



Industrie Service

Choose certainty.
Add value.

Validation Report

**Pingxiang Iron and Steel Group Co., Ltd. (KOE Environmental
Consultancy, Inc (Japan))**

**VALIDATION OF THE CDM-PROJECT:
JIANGXI PINGGANG GROUP 20MW WASTE
GAS AND SURPLUS STEAM BASED CAPTIVE
POWER PLANT**

REPORT NO. 1196371

28 August 2009

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

Report No.	Date of first issue	Revision No.	Date of this revision	Certificate No.
1196371	26-01-2009	04	28-08-2009	-

Subject: Validation of a CDM Project	
Accredited TÜV SÜD Unit: TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 80686 Munich Germany	TÜV SÜD Contract Partner: Jiangsu TÜV Product Service Ltd., Shenzhen Branch 28/F, Anlian Building No. 4018 Jintian Road 518026 Shenzhen China
Project Participant: Pingxiang Iron and Steel Group Co., Ltd Office Building of Pingxiang Iron and Steel Co.Ltd Pingxiang City, Jiangxi Province 337019, P.R.China	Project Site(s): Anyuan district, Pingxiang City, Jiangxi Province, P.R. China. The geographic co-ordinates are 113°54 ' 22" E and 27°39' 04" " N.
Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam Based Captive Power Plant	
Applied Methodology / Version: ACM0012 / Version 02	Scope(s): 1,4
First PDD Version: Date of issuance: 2007-04-11 Version No.: 01 Starting Date of GSP 2007-05-24	Final PDD version: Date of issuance: 05-04-2009 Version No.: 05.2
Estimated Annual Emission Reduction:	103,368 tCO ₂ e
Assessment Team Leader: Dr. Sven Kolmetz	Further Assessment Team Members: Mr. Kai Zhou (Carl) Mr. Minglong Huang (Charles) Ms. Paula Auer
Summary of the Validation Opinion: <ul style="list-style-type: none"> <input 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. <input checked="" type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have not provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CDM Executive Board and will inform the project participants and the CDM Executive Board on this decision. 	

Abbreviations

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

Table of Contents	Page
1 INTRODUCTION	6
1.1 Objective	6
1.2 Scope	6
2 METHODOLOGY	7
2.1 Appointment of the Assessment Team	8
2.2 Review of Documents	9
2.3 Follow-up Interviews.....	9
2.4 Further cross-check.....	10
2.5 Resolution of Clarification and Corrective Action Requests	10
2.6 Internal Quality Control.....	10
3 SUMMARY	11
3.1 Approval	11
3.2 Participation.....	11
3.3 Project design document.....	12
3.4 Project description	12
3.5 Baseline and monitoring methodology	13
3.5.1 Applicability of the selected methodology	13
3.5.2 Project boundary.....	13
3.5.3 Baseline identification	14
3.5.4 Algorithm and/or formulae used to determine emission reductions	15
3.5.5 Project emissions.....	17
3.5.6 Leakage	17
3.5.7 Emission Reductions	17
3.6 Additionality	17
3.6.1 Prior consideration of the clean development mechanism	18
3.6.2 Identifications of alternatives	19
3.6.3 Investment analysis	19
3.6.4 Barrier analysis	20
3.6.5 Common practice analysis.....	21
3.7 Monitoring plan	22
3.8 Sustainable development	22
3.9 Local stakeholder consultation	22
3.10 Environmental impacts	23

4	COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS	24
5	VALIDATION OPINION	25

Annex 1: Validation Protocol

Annex 2: Information Reference List

1 INTRODUCTION

1.1 Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set for the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM 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:
Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam Based Captive Power Plant

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.

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

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	☑	☑	☑
Mr. Kai Zhou (Carl)	GHG-A	☑	☑	☑
Mr. Minglong Huang (Charles)	GHG-A	☑	☑	

Ms. Paula Auer	T	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
----------------	---	-------------------------------------	-------------------------------------	--

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.

Mr. Kai (Carl) Zhou is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. He is based in Shenzhen. 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. Appointment certificates of the mentioned team members are attached as annex 3 of this report.

Ms. Paula Auer is an environmental engineer and auditor for green house gas emissions at the department “TÜV Carbon Management Service” located in the head office of TÜV Süd Deutschland in Munich. She has received training in the CDM validation process and participated already in several CDM project assessments.

Minglong (Charles) Huang is a lead auditor for both quality management system (ISO9001) and environmental management systems (ISO 14001) in TÜV SÜD China. He is based in Shenzhen. After receiving GHG auditor training course in Germany, he has already involved in several CDM validation and cases.

