indicated in FSR, IRR was 7.21%, please show difference of data input in IRR (7.8%) calculation in Table 4. 3. Please provide all evidenced documents and IRR/CER calculation in English version. <b><u>Corrective Action Request No.9.</u></b> Car: Sensitivity analysis should be minimum +/-10% or even better +/-20%. If 10% applied it must explained why only 10%. Seeing sales revenues and O&M costs it seems very probable that if 10% or 20% is applied the IRR will be bigger than 13%. <b><u>Clarification Request No. 4.</u></b> CR: Why are O&M costs so high? The are more than 50% of total investment. They should not be more than 15%.	CAR8 CAR9 CR4	<input checked="" type="checkbox"/>
B.5.8. In case of applying step 3 (barrier anal-	1,2,3	It was omitted in PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
ysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?				
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	See B5.8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	See B5.8	<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	No, there are no other activities similar to the proposed project in Jiangxi province.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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	See B5.11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>B.6. Emissions reductions</b>				
<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?	1,2,3	The calculation of the emission reduction is applied according to the steps described in "Tool to calculate the emission factor for an electricity system" All steps are described in a transparent manner.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.2. Is every selection of options offered by the	1,2,3	Yes, the selection of options offered by "Tool to calculate the	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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methodology correctly justified and is this justification in line with the situation verified on-site?		emission factor for an electricity system" is correctly justified.		
B.6.1.3. Are the formulae required for the determination of <b>baseline</b> emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1,2,3	<p><b><u>Corrective Action Request No.10.</u></b> Page 23, paragraph 1, last sentence: "the emission factor of the proposed project is zero" was contradicted to the calculation in B.6.3.</p> <p><b><u>Corrective Action Request No.11.</u></b> CAR: Apply formula for fcap from ACM0012 Version 3. They are the same but it must be clearly stated that for fcap V.3 is applied.</p> <p>CAR: in p.26 of PDD fcap=1. This because the coke quantity in project year will be less than in baseline years. This needs to be well supported.</p>	CAR10 CAR11	<input checked="" type="checkbox"/>
B.6.1.4. If the scenario 1, sub-section a is chosen to calculate the baseline emissions and the electricity generated by the project activity is less than 60 GWh/year: Are the six steps as defined in the "tool for calculation of emission factor for electricity systems" correctly applied and described in the PDD?	1,2,3	Yes, 6 steps were applied and described correctly in PDD..	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.5. Are the formulae required for the determination of <b>project</b> emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1,2,3	Yes. formulae to calculate the project emissions are correctly presented in chapter B6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.1.6. If electricity is purchased from the grid, and the CO <sub>2</sub> emission factor for electricity is determined as the combined margin emission	1,2,3	Yes, 6 steps were applied to calculate the emission factor.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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factor according to the “tool to calculate the emission factor for an electricity system”: Are the six steps as defined in this tool correctly applied and described in the PDD?																				
B.6.1.7. Are the formulae required for the determination of <b>emission reductions</b> correctly presented?	1,2,3	Yes. The formula is correctly presented in chapter B.6.1. <b>Clarification Request No. 5.</b> CR: How come and the applied EF is lower than the maximum allowed in CCPG?	CR5	☑																
<i>B.6.2. Data and parameters that are available at validation: The calculation of baseline emissions (<math>BE_{En,y}</math>) depends on the identified baseline scenario. Scenario 1 represents the situation where the electricity is obtained from a specific existing power plant or from the grid and heat from a fossil fuel based element process. Scenario 2 represents the situation where the recipient plant(s) obtain electricity and/or heat generated by a fossil fuel based existing/new cogeneration plant.</i>																				
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	Most of the parameters list below were not included in B6.2.	☑	☑																
<i>Integrate the required amount of sub-checklists for monitoring parameter and <b>comment</b> on any line answered with “No”.</i>																				
B.6.2.2. Parameter Title: $f_{wg}$ fraction of total electricity generated by the project activity using waste gas	1,2,3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	☑	☑
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		<table><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>It is not included in B 6.2</p>	Measurement method correctly described?	No																		
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B.6.2.3. Parameter Title: $f_{cap}$ fraction of total energy produced using waste gas	1,2,3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>It is not included in B 6.2.</p>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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B.6.2.4. Parameter Title: $\eta_{Plant, j}$ overall efficiency of the existing plant that would be used by recipient	1,2,3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>It is not included in B 6.2.</p>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Measurement method correctly described?	No																					
B.6.2.5. Parameter Title: $f_{WG}$ fraction of total heat generated by the project activity electricity using waste gas	1,2,3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
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B.6.2.6. Parameter Title: $\eta_{EP, I, j}$ efficiency of the element process that would have been supplied heat to the recipient	1,2,3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>It is not included in B6.2</p>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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B.6.2.7. Parameter Title: $\eta_{Cogen}$ efficiency of cogeneration plant using fossil fuel	1,2,3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
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		<table><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>It is not included in B6.2</p>	Measurement method correctly described?	No																		
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B.6.2.8. Parameter Title: $Q_{WG, y}$ quantity of waste gas used for energy generation during year	1,2,3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>It is not included in B6.2.</p>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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B.6.2.9. Parameter Title: $\eta_{Boiler, fl}$ efficiency of the boiler that would have been used to generate the steam	1,2,3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>It is not included in B6.2</p>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Choice of data correctly justified?	No																					
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B.6.2.10. Parameter Title: $Q_{WG, FI, B}$ amount of waste gas flared using steam prior to the implementation of the project activity	1,2,3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
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B.6.2.11. Parameter Title: <b>Q<sub>st, fl, B</sub></b> steam used to flare the waste gas prior to the implementation of the project activity	1,2,3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> <p>It is not included in B6.2.</p>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Choice of data correctly justified?	No																						
Measurement method correctly described?	No																						
B.6.2.12. Parameter Title: <b>NCV<sub>i</sub></b> net calorific value annual average for each consumed fuel and the waste gas/heat	1,2,3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr></table>		Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
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B.6.2.13.      Parameter Title: <b>Q<sub>WG, BL</sub></b> quantity of waste gas generated prior to the start of the project activity	1,2,3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> It is not included in B6.2	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Measurement method correctly described?	No																					
B.6.2.14.      Parameter Title: <b>Q<sub>BL, product</sub></b> production by process that most logically relates to waste gas generation in baseline	1,2,3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> It is not included in B6.2	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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B.6.2.15.      Parameter Title: <b>q<sub>wg, product</sub></b> amount of waste gas/heat/pressure the industrial facility generates per unit of product generated by the process that generates waste	1,2,3	<table><tr><td>Data Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
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gas/heat/pressure		Data unit correctly expressed?	No		
		Appropriate description of parameter?	No		
		Source clearly referenced?	No		
		Correct value provided?	No		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
		It is not included in B6.2			