2.2 Review of Documents

A first version of the PDD was submitted to the DOE in April 2007. 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 June 19, 2007 TÜV SÜD performed interviews, telephone conferences 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
Ms. Zhu Xia	Pingxiang Iron and Steel Group Co., Ltd
Mr. Wen Jinfa	Pingxiang Iron and Steel Group Co., Ltd
Mr. Xie Lanxiang	Pingxiang Iron and Steel Group Co., Ltd
Mr. Yang Rulin	Pingxiang Iron and Steel Group Co., Ltd
Mr. Liao Defeng	Pingxiang Iron and Steel Group Co., Ltd
Mr. Zou Yonghong	Pingxiang Iron and Steel Group Co., Ltd

Mr. Gong Gang	Pingxiang Iron and Steel Group Co., Ltd
Mr. Yuan Hongquan	Pingxiang Iron and Steel Group Co., Ltd
Ms. Lin Jinhua	Pingxiang Iron and Steel Group Co., Ltd
Mr. Cao Yuan	KOE Environmental Consultancy, Inc.

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.

During the process of answering the Request for Review that was raised by the members of the EB, new evidences were delivered by the project participant. The evidences related to request No. 4 and requests related to the subject raised in request No. 4 caused a review of the validation opinion stated in the version 03 of this validation report (see chapter 3.5.3 for more information).

3.1 Approval

The project participants are Pingxiang Iron and Steel Group Co., Ltd. of People's Republic of China and The Tokyo Electric Power Company, Incorporated of Japan. The host Party China and further participant Parties Japan meet the requirements to participate in the CDM.

The DNA of Japan has issued a LoA (IRL 23) on 7 November 2007 authorizing Tokyo Electric Power Company as a project participant. The DNA of China has also issued a LoA (IRL 22) on October 2007 authorizing Pingxiang Iron and Steel Group 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 "Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam Based Captive Power Plant".

Both letters also indicate that each participating Party is a Party to the Kyoto Protocol, and that the participation in the Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam Based Captive Power Plant 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 The Liaison Committee for the Utilization of the Kyoto Mechanisms, Ministry of Foreign Affairs, respectively. Climate Change Division, International Cooperation Bureau.

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 project activity includes the installation of a 20MW Waste Gas and Surplus Steam based Captive Power Plant.

The project activity is installed in Pingxiang Iron and Steel Group Co., Ltd in Jiangxi Province of China. The power generated from the project activity will be supplied to the cement plant itself, thereby partly replacing the power formerly supplied from the Central China Power Grid (CCPG).

The project activity consists of two parts.

- (1) Waste gas from the existing Blast Furnaces (1#, 2#, 3#) and Converters (1#, 2#) will be transferred to a boiler which will transfer the generated steam to a 15 MW generator.
- (2) Surplus Steam from the converters will be transferred to a 5MW generator.

The annual electricity generation will be 120 000 MWh considering an installed power output of 20MW. The net electricity supplied to the industrial facility is expected to be 108 000 MWh considering a 10% auxiliary electricity consumption for the operation of the project activity.

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)
- 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 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 per the methodology, the project boundary shall include:

- The industrial facility where waste gas and heat is generated, in case of this project activity the blast furnace and converter system which generate waste gases/heat
- The facility where process heat in element electricity is used. In case of this project activity the power plant equipments (turbines, generators).
- The facility where the process heat in element electricity is used. In case of this project activity the Pinggang iron and steel plant. Because the power plant is connected to the Central China Power Grid all Power Plants connected to the grid are included into the project boundary.

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

Purchasing Contract of main devices (IRL 6)

Electricity Supply contract within Pingxiang Iron and Steel Group Co., Ltd. (IRL 9)

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:

<u>Baseline options</u>		Description of situation
Waste gas	Power	
W2	P6	Waste gases/heat is kept flared/released to atmosphere without energy utilization and the equivalent power is obtained from CCPG

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:

- Notice on Strictly Prohibiting the Installation of Fuel-fired Generators with the Capacity of 135 MW or Below issued by the General Office of the State Council, decree no. 2002-6 (IRL 17)
- Xian liqing, Discussion on Utilization of Low- pressure Afterheat Steam[J] ,Metallurgical Power .2005, 5(111) :86~87 (IRL 19)

As requested in request No. 3 of the Request for Review form the members of EB:

3. The DOE shall further substantiate elimination of alternative; waste gas/heat is sold as an energy source as waste gas is sold in the pre-project scenario.

The PP was not able to substantiate the request No. 3 and the other requests that refer to this request, especially request No. 4, 5 and 9. Hereby some reasons for this DOE opinion are presented:

- In the PP response to request No. 3 it is stated that it is not *likely* to sell “wasted BFG” to on-site users, referring to evidence IL23. The evidence does not give sufficient information that this scenario is not reasonable and therefore, can be excluded.
- Furthermore, in the PP response letter it is stated that waste BFG can not be sold to any other off-site users anymore. It is not clear for the DOE why the properties of the BFG inhibit the utilization by external users, although it has been used in the baseline by on-site users.

In lack of credible evidence, it is still not clear for the DOE why the baseline alternative of BFG sold to internal or external users (W3 of the methodology) can be excluded because it is not reasonable.

In sum, the baseline identification in the PDD is deemed to be not plausible and not credible.

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 baseline emissions for the year y shall be determined as follows:

$$BE_y = BE_{En,y} + BE_{flst,y}$$

BE_y are total baseline emissions during the year y in tons of CO₂

$BE_{En,y}$ are baseline emissions from energy generated by project activity during the year y in tons of CO₂

$BE_{flst,y}$ Baseline emissions from generation of steam, if any, using fossil fuel, that would have been used for flaring the waste gas in absence of the project activity (tCO₂e per year).

As there are no fossil fuels used for flaring:

$$BE_{flst,y} = 0$$

Scenario 1 has correctly been identified for the Baseline Emissions. Hence the following calculation is applicable:

$$BE_{En,y} = BE_{Elec,y} + BE_{Ther,y}$$

$BE_{Elec,y}$ are baseline emissions from electricity during the year y in tons of CO₂

$BE_{Ther,y}$ are baseline emissions from thermal energy (due to heat generation by element

process) during the year y in tons of CO₂.

The project does not involve emissions form thermal energy.

$$BE_{Ther,y} = 0$$

$$BE_{Elec,y} = \sum_{i=1,2} f_{cap,i} * f_{wg,i} * (EG_{P,i,y} * EF_{Elec,gr,y})$$

$EG_{P,i,y}$ is the quantity of electricity supplied to the recipient by the project activity, which in Net quantity of electricity supplied to the recipient by the unit i which in the absence of the project activity would have been sourced from the Central China Power Grid during the year y in MWh.

$EF_{Elec,gr,y}$ is the CO₂ emission factor for the Central China Power Grid, displaced due to the project activity, during the year y in tons CO₂/MWh

$f_{wg,i}$ Fraction of total electricity generated by the project activity using waste gas and waste heat. According to manufacturer's data no auxiliary fuels can be used in the boilers. Hence $f_{wg,i} = 1$

$f_{cap,i}$ Energy that would have been produced in proposed project year y using waste gas and surplus heat generated in base year expressed as a fraction of total energy produced using waste gas in year y. The ratio is 1 if the waste gas/heat/pressure generated in project year y is same or less then that generated in base year.

Fcap is calculated by using **Method-1** in ACM0012 (ver02) to calculate the capping value for was gases utilization, and **Method-2** in ACM0012 (ver03) is selected to calculate the capping value for surplus steam utilization.

According to the methodology the baseline emissions shall be capped on the basis of the data available 3 years before the project activity.

To confirm the viability of the calculation, the audit team has checked the following documents:

- Pingxiang Iron and Steel Co. Ltd. Table of balance for blast and low gas furnace, low pressure steam (2004-2006) (IRL 28)
- Production statistic of metallurgical industry, Pingxiang Iron and Steel Co. Ltd. (2004- 2006) (IRL 48)

Based on this data the audit team can confirm that the parameter have been calculated correctly.

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.

Data for the years 2003, 2004 and 2005, which is the latest data available at the time of submission of the PDD for validation have been used for the estimation of are used for operating margin calculation.

$EF_{OM,y}$, of the Central China Power Grid is 1.27784 tCO₂e/MWh;

$EF_{BM,y}$, of the Central China Power Grid is calculated as 0.63642 tCO₂e/MWh;

The value for the combined margin emission factor (EFCM) of 0.95713 tCO₂e/MWh 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 Waste Heat Projects). As per the methodology, the project does not need to consider leakage or project emissions. As a result, the annual emission reductions equal the annual baseline emissions.