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
B.6.2.16. Parameter Title: Annual electricity supplied to the grid prior to retrofit (applicable only for retrofit and modification activities)	1,2,3		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		
		It is not included in B6.2		
B.6.2.17. Parameter Title: Emission factor of the grid (CM)	1,2,3		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Data Checklist		
		Title in line with methodology?		
		Data unit correctly expressed?		
		Appropriate description of parameter?		
		Source clearly referenced?		
		Correct value provided?		
		Has this value been verified?		
		Choice of data correctly justified?		
		Measurement method correctly described?		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
		It is calculated.																				
B.6.2.18. Parameter Title: Operating margin (OM) emission factor of the grid	1,2,3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr><tr><td>Measurement method correctly described?</td><td>No</td></tr></table> it is calculated.	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	Measurement method correctly described?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Data Checklist	Yes / No																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	No																					
Choice of data correctly justified?	No																					
Measurement method correctly described?	No																					
B.6.2.19. Parameter Title: Build margin (BM) emission factor of the grid	1,2,3	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr><tr><td>Choice of data correctly justified?</td><td>No</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided?	No	Has this value been verified?	No	Choice of data correctly justified?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Data Checklist	Yes / No																					
Title in line with methodology?	No																					
Data unit correctly expressed?	No																					
Appropriate description of parameter?	No																					
Source clearly referenced?	No																					
Correct value provided?	No																					
Has this value been verified?	No																					
Choice of data correctly justified?	No																					

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
		Measurement method correctly described?	No			
		It is calculated.				

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
B.6.2.20. Parameter Title: fuel consumption of each power source	1,2,3	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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?	Yes		
B.6.2.21. Parameter Title: emission coefficient of each fuel	1,2,3	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		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?	Yes		
B.6.2.22. Parameter Title: electricity generation of each power source	1,2,3	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	Yes		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
		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?	Yes			

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
B.6.2.23. Parameter Title: fraction of time with low costs /must run plant at the margin (for simple adjusted OM only)	1,2,3	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.24. Parameter Title: electricity imports	1,2,3	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided?	N/A		
		Has this value been verified?	N/A		
		Choice of data correctly justified?	N/A		
		Measurement method correctly described?	N/A		
B.6.2.25. Parameter Title: CO <sub>2</sub> emission coefficient of fuels used in connected grids	1,2,3	Data Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	No		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		Data unit correctly expressed?	no		
		Appropriate description of parameter?	no		
		Source clearly referenced?	no		
		Correct value provided?	no		
		Has this value been verified?	No		
		Choice of data correctly justified?	No		
		Measurement method correctly described?	No		
		It is not included in B6.2			
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, the procedures are the same.		☑	☑
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1,2,3	Yes. It is in a complete and transparent manner.		☑	☑
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. It is consistent with data in other chapters.		☑	☑
B.6.3.4. Has the equation for calculating baseline emissions from electricity that is displaced by the project activity been used if project activity is use of waste pressure to generate electricity?	1,2,3	Not applicable.		☑	☑
B.6.3.5. Does the parameter of efficiency (η <sub>BL</sub> ) follow one of the stated demands?	1,2,3			☑	☑
		Demand	Yes/No		
		i) Assume a constant efficiency of the <b>captive plant</b>	N/A		



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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		/ <b>element process</b> / <b>cogeneration plant</b> and determine the efficiency, as a conservative approach, for optimal operation conditions i.e. design fuel, designed steam extraction, optimal load, optimal oxygen content in flue gases, adequate fuel conditioning (temperature, viscosity, moisture, size/mesh etc), representative or favorable ambient conditions (temperature and humidity); or		
		ii) Highest of the efficiency values provided by two or more manufacturers for <b>power plants</b> / <b>element process</b> with specifications similar to that that would have been required to supply the recipient with electricity / heat / that it receives from the project activity; or Highest of the efficiency values provided by two or more manufacturers for <b>similar plants</b> , as used in the project activity; or	N/A	
		iii) Assume a captive power generation efficiency of 60% based on the net calorific values as a conservative approach ( <b>power plant</b> ); or Maximum efficiency of 100% ( <b>element process</b> ); or Maximum efficiency of 90%, based on net calorific values (irrespective of type of cogeneration system and type of heat generated) ( <b>cogeneration plant</b> ); or	N/A	
		iv) Estimated from load v/s efficiency curve(s) established for <b>equipment(s)</b> / <b>each element process</b> through measurement and described in Annex I;	N/A	