3.5.5 Project emissions

Project Emissions include emissions due to combustion of auxiliary fuel to supplement waste gas and electricity emissions due to consumption of electricity for cleaning of gas before being used for generation of heat/energy/electricity.

$$PE_y = PE_{AF,y} + PE_{EL,y}$$

PE_y	Project emissions due to project activity.
$PE_{AF,y}$	Project activity emissions from on-site consumption of fossil fuels by the co-generation plant(s), in case they are used as supplementary fuels, due to non-availability of waste energy to the project activity or due to any other reason.
$PE_{EL,y}$	Project activity emissions from on-site consumption of electricity for gas cleaning equipment or other supplementary electricity consumption (as per Table 1: Summary of gases and sources included in the project boundary)

In the project activity, bottled LPG (Liquefied Petroleum Gas) will be used for igniting during the start-up generation or in emergencies.

In the Baseline Scenario the same amount of electricity was consumed for gas cleaning, hence project emissions due to electricity consumption for gas clean will be ignored.

Following the explanation above the project emissions will be calculated as follows:

$$PE_y = PE_{AF,y} = FF_{LPG,y} * NCV_{LPG} * EF_{CO2,LPG}$$

3.5.6 Leakage

As per the methodology, the project does not need to consider project.

3.5.7 Emission Reductions

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

3.6 Additionality

The additionality of the project has been presented in the PDD by applying the first, third and fourth step as indicated in the "Tool for the demonstration and assessment of additionality" (Version 5).

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

- Project Design Document of “Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant “, version 02 (IRL 2)

On site the additionality has been discussed principally with: Mr. Wen Jinfa. 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:

- The Feasibility Study Report of Pingxiang Iron & Steel Co., Ltd. (IRL 11)
- The Approval of the Feasibility Study Report (IRL 12)
- Gas Balances, Iron and Steel production records from 2004~2006 (IRL 28)

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 day when construction of the project started (25/12/2006). In order to confirm the same the assessment team has reviewed the following documents:

- Supervision report (IRL 40)

, additionally the assessment team cross checked this information with

- Contract of purchasing devices (IRL 7)

The starting date of the project activity is determined to be 25/12/2006 which is before 02 August 2008 and also before the GSP.

The original of the documentation presented has been reviewed and cross checked based on interviews with Ms. Zhu Xia, 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:

Time	Activity	Document	Auditor conclusion
12/2005	Board Meeting	Report on 16 th employee representative congress (IRL 39)	Beard Members decide to implement the project under CDM
06/2006	CDM consultant Agreement signed	Consultant agreement with KOE signed	Real action to implement the project under CDM has been taken
12/2006	Construction started	Supervision Report (40)	The construction of the project started
12/2006	Purchase agreement between was issued	Contract of purchasing devices, No. 02-0607-0005-EPC-10B-12-4387 with Zhongye Jingcheng engineering technical Co. Ltd and Beijing Jingcheng	Equipment for project activity was purchased

		Keling Environmental protection Science Co. Ltd.	
05/2007	GSP start		
10/2007	Chinese LoA approval	Letter of approval from Chinese DNA No. 657	Project gets approved by the Chinese government
11/2007	Japanese LoA approval	Letter of approval from Japa- nese DNA	Projects gets approved by the Japanese government
05/2008	GSP re-start under ACM0012 vers. 02		
08/2008	Clarification Request re- garding ACM0012	Request for clarification regard- ing the claim of measuring $Q_{wg,y}$ (Quantity of waste gas used for energy generation dur- ing year y) for waste heat pro- jects AM_CLA_0101	

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 ($EG_{P,i,y}$, Net quantity of electricity supplied to the manufactur-
ing facility by the unit i during the year y) which will be used within the iron and steel facility.

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

3.6.3 Investment analysis

After completing Sub Step 1 (Identification of alternatives to the project activity consistent with cur-
rent laws and regulations) of the additionality tool the project participant may proceed to Step 2 (In-
vestment analysis) or Step 3 (Barrier analysis), or the participant may select to complete both Steps
2 and 3.

At the beginning of the validation process the project participant opted for the third possibility, com-
plete both steps.

During the validation process it was found out that the investment analysis is not applicable for the
project activity.

Unreasonable high Operational Costs, which are connected to a price assumed for the waste en-
ergy made the analysis not feasible.

For that reason the project participant skipped the investment analysis and opted for possibility 2,
demonstrating the additionality via the barrier analysis only.

3.6.4 Barrier analysis

The project participants have used the barrier analysis in order to demonstrate the additionality of the project. The presented barriers are:

- Investment barrier
- Technological barrier
- Barrier due to lack of experience of operational and maintenance

The assessment team checked first if any barrier has a clear impact on the financial returns which can be expressed with reasonable certainty in monetary terms. The final PDD does include only barriers without such impact on the financial returns.