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		<p>or</p> <p>Estimated from load v/s efficiency curve(s) established through measurement of the <b>cogeneration plants</b> and described in Annex I.</p> <p>Follow international standards for estimation of efficiency of power plants / individual element process / cogeneration plants.</p>		
B.6.3.6. Are the baseline emissions capped following one of the two methods described in the methodology (ACM0012)? Which method has been applied?	1,2,3	Yes, method-2 was employed in PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.6.3.7. Is the calculation of the operating, build and combined margin emission factors documented electronically in a spreadsheet with the relevant information as defined per the "Tool for calculation of emission factor for electrical systems"? Has this spreadsheet been submitted to the validation team?	1,2,3	No, but it was required by validation team to be submitted.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>B.6.4. Summary of the ex-ante estimation of emission reductions</b>				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1,2,3	Yes, it is clearly shown in B6.4	<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 form and table were correctly 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 implementa-	1,2,3	Yes. It is expected to meet the time schedule.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																								
tion and the indicated crediting period?																												
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	Yes, there is no contradiction found.	☑	☑																								
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 chapter B.7.1 considered to be complete with regard to the requirements of the applied methodology?	1,2,3	Most of parameters list below were not included in B7.1	☑	☑																								
B.7.1.2. Parameter Title: <b>FF<sub>i,y</sub></b> , quantity of fossil fuel type i combusted to supplement waste gas in the project activity during the year y, in energy or mass units (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>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	☑	☑
Monitoring Checklist	Yes / No																											
Title in line with methodology?	N/A																											
Data unit correctly expressed?	N/A																											
Appropriate description of parameter?	N/A																											
Source clearly referenced?	N/A																											
Correct value provided for estimation?	N/A																											
Has this value been verified?	N/A																											
Measurement method correctly described?	N/A																											
Correct reference to standards?	N/A																											
Indication of accuracy provided?	N/A																											
QA/QC procedures described?	N/A																											
QA/QC procedures appropriate?	N/A																											
B.7.1.3. Parameter Title: <b>NCV<sub>i</sub></b> net calorific value of the fossil fuel i (project emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td></td><td></td></tr></table>	Monitoring Checklist	Yes / No			☑	☑																				
Monitoring Checklist	Yes / No																											

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		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.4. Parameter Title: <b>EF</b> <sub>CO2, i</sub> CO2 emission factor per unit of energy or mass of the fuel type i (project emissions)	1,2,3			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.5. Parameter Title: <b>EC</b> <sub>PJ, y</sub> Additional electricity consumed in year y, for gas cleaning equipment, as a result of the implementation of the project activity. (project emissions)	1,2,3			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		Source clearly referenced?	N/A																										
		Correct value provided for estimation?	N/A																										
		Has this value been verified?	N/A																										
		Measurement method correctly described?	N/A																										
		Correct reference to standards?	N/A																										
		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.6. Parameter Title: <b>EF</b> <sub>CO2, EL, y</sub> CO2 emission factor for electricity consumed by the project activity in year 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>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</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> <p>It is not included in B.7.1</p>		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	No																												
Data unit correctly expressed?	No																												
Appropriate description of parameter?	No																												
Source clearly referenced?	No																												
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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.7.1.7. Parameter Title: <b>FC</b> <sub>EL, CP, k, y</sub> Quantity of fuel type k combusted in the captive power plant at the project site in year y where k are the fuel types fired in the captive power plant at the project site in year 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>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																								
		Has this value been verified?	N/A																											
		Measurement method correctly described?	N/A																											
		Correct reference to standards?	N/A																											
		Indication of accuracy provided?	N/A																											
		QA/QC procedures described?	N/A																											
		QA/QC procedures appropriate?	N/A																											
B.7.1.8. Parameter Title: <b>NCV<sub>k</sub></b> Net calorific value of fuel type k where k are the fuel types fired in the captive power plant at the project site in year 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>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																													
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Correct reference to standards?	N/A																													
Indication of accuracy provided?	N/A																													
QA/QC procedures described?	N/A																													
QA/QC procedures appropriate?	N/A																													
B.7.1.9. Parameter Title: <b>EF<sub>CO2, k</sub></b> Emission factor of fuel type k where k are the fuel types fired in the captive power plant at the project site in year 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>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
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Appropriate description of parameter?	N/A																													
Source clearly referenced?	N/A																													
Correct value provided for estimation?	N/A																													
Has this value been verified?	N/A																													
Measurement method correctly described?	N/A																													
Correct reference to standards?	N/A																													

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

Date of Completion: 15/04/2009

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.10.      Parameter Title: <b>EC</b> <sub>CP, y</sub> Quantity of electricity generated in the captive power plant at the project site in year 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>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</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	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	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																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	Yes																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	Yes																												
B.7.1.11.      Parameter Title: <b>ws</b> <sub>i, j</sub> fraction of total heat that is used by the recipient j in the project that in absence of the project activity would have been supplied by the ith boiler (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
B.7.1.12. Parameter Title: <b>Q<sub>WG, y</sub></b> quantity of waste gas used for energy generation during year y (Nm3) (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.13. Parameter Title: <b>EF<sub>elec, i, j</sub></b> CO <sub>2</sub> emission factor for the electricity source i (i=gr (grid) or i=is (identified source)) , displaced due to the project activity, during the year y in tons CO2/MWh (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.14. Parameter Title: <b>EF<sub>CO2, is, j</sub></b> CO <sub>2</sub> emission factor per unit of energy of the fossil fuel used in the baseline generation source i	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																				
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												



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Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
(i=) providing energy to recipient j. (baseline emissions)		Data unit correctly expressed?	N/A																										
		Appropriate description of parameter?	N/A																										
		Source clearly referenced?	N/A																										
		Correct value provided for estimation?	N/A																										
		Has this value been verified?	N/A																										
		Measurement method correctly described?	N/A																										
		Correct reference to standards?	N/A																										
		Indication of accuracy provided?	N/A																										
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.15. Parameter Title: <b>EF<sub>CO2, COGEN</sub></b> CO <sub>2</sub> emission factor per unit of energy of the fuel that would have been used in the baseline co-generation plant (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.16. Parameter Title: <b>EG<sub>i,j,y</sub></b> quantity of electricity supplied to the recipient j by generator, which in the absence of the project activity would have sourced from l th source /l can be either grid or identified source) during the year y in MWh (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	☑	☑														
Monitoring Checklist	Yes / No																												
Title in line with methodology?	No																												
Data unit correctly expressed?	No																												
Appropriate description of parameter?	No																												
Source clearly referenced?	No																												

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Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		Correct value provided for estimation?	No																										
		Has this value been verified?	No																										
		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																										
		It is not included in B7.1																											
B.7.1.17. Parameter Title: <b>EG<sub>j,y</sub></b> quantity of electricity supplied to the recipient plant j by the project activity during the year y in MWh (baseline 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>Yes</td></tr><tr><td>Correct reference to standards?</td><td>Yes</td></tr><tr><td>Indication of accuracy provided?</td><td>Yes</td></tr><tr><td>QA/QC procedures described?</td><td>Yes</td></tr><tr><td>QA/QC procedures appropriate?</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	Measurement method correctly described?	Yes	Correct reference to standards?	Yes	Indication of accuracy provided?	Yes	QA/QC procedures described?	Yes	QA/QC procedures appropriate?	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																												
Measurement method correctly described?	Yes																												
Correct reference to standards?	Yes																												
Indication of accuracy provided?	Yes																												
QA/QC procedures described?	Yes																												
QA/QC procedures appropriate?	Yes																												
B.7.1.18. Parameter Title: <b>HG<sub>j,y</sub></b> net quantity of heat supplied to the recipient plant j by the project activity during the year y in TJ. In case of steam this is expressed as difference of energy content between the steam supplied to the recipient plant and the condensate returned by the recipient plant(s) to element process of co-generation plant. In case of hot water/oil this is expressed as difference in energy content be-	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												

## Validation Protocol

Project Title: The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project of Xingang Company

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
tween the hot water/oil supplied to and returned by the recipient plant(s) to element process of co-generation plant) (baseline emissions)		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.19. Parameter Title: $EF_{CO_2, i, j}$ CO <sub>2</sub> emission factor per unit of energy of the baseline fuel used in ith boiler used by recipient j, in tCO <sub>2</sub> /TJ, in absence of the project activity (baseline emissions)	1,2,3	Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.20. Parameter Title: $EF_{CO_2, j}$ CO <sub>2</sub> emission factor of fossil fuel (tCO <sub>2</sub> /TJ) that would have been used at facility 'j' for flaring the waste gas (baseline emissions)	1,2,3	Monitoring Checklist	Yes / No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		QA/QC procedures described?	N/A																										
		QA/QC procedures appropriate?	N/A																										
B.7.1.21. Parameter Title: <b>Q<sub>i, h</sub></b> amount of individual fuel (waste gas and other fuel(s)) i consumed at the energy generation unit during hour h (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.22. Parameter Title: <b>EG<sub>tot, y</sub></b> total annual energy produced at the cogeneration plants, with waste gas and fossil fuel (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	☑	☑
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
Appropriate description of parameter?	N/A																												
Source clearly referenced?	N/A																												
Correct value provided for estimation?	N/A																												
Has this value been verified?	N/A																												
Measurement method correctly described?	N/A																												
Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.23. Parameter Title: <b>Q<sub>WG, h</sub></b>	1,2,3			☑	☑																								

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
quantity of waste gas used for energy generation per hour h (baseline emissions)		Monitoring Checklist	Yes / No		
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.24. Parameter Title: <b>NCV<sub>WG</sub></b> net Calorific Value of Waste Gas (baseline emissions)	1,2,3	Monitoring Checklist	Yes / No	☑	☑
		Title in line with methodology?	N/A		
		Data unit correctly expressed?	N/A		
		Appropriate description of parameter?	N/A		
		Source clearly referenced?	N/A		
		Correct value provided for estimation?	N/A		
		Has this value been verified?	N/A		
		Measurement method correctly described?	N/A		
		Correct reference to standards?	N/A		
		Indication of accuracy provided?	N/A		
		QA/QC procedures described?	N/A		
		QA/QC procedures appropriate?	N/A		
B.7.1.25. Parameter Title: <b>ST<sub>whr, y</sub></b> energy content of the steam generated in waste heat recovery boiler fed to turbine via common steam header (baseline emissions)	1,2,3	Monitoring Checklist	Yes / No	☑	☑
		Title in line with methodology?	No		
		Data unit correctly expressed?	No		