The Investment barrier has been assessed against official documents such as

- Rejection Letter of Loan application from Industry and Commercial Bank of China (ICBC, IRL 35)
- Conditional Intent to issue loan only if project overcomes barriers (IRL 36), stating that loan will be provided if the project will be registered under the CDM scheme.
- Report: Financing Energy Efficiency in China (IRL 46)
- Report on the Actual Situation of Non-Public Iron and Steel Enterprises in China, 2004. (IRL 47)

The result of this assessment shows clearly that the barrier presented in the PDD can be considered real.

This barrier does prevent the project activity and would not prevent at least the baseline of the project. This can be confirmed based on the documentation review, interviews and local and sectoral expertise of the assessment team.

The loan application for the project was rejected by the Industry and Commercial Bank of China (ICBC) due to low returns expected project's economic analysis. When informing the bank about the possibility of CDM revenues, the bank issued a letter of intent. TÜV SÜD was able to confirm the loan refusal letter issued by ICBC, where the bank clearly stated that the loan will not be approved owing to the bad return and that the loan would be re-considered on successful registration of CDM for the project activity.

The Technological barrier has been assessed against official documents such as

- Discussion on Utilization of Low- pressure Afterheat Steam[J] (IRL 45)
- Discussion on plan of waste heat steam utilization in steelmaking process[J] (IRL 44)

The result of this assessment clearly shows that the barrier presented in the PDD can be considered real.

This barrier would prevent the project activity but would not prevent the baseline of the project. This is confirmed through the documentation review, interviews, and the local and sectoral expertise of the assessment team.

The proposed project activity is an early local example to recover waste gas and steam from steel production for power generation. The technological barriers associated with the project, as stated in the points below, were verified against the publicly available data. It is stated that there are many new challenges and technological risk for waste gas and steam recovery from steel manufacture in this project

The project proponent's main business is manufacturing of steel, and they do not have the qualified staffs with experience in power generation, even more so based on waste gas. Owing to the lack of experience in this field in addition to above stated perceived problems, the operation and maintenance of WHR power plant, may lead to equipment damage or malfunction.

If the project activity is successfully registered as CDM project, CDM revenues provide an avenue for supporting technology innovation and improvement as well as staff training.

The Barrier due to lack of experience of operational and maintenance has been assessed against

- Illustration of Jiangxi Federation of industry and commerce (IRL 43) evidencing that no other private steel company in Jiangxi Province operates a similar project.

The result of this assessment clearly shows that the barrier presented in the PDD can be considered real.

This barrier would prevent the project activity but would not prevent the baseline of the project. This is confirmed through the documentation review, interviews, and the local and sectoral expertise of the assessment team.

According to the data collected by the federation of industry and commerce, there are 52 non-public steel enterprises registered in Jiangxi Province by the end of 2006.

Among these, Pingxiang Iron and Steel Co, .Ltd in Pingxiang City is the largest one in production scale. There are no similar projects which utilize waste gas or waste heat or waste pressure for power generation in operated or under construction.

Hence it has been proven that in the time of the investment decision the proposed project has been the first-of-its-kind in Jiangxi province.

TÜV SÜD considers the province as an appropriate comparison as it includes about 2% of the total steel production in China.

Taken into account the description of the validation of the barriers presented above, the assessment team can confirm with reasonable certainty that the barriers and credible and correctly presented to demonstrate the additionality of the project.

3.6.5 Common practice analysis

The region for the common practice analysis has been defined as Jiangxi Province: The project activity's technology can be found in different country regions, where different situations can appear. Hence the region has been defined taken into account the kind of technology and the industry type. The assessment team has reviewed the approach presented in the PDD and can confirm that the relevant parameters as location, infrastructure, economical situation and development has been taken into account in order to define the region to be use for the common practice. Material factors e.g. power price, ironstone, are sensitive with provincial differences. Hence the presented region can be considered appropriate for the common practice analysis.

The assessment team has reviewed official sources as

- Jiangxi Metallurgical Group Corporation (JMGC) business scope (IRL 49) stating that JMGC owns all state owned Steel companies in Jiangxi Province
- Illustration of Jiangxi Federation of industry and commerce (IRL 43) evidencing that no other private steel company in Jiangxi Province operates a similar project.

This information confirms that the list of similar projects presented in the PDD is complete. Additionally the team made a further cross check of the information based on the interviews.

All the similar projects that are not a CDM project have been checked firstly by a review of all documentation available (See annex 2), furthermore the essential distinctions between these projects and the CDM project under validation have been confirmed using

- Analysis of Iron and Steel Enterprises Energy saving ways for Jiangxi Metallurgical Group Corporation (IRL 50), evidencing that the two projects named in the PDD are owned by Jiangxi Metallurgical Group Corporation, which is a state owned company. State owned enterprises have a different investment environment and are operated under different conditions. Hence these two projects have different investment conditions and can be excluded in the common practice analysis.