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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		Appropriate description of parameter?	No																										
		Source clearly referenced?	No																										
		Correct value provided for estimation?	No																										
		Has this value been verified?	No																										
		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																										
		It is not included in B7.1																											
B.7.1.26. Parameter Title: <b>ST</b> <sub>other, y</sub> energy content of the steam generated in other boilers fed to turbine via common steam header (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr><tr><td>Correct value provided for estimation?</td><td>N/A</td></tr><tr><td>Has this value been verified?</td><td>N/A</td></tr><tr><td>Measurement method correctly described?</td><td>N/A</td></tr><tr><td>Correct reference to standards?</td><td>N/A</td></tr><tr><td>Indication of accuracy provided?</td><td>N/A</td></tr><tr><td>QA/QC procedures described?</td><td>N/A</td></tr><tr><td>QA/QC procedures appropriate?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	Correct value provided for estimation?	N/A	Has this value been verified?	N/A	Measurement method correctly described?	N/A	Correct reference to standards?	N/A	Indication of accuracy provided?	N/A	QA/QC procedures described?	N/A	QA/QC procedures appropriate?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																												
Title in line with methodology?	N/A																												
Data unit correctly expressed?	N/A																												
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Correct reference to standards?	N/A																												
Indication of accuracy provided?	N/A																												
QA/QC procedures described?	N/A																												
QA/QC procedures appropriate?	N/A																												
B.7.1.27. Parameter Title: <b>EF</b> <sub>heat, j, y</sub> CO2 emission factor of the heat source that would have supplied the recipient plant j in absence of the project activity, expressed in tCO2/TJ (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>N/A</td></tr><tr><td>Data unit correctly expressed?</td><td>N/A</td></tr><tr><td>Appropriate description of parameter?</td><td>N/A</td></tr><tr><td>Source clearly referenced?</td><td>N/A</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	N/A	Data unit correctly expressed?	N/A	Appropriate description of parameter?	N/A	Source clearly referenced?	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
Monitoring Checklist	Yes / No																												
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		Correct reference to standards?	N/A																											
		Indication of accuracy provided?	N/A																											
		QA/QC procedures described?	N/A																											
		QA/QC procedures appropriate?	N/A																											
B.7.1.28. Parameter Title: steam flow rate	1,2,3	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</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> <p>It is not included in B7.1</p>			Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring Checklist	Yes / No																													
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Correct reference to standards?	No																													
Indication of accuracy provided?	No																													
QA/QC procedures described?	No																													
QA/QC procedures appropriate?	No																													
B.7.1.29. Parameter Title: pressure of steam	1,2,3	<table><tr><td>Monitoring Checklist</td><td>Yes / No</td></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
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		Correct reference to standards?	No																										
		Indication of accuracy provided?	No																										
		QA/QC procedures described?	No																										
		QA/QC procedures appropriate?	No																										
		It is not included in B7.1																											
B.7.1.30. Parameter Title: temperature of steam/hot water/hot oil	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</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> <p>It is not included in B7.1</p>		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Correct reference to standards?	No																												
Indication of accuracy provided?	No																												
QA/QC procedures described?	No																												
QA/QC procedures appropriate?	No																												
B.7.1.31. Parameter Title: $n_{BL, t}$ efficiency of element process/captive power plant/cogeneration plant during time interval t where t is a discrete time interval during the year y (baseline emissions)	1,2,3	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>No</td></tr><tr><td>Data unit correctly expressed?</td><td>No</td></tr><tr><td>Appropriate description of parameter?</td><td>No</td></tr><tr><td>Source clearly referenced?</td><td>No</td></tr><tr><td>Correct value provided for estimation?</td><td>No</td></tr><tr><td>Has this value been verified?</td><td>No</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	No	Data unit correctly expressed?	No	Appropriate description of parameter?	No	Source clearly referenced?	No	Correct value provided for estimation?	No	Has this value been verified?	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
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CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD										
		<table><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> It is not included in B7.1			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		
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.7.2. Description of the monitoring plan																
B.7.2.1. Is the operational and management structure clearly described and in compliance with the envisioned situation?	1,2,3	<b><u>Clarification Request No. 6.</u></b> 1. Please show operational and management structure in charge of the monitoring task. 2. Please clearly show meters employed in diagram. 3. As electricity generated by project was only consumed within company and will not supply to the grid, electricity generated and consumed by the project shall be cross-checked and verifiable during subsequent verification period. 4. What is the accuracy of the monitoring system?			CR6	<input checked="" type="checkbox"/>										
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1,2,3	See B7.2.1			CR6	<input checked="" type="checkbox"/>										
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1,2,3	See B7.2.1			CR6	<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?	1,2,3	Not applicable. Annex 4 does not include additional information.			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										

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<b>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>				
B.8.1.1. Is there any indication of a date when the baseline was determined?	1,2,3	Yes, it is 18/03/2008	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8.1.2. Is this consistent with the time line of the PDD history?	1,2,3	Yes, it is consistent.	<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?	1,2,3	Yes. Entity is Beijing Changjia Investment Co., Ltd.	<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?	1,2,3	Yes. The mentioned entity is not a project participant.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>C. Duration of the project activity / crediting period</b>				
<b>C.1. Duration of the project activity</b>				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1,2,3	Yes, starting date is 01/09/2006, and operational lifetime is expected 20 years. <b><u>Corrective Action Request No.12.</u></b> CAR: The feasibility study date is not good enough to justify starting date of the project.	CAR12	<input checked="" type="checkbox"/>
<b>C.2. Choice of the crediting period and related information</b>				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 re-	1,2,3	Yes, fixed crediting period is 10 years, and starting date is expected on 01/12/2008.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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newals or fixed crediting period of max. 10 years)?				
<b>D. Environmental impacts</b>				
<b>D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts</b>				
D.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1,2,8,9	Yes, the environmental impacts of the project activity during the construction period and operation period are analyzed in the PDD.	<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?	1,2,8,9	Yes. EIA was approved by Environment Protection Bureau of Jiangxi province.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.3. Will the project create any adverse environmental effects?	1,2,8,9	Referred to the EIA and the approval of EIA, the project will create no significant environmental impacts.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.1.4. Were transboundary environmental impacts identified in the analysis?	1,2,8,9	There is no trans-boundary impact described in EIA report or approval of EIA.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>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</b>				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1,2,8,9	Project has a limited effect on natural environment, but special measures were adopted such as environmental protection team was set up to minimize the negative impact during and after construction.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D.2.2. Does the project comply with environmental legislation in the host country?	1,2,8,9	Yes, the project is in conformity with the environmental legislation of P. R. China.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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<b>E. Stakeholders' comments</b>				
<b>E.1. Brief description how comments by local stakeholders have been invited and compiled</b>				
E.1.1. Have relevant stakeholders been consulted?	1,2, 14,1 5	Yes, questionnaires were used to consult the relevant stakeholders.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1,2, 14,1 5	No. only questionnaires were employed.	<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?	1,2, 14,1 5	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?	1,2, 14,1 5	Yes. Confirmed with the detailed documents, the process is described in a complete and transparent manner.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>E.2. Summary of the comments received</b>				
E.2.1. Is a summary of the received stakeholder comments provided?	1,2, 14,1 5	Yes, it is described in PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>E.3. Report on how due account was taken of any comments received</b>				
E.3.1. Has due account been taken of any stakeholder comments received?	1,2, 14,1 5	All stakeholder comments are positive, no action has been taken.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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<b>F. Annexes 1 – 4</b>				
<b>F.1. Annex 1: Contact Information</b>				
F.1.1. Is the information provided consistent with the one given under section A.3?	1,2,3	Yes. It is consistent with that in A.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.1.2. Is the information on all private participants and directly involved Parties presented?	1,2,3	Yes, they are presented.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>F.2. Annex 2: Information regarding public funding</b>				
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?	1,2,3	Yes. There is no public funding taking place.	<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?	1,2,3	See F.1.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>F.3. Annex 3: Baseline information</b>				
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?	1,2,3	Yes, it is consistent with data by other sections of PDD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.2. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1,2,3	Yes. The data has been quoted from official documents which are available to validation team.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F.3.3. Does the additional information substantiate / support statements given in other sections of the PDD?	1,2,3	See F.1.6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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<b>F.4. Annex 4: Monitoring information</b>				
F.4.1. If additional background information on monitoring is provided: Is this information consistent with data presented in other sections of the PDD?	1,2,3	No, it refers to B7.2 in 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?	1,2,3	See F1.8	<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?	1,2,3	See F1.8.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**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
<p>The following documents deliver evidences for the project activity: FSR and Approval of FSR EIA and EIA Approval The documents have been evidenced during the audit.</p> <p><b><u>Clarification Request No. 1.</u></b> Please revise EIA and its approval to keep them identical to FSR.</p>	A2.2	<p>The revised EIA has been provided. Regarding the discrepancies between the EIA approval and the FSR, the project owner sent a written application letter on 29 Feb. 2008 to the Environmental Protection Bureau of Jiangxi Province, stating that the project scope has changed from one set of 150t/h CDQ system to two sets of 90t/h CDQ systems. In their reply, the Environmental Protection Bureau of Jiangxi Province confirmed that the scale of the project did not change significantly and the previous approval should still be effective. All</p>	<p>The document "Application letter of change of project entity and technical parameter in Approval of EIA" dated 29/02/2008 has been submitted to audit team as evidence document..</p>

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		the evidences are provided as attached.	
<b><u>Clarification Request No. 2.</u></b> It is indicated in FSR that CDQ equipments will be employed 345days per year, and during maintenance period (additional 20days), CWQ equipments will still be utilized as coke production is continuous.	A2.3	Yes, CWQ equipments will be used during maintenance period of 20 days per year. The estimated electricity generated by the CDQ was only for 345 days in the FSR, and the rest 20 days were not included in the calculation of the ER in PDD. Relevant information updated in the latest version PDD.	Content has been added in section A.2 in PDD.
The form is correctly applied. Xinyu Iron & Steel Co., Ltd and Deutsch Bank AG, London Branch was considered as the project participants. <b><u>Corrective Action Request No.1.</u></b> CAR: Pls spell correctly the word London and Deutsche Bank. They must be correct and exactly like in Annex 1.	A3.1	The spelling error was corrected in the revised PDD.	It is still in wrong spelling.
<b><u>Clarification Request No. 3.</u></b> LoA from DNA of two participants is not available during site audit.	A3.2	The LoA from Chinese DNA, i.e. NDRC is provided as attached. The LoA from UK will be provided later.	LoA from China's DNA was provided to audit team.
Yes. Coke dry quenching technology and main equipments was imported from Japan, it reflects current good practice in coke quenching industry. <b><u>Corrective Action Request No.2.</u></b> CAR: Scenario prior to project + list of equipment used for it? An explanation how the situation prior to the project is related to the baseline scenario in B.4. Emission sources and greenhouse gases.	A4.3.1	A description of the scenario prior to the project was added in section A.4.3 of the revised PDD. It's also mentioned that the scenario prior to the project also represents the baseline scenario of the project.	Relative contents were added in Section A4.3

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Generally apply guidelines from:  <a href="http://cdm.unfccc.int/EB/041/eb41_repan12.pdf">http://cdm.unfccc.int/EB/041/eb41_repan12.pdf</a>			
Yes, the latest version of ACM0012 (version 2) has been applied and the reference is clearly indicated. <b><u>Corrective Action Request No.3.</u></b> CAR: It must be also clearly stated that ACM0012 V.3 is applied concerning fcap.	B1.1	It is mentioned in the revised PDD that version 3 of ACM0012 is also applied for the calculation of fcap.	It has been revised in PDD.
Yes, versions for the tool are v01, v04 respectively. <b><u>Corrective Action Request No.4.</u></b> CAR: Apply additionality tool V.5. Everywhere in PDD.	B1.3	It is updated in the revised PDD that additionality tool version 5.2 is applied.	It has been revised in PDD.
It is clearly indicated in Minutes of General Managers Meeting that CDM was seriously considered in decision of project implementation. <b><u>Corrective Action Request No.5.</u></b> CAR: Pls add a timeline of the project activity where the early CDM consideration can be also seen.	B5.1	A list of key milestones during the development of the project was added in section B.5 of the revised PDD.	It has been added in section B.5
Yes, equity IRR after tax was employed as benchmark. <b><u>Corrective Action Request No.6.</u></b> CAR: Pls apply benchmark 12%, it is more con-	B5.5	The more conservative benchmark of 12% was applied in the revised PDD.	It has been revised in sub-step2b in section B.5