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 reviewed 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 steam transported to the Steam Turbine is measured via a flow meter.

The net electricity generation from the proposed project activity is the difference between the total electricity generated from the project and the auxiliary electricity; both are proposed to be measured continuously. An independent organization qualified for calibration of measurement equipment will be responsible for the regular calibration of the monitoring meters.

Fcap is calculated according to method 2 of version 3 of the methodology.

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 to comment on the projects via questionnaires. The assessment team has reviewed the documentation in order to validate the inclusion of relevant stakeholders and using the local expertise can confirm 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 undertake an environmental impact assessment. The assessment team made a document review of the information presented. The IRL 13 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:

webpage: http://www.netinform.de/KE/Wegweiser/Guide2_1.aspx?ID=4880&Ebene1_ID=26&Ebene2_ID=1499&mode=1	
Starting date of the global stakeholder consultation process: 2008-05-08	
Comment submitted by: None	Issues raised: -
Response by TÜV SÜD: -	

5 VALIDATION OPINION

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

Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam Based Captive Power Plant

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.

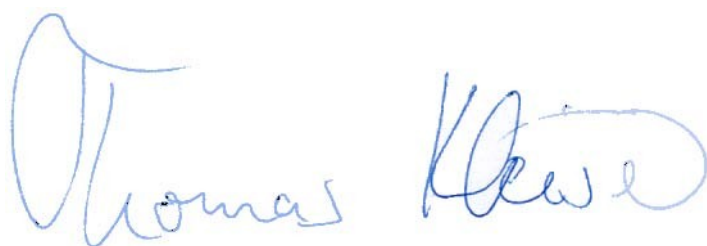
The review of the project design documentation, the subsequent follow-up interviews and the further cross check of references have provided TÜV SÜD with sufficient evidence to determine or not the fulfilment of stated criteria in the protocol. In our opinion, the project does not meet all relevant UNFCCC requirements for the CDM regarding baseline identification due to not plausible and not credible information in the PDD. The documentation submitted by the PP during the request for request was not sufficient to back the information in the PDD. Hence TÜV SÜD will **not** 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, 28-08-2009

Munich, 28-08-2009



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



Assessment Team Leader

Annex 1: Validation Protocol

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A. General description of project activity				
A.1. Title of the project activity				
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1 • 2	Yes. The project title is defined with the name of the project owner, the project type, the energy sources and the installation capacity, and the energy sources. So it can be clearly identified.	p	p
A.1.2. Are there any indication concerning the revision number and the date of the revision?	1 • 2	Yes. The revision number of the PDD is version 04. It is completed on March 13 th 2008.	p	p
A.1.3. Is this consistent with the time line of the project's history?	1 • 2	Yes. It is.	p	p
A.2. Description of the project activity				
A.2.1. Is the description delivering a transparent overview of the project activities?	1 • 2 6, 7 12	Yes. It is. The type of the project, energy sources, installation capacity, and the quantity of the waste gas are described in PDD.	p	p
A.2.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	1 • 2 6, 7 12	The required documents have been delivered to the DOE during the on-site audit and they are listed in Annex 2 of these documents. E.g: The Feasibility Study Report and It's approval The EIA and the EIA approval letter by local environmental protection bureau. The Contract of purchasing devices The contract of supplying power with Pingxiang Power Supply Co. Ltd. These document had been evidenced during site audit.	p	p
A.2.3. Is the information provided by these proofs consistent with the information provided by the	1 • 2	Yes. It is. <u>Corrective Action Request No.1.</u>	CAR1	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
PDD?	6, 7 12	--To be consistent with latest PDD guidelines, please include: --The project scenario, including a summary of the scope of activities/measures that are being implemented within the proposed project activity; --The baseline scenario, as identified in section "B.4 Description of how the baseline scenario is identified and description of the identified baseline scenario".		
A.2.4. Is all information presented consistent with details provided by further chapters of the PDD?	1 • 2 6, 7 12	See CAR 1	CAR1	
A.3. Project participants				
A.3.1. Is the form required for the indication of the project participants correctly applied?	1 • 2	Yes. The form is correctly applied. Pingxiang Iron and Steel Group Co., Ltd. Is considered as project participant.(project owner). The other party involved (buyer party) and the corresponding entity(ies) project participants will be decided before the proposal project being requested registration. <u>Corrective Action Request No.2.</u> The project owner named Pingxiang Iron and Steel Group Co., Ltd. It should be kept the same in the PDD.	CAR2	
A.3.2. Is the participation of the listed entities or Parties confirmed by each one of them?	1 • 2	Yes, it is.	p	p
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.	p	p
A.4. Technical description of the project activity				
<i>A.4.1. Location of the project activity</i>				

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)?	1• 2 7, 12	<u>Corrective Action Request No.3.</u> Please describe the real location of the project site by using the longitude and latitude. Only the city's longitude and latitude are stated in the PDD	CAR3	
A.4.1.2. How is it ensured and/or demonstrated, that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	1• 2 7, 12	The project registration record and the approval of EIA can demonstrate that the project proponent can implement the project at this site. These documents have been listed in the Annex 2.	p	p
A.4.2. Category(ies) of project activity				
A.4.2.1. To which category(ies) does the project activity belonging to? Is the category correctly identified and indicated?	1,2	This category would fall within sectoral scope 1: energy industries and 4: manufacturing industry It is correctly identified and indicated in PDD.	p	p
A.4.3. Technology to be employed by the project activity				
A.4.3.1. Does the technical design of the project activity reflect current good practices?	1,2	The first choice for BFG and LDG is to directly flare them in case of gas surplus at present in China practice. And for the 5 MW low pressure steam turbine unit it is the first-of-a-kind in steel sector of Jiangxi Province. So the technical design of the project activity reflects current good practices in China.	p	p
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	Yes. The project activity can partly displace the electricity purchased from the CCPG by Pinggang group, which generated through fossil fuel-fired, with the electricity generated through utilizing the waste pressure, and waste combustible gas. So it is no doubt it can generate emission reduction through implementing the project.	p	p
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	There is no technology transfer from annex-1-countries to China by the proposal project.	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
A.4.3.4. Is the technology implemented by the project activity environmentally safe?	1,2	Yes. The main air pollution generated by the project is fume from gas-fuelled boiler, which is required to be out of the 50 meter chamber. The main water pollution is cooling water from the equipment, such as fans and generator, which is required to recycle. According to the results of the approval of EIA the technology implemented by the project activity is environmentally safe.	p	p
A.4.3.5. Is the information provided in compliance with actual situation or planning?	1,2	Yes. The project is constructing now. The information provided in the PDD is in compliance with planning situation.	p	p
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	The common practice for electricity generation in the host country is still coal-fired power plants. Hence the project definitely would result in a better performance than the common practice in the host country.	p	p
A.4.3.7. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1,2	Because this is a new project. All equipments will be newly installed. And the life time of operation will probably exceed the crediting period. The probability that the technology will be replaced is considered very low.	p	p
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	Because the applied technology by the project is applied very little in the host country. No experienced operating staffs are available for the project owner. The operators must be extensively trained before getting the operation qualification.	p	p
A.4.3.9. Is information available on the demand and requirements for training and maintenance?	1,2	Yes. During on-site, the project owner could be aware of the importance of the training for the staffs. As the project is not finished yet. They want to define the training demand and the training plan and implement the training before commissioning of the project.	p	p
A.4.3.10. Is a schedule available for the implementation of the project and are there any risks for delays?	1,2	During onsite, the project owner proved a clear implementation schedule to the audit team. The risks for delays is considered very low by the project owner.	CAR4	