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servative and according to our data closer to average for steel industry in China. Some projects were recently rejected by EB even with 12% benchmark.			
<p>Yes, document "method and parameters for economic assess ment of construction project" (ver 3) was available for analysis and site audit.</p> <p><b><u>Corrective Action Request No.7.</u></b></p> <p>4. Please add documents source for all data input in Table 4.</p> <p>5. As indicated in FSR, IRR was 7.21%, please show difference of data input in IRR (7.8%) calculation in Table 4.</p> <p>6. Please provide all evidenced documents and IRR/CER calculation in English version.</p> <p><b><u>Corrective Action Request No.8.</u></b></p> <p>Car: Sensitivity analysis should be minimum +/- 10% or even better +/-20%. If 10% applied it must explained why only 10%.</p> <p>Seeing sales revenues and O&amp;M costs it seems very probable that if 10% or 20% is applied the IRR will be bigger than 13%.</p> <p><b><u>Clarification Request No. 4.</u></b></p> <p>CR: Why are O&amp;M costs so high? The are more than 50% of total investment. They should not be more than 15%.</p>	B5.7	<p>CAR7:</p> <ol style="list-style-type: none"> <li>1. Data sources for the data in Table 4 were added in the revised PDD.</li> <li>2. There are two IRRs in the FSR, 7.21% is the project IRR after income tax and 7.8% is the equity IRR. The latter was used in the PDD, because the benchmark selected is also for equity IRR.</li> <li>3. Relevant documents provided.</li> </ol> <p>CAR8:</p> <p>Sensitivity analysis of +/-10% was applied in the revised PDD.</p> <p>CR4:</p> <p>According to the FSR, the CDQ system and its auxiliary systems will consume 58.78 GWh of power annually, which will account for about 44% of the total material and power costs. Another 35% of the material and power costs are due to the red coke burning losses. In total, the material and power cost account for about 65% of the total O&amp;M costs. Other O&amp;M costs include costs related to maintenance, payroll and welfare, etc.</p>	<p>CAR7:</p> <ol style="list-style-type: none"> <li>1. It has been added in Table 4.</li> <li>2. New IRR is 3.4%, please clarify which key parameter has been revised and what documents can be supportive evidence.</li> <li>3. Documents have been provided.</li> </ol> <p>CAR 8:</p> <p>Sensitivity analysis of +/-10% Has been applied.</p> <p>CR4:</p> <p>Please include brief list of O&amp;M cost breakdown in PDD.</p>
<b><u>Corrective Action Request No.9.</u></b>	B6.1.3	<b>CAR9:</b>	CAR9:

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<p>Page 23, paragraph 1, last sentence: “the emission factor of the proposed project is zero” was contradicted to the calculation in B.6.3.</p> <p><b><u>Corrective Action Request No.10.</u></b></p> <p>CAR: Apply formula for fcap from ACM0012 Version 3. They are the same but it must be clearly stated that for fcap V.3 is applied.</p> <p>CAR: in p.26 of PDD fcap=1. This because the coke quantity in project year will be less than in baseline years. This needs to be well supported.</p>		<p>Relevant information was updated in the revised PDD to avoid misleading. The original sentence was to mean that if the electricity consumed by the project activity is supplied by the project itself, the emission factor used for the purpose of project emission calculation should be zero, because the electricity generated by the project is carbon neutral.</p> <p><b>CAR10:</b></p> <p>It is mentioned in the revised PDD that version 3 of the methodology is applied for the calculation of fcap.</p> <p>The assumption of fcap=1 is only for the purpose of ex-ante estimation of the emission reductions. For the real calculation of the fcap during the future monitoring period, the procedure as described in Method-2 will be used.</p>	<p>It has been revised in Section B6.1.</p> <p>CAR10: It has been shown in PDD.</p>
<p>Yes. The formula is correctly presented in chapter B.6.1.</p> <p><b><u>Clarification Request No. 5.</u></b></p> <p>CR: How come and the applied EF is lower than the maximum allowed in CCPG?</p>	B6.1.7	<p>The latest EF published by the Chinese DNA is applied in the revised PDD.</p>	<p>It has been revised in Table A3-7 in Annex 3.</p>
<p><b><u>Clarification Request No. 6.</u></b></p> <ol style="list-style-type: none"> <li>1. Please show operational and management structure in charge of the monitoring task.</li> <li>2. Please clearly show meters employed in diagram.</li> <li>3. As electricity generated by project was only consumed within company and will not supply to the grid, electricity generated and consumed by the project shall be cross-checked and verifiable during subsequent verification period.</li> </ol>	B7.2.1	<ol style="list-style-type: none"> <li>1. Section B.7.2 of the PDD is revised to include to operational and management structure.</li> <li>2. A diagram which shows the location of the monitoring meters is added in the monitoring plan.</li> <li>3. Since the electricity generated by the project will not be sold to outside of the project owner, there will be no third-party evidence available for the cross-check of the electricity amount. However, the electricity generated by the project can also be calculated with the measured electricity current and voltage data at the generator, which can be used as a cross-check</li> </ol>	<ol style="list-style-type: none"> <li>1. operational and management structure was added.</li> <li>2. Diagram with meters was added.</li> <li>3. Meters for measuring electricity generated and consumed by project activity have been described in Section B7.2.</li> <li>4. It was added in B7.2.</li> </ol>

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4. What is the accuracy of the monitoring system?		for the measurement of the electricity generated with the meter. 4. It was mentioned in the monitoring plan that the accuracy for the electricity meter is 1.0.	
Yes, starting date is 01/09/2006, and operational lifetime is expected 20 years. <b><u>Corrective Action Request No.11.</u></b> CAR: The feasibility study date is not good enough to justify starting date of the project.	C1.1	The date when the construction contract was signed is used as the starting date of the project in the revised pdd.	It has been revised in PDD.


**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
-	-	-


Validation of the CDM Project:  
The Waste Heat Recovery Based Coke Dry Quenching Power Generation Project  
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## **Annex 2: Information Reference List**

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Reference No.	Document or Type of Information
1.	Project Design Document for CDM project "Waste Heat Recovery Based Coke Dry Quenching Power Generation Project at Xingang", version 1.0 Project Design Document for CDM project "Waste Heat Recovery Based Coke Dry Quenching Power Generation Project at Xingang", version 6.0 from 19 <sup>th</sup> February 2009
2.	Consolidated baseline methodology for GHG emission reductions for waste gas or waste heat or waste pressure based energy system, version 2.0
3.	Tool for the demonstration and assessment of additionality, version 05.2
4.	Tool to Calculate the Emission Factor for an Electricity System, version 01
5.	<p>On-site interviews at the project site conducted on April 28, 2008 by auditing team of TÜV SÜD. Validation team: Mr. Sun Baoqi                      CDM Auditor, TÜV SÜD China, Wuxi Branch</p> <p>Interviewed persons: Mr. Li Pin                              Xinyu Iron &amp; Steel Co., Ltd Mr. Fu Zhenggen                      Xinyu Iron &amp; Steel Co., Ltd Ms. Yang Huifang                      Xinyu Iron &amp; Steel Co., Ltd Ms. Liu Ping                              Xinyu Environment Protection Bureau Mr. Hu Weichu                      Xinyu Economy &amp; Trading Commission Mr. Fei Yuwen                      Xinyu Economy &amp; Trading Commission Mr. Wang Donglei                      Beijing Changjia Investment Co., Ltd. Ms. Mao Lian                      Beijing Changjia Investment Co., Ltd.</p>
6.	Feasibility Study Report for coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, issued by Beijing Capital Iron & Steel Design Institute, dated in September, 2006.
7.	Approval of FSR for coke dry quenching project for 1#~ 4 #coke furnaces in Xinyu Iron & Steel Co., Ltd, numbered Gan Jing Mao Tou Zi Bei [2006] 180, issued by Jiangxi Province Economy & Trading Commission, dated on October 26, 2006.
8.	Environment Impact Assessment for coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, issued by Xinyu City

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Reference No.	Document or Type of Information
	Environment Protection Engineering Design Institute, dated September, 2006
9.	Approval of EIA coke dry quenching project for 1#~4# coke furnace in Xinyu Iron & Steel Co., Ltd, numbered Gan Huan Du Zi [2006] 171, issued by Jiangxi Province Environment Protection Bureau, dated Oct. 26, 2006
10.	Notice for project implementation entity change, numbered Gan Jing Mao Tou Zi Bei Bian [2008] 1, issued by Jiangxi Province Economy & Trading Commission, dated on Feb 20, 2008.
11.	Notice for project implementation entity change relate to environment protection, issued by Jiangxi Province Environment Protection Bureau, dated March 7, 2008
12.	Minutes of General Managers Meeting, issued by Office of General Managers in Xinyu Iron & Steel Co., Ltd, dated June 28, 2006
13.	Scheme of project activity, issued by Xinyu Iron & Steel Co., Ltd, dated Nov. 2006
14.	Minutes of stakeholder meeting, dated July 15, 2007, recorded by Development & Plan Dept., Xinyu Iron & Steel Co., Ltd.
15.	Questionnaire from participates of stakeholder meeting, 30 pieces, dated July 15, 2007
16.	Loan Commitment Letter, issued by China Construction Bank Jiangxi Branch, numbered Yi Cheng Bian Hao (2006) 7, dated Oct. 25, 2006
17.	Purchasing Contract of coke dry quenching equipment 90MT/h, 2 sets, issued by Xinyu Iron & Steel Co., Ltd and Nippon Steel Engineering Co., Ltd, dated Oct 19, 2007.
18.	Saving Account Certificate, issued by China Construction Bank Xinyu Branch, numbered 2006-008, dated Oct. 26, 2006
19.	Business License of Xinyu Iron & Steel Co., Ltd, re-issued by Jiangxi Industry and Commercial Administration Bureau, dated Jan.18, 2008
20.	CDM Project Commission Contract by Xinyu Iron & Steel Co., Ltd and Beijing Changjia Investment Co., Ltd, dated Dec. 8, 2006
21.	CDQ project development status in China, dated Oct 16, 2007, from <a href="http://www.in-en.com/coal/html/coal-0935093515129758.html">http://www.in-en.com/coal/html/coal-0935093515129758.html</a>
22.	General contract of CDQ project, signed by Xinyu Iron & Steel Co., Ltd and Beijing Shougang Design Institute, dated June 25, 2007
23.	Contract of electricity purchase and sale, signed by Jiangxi Ganxi Power Supply Company and Xinyu Iron & Steel Co., Ltd, dated Mar 20, 2007
24.	Methods and Parameters for Economic Assessment of Construction Project (version 3), published by China's National Development and Reform Commission and Construction Ministry, December 2006,
25.	Planned CDQ project in Pingxiang City, Jiangxi province, dated Jan.13, 2009, from

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Reference No.	Document or Type of Information
	<a href="http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3283">http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=3283</a>
26.	Act of Enterprise Income Tax in P.R.C, dated Mar.16, 2007, from <a href="http://www.gov.cn/flfg/2007-03/19/content_554243.htm">http://www.gov.cn/flfg/2007-03/19/content_554243.htm</a> .
27.	Notice on Strictly Prohibiting the Installation of Fossil Fuel-fired Generators with the Capacity of 135 MW or below
28.	LoA from China National Development and Reform Commission, dated Jan. 2008
29.	LoA from UK from Department of Energy and Climate Change
30.	MoC for Xingang Xinyu WHR based CDQ project
31.	IRR calculation
32.	Emissions reduction calculation
33.	Coke production evidence
34.	Coke Wet Quenching equipment: lifetime evidence
35.	Evidence of the emitted heat per unit of product