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		<p><u>Corrective Action Request No.4.</u></p> <p>To be in line with the latest PDD guidelines, please include the following information:</p> <ul style="list-style-type: none"> I The scenario existing prior to the start of the implementation of the project activity, with a list of the equipment(s) and systems in operation at that time I A list and the arrangement of the main manufacturing/production technologies, systems and equipments involved. Include in the description information about the age and average lifetime of the equipments based on manufacturer's specifications and industry standards, and existing and forecast installed capacities, load factors and efficiencies. The monitoring equipments and their location in the systems is of particular interest; I The emissions sources and the greenhouse gases involved in the project activity, according to the methodology used; and existing and forecast energy and mass flows and balances of the systems and equipments included in the project activity; I The types and levels of services (normally in terms of mass or energy flows) provided by the systems and equipments that are being modified and/or installed under the project activity and their relation, if any, to other manufacturing/production equipments and systems outside the project boundary. The types and levels of services provided by those manufacturing/production systems and equipments outside the project boundary may also constitute important parameters of the description. The description should clearly explain how the 		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		same types and levels of services provided by the project activity would have been provided in the baseline scenario.		
A.4.4. Estimated amount of emission reductions over the chosen crediting period				
A.4.4.1. Is the form required for the indication of projected emission reductions correctly applied?	1 • 2	Yes. The form is correctly applied according to the version 03 of the PDD template.	p	p
A.4.4.2. Are the figures provided consistent with other data presented in the PDD?	1 • 2	Yes. It is consistent.	p	p
A.4.5. Public funding of the project activity				
A.4.5.1. Is the information provided on public funding provided in compliance with the actual situation or planning as available by the project participants?	1 • 2	Yes. There is no public funding from Annex I Parties for this project according to the statement of the project owner.	p	p
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	Yes. It is consistent.	p	p
B. Application of a baseline and monitoring methodology				
B.1. Title and reference of the approved baseline and monitoring methodology				
B.1.1 Are reference number, version number, and title of the baseline and monitoring methodology clearly indicated?	1 • 2	Yes. All these information are clearly and correctly indicated. i.e. ACM0012 (version 02) – “Consolidated baseline methodology for GHG emission reductions for waste gas or waste heat and or waste pressure based energy system”	p	p
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	1 • 2	Yes. It is.	p	p
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	1 • 2	Yes, It does.	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD								
electricity system. 2) Tool for the demonstration and assessment of additionality.												
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	Yes, the approved methodology ACM 0012 is exactly applicable to the proposed project.	p	p								
B.2.1. 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	<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	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.2. 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	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</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?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											
B.2.3. 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	<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	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD								
B.2.4. 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 measurable.	1 • 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.5. 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	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>The electricity will be used within the steel plant.</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.6. 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	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>The electricity is generated by the owner of the industrial facility.</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.7. 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	<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	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
B.2.8. 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	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>N/A</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?	N/A	Compliance provable?	N/A	Compliance verified?	N/A	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	N/A											
Compliance provable?	N/A											
Compliance verified?	N/A											

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD								
<p>B.2.9. B.2.10. Criterion 9: Either one of the following proofs shall be given if the waste gas/pressure utilized in the project activity was flared or released into the atmosphere in absence of the project at an existing facility:</p> <p>B.2.10. 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</p> <p>B.2.11. 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</p> <p>B.2.12. energy bills to demonstrate that all the energy required for the process has been procured commercially</p> <p>B.2.13. 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</p> <p>B.2.14. 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.</p>	1• 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table> <p>Yes, according to auditor site view and the PDD:</p> <p>--the energy balance could provide transparent estimations of the energy content and amount of waste gas and heat released;</p> <p>--the electricity and fossil bills can demonstrate that all the energy required for the process has been procured commercially;</p> <p>--on site checked by DOE prior to project implementation there is no equipment for waste gas recovery and use has been installed prior to the implementation of the CDM project activity.</p>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											
<p>B.2.15. B.2.11. Criterion 10: The credits are claimed by the generator of energy using waste gas/heat/pressure in consideration of:</p> <p>B.2.16. energy exported to other facilities (recipients)</p>	1• 2	<table><tr><td>Applicability checklist</td><td>Yes / No</td></tr><tr><td>Criterion discussed in the PDD?</td><td>Yes</td></tr><tr><td>Compliance provable?</td><td>Yes</td></tr><tr><td>Compliance verified?</td><td>Yes</td></tr></table>	Applicability checklist	Yes / No	Criterion discussed in the PDD?	Yes	Compliance provable?	Yes	Compliance verified?	Yes	p	p
Applicability checklist	Yes / No											
Criterion discussed in the PDD?	Yes											
Compliance provable?	Yes											
Compliance verified?	Yes											

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD										
which shall not claim the emission reductions for using a zero-emission energy source or B.2.17. 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.		The electricity generated by the project activity is used within the Pinggang steel plant. Hence the credits are claimed by the generator of energy using waste gas and steam (Pingxiang Iron and Steel Group Co., Ltd).												
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 ₂ Type: Baseline Emissions	1 • 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>Yes</td></tr></table> Clarification request 1 : There is a “how” in the title of B.3. of PDD, it is against the PDD form.	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	CR1	
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): CO2 Type: Baseline Emissions	1 • 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>Yes</td></tr><tr><td>Inclusion / exclusion justified?</td><td>Yes</td></tr><tr><td>Explanation / Justification sufficient?</td><td>Yes</td></tr><tr><td>Consistency with monitoring plan?</td><td>n.a.</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?	n.a.	p	p
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?	n.a.													
B.3.3. Source: fossil fuel consumption in cogeneration plant Description of Source: main emission Gas(es): CO2	1 • 2	<table><tr><td>Boundary checklist</td><td>Yes / No</td></tr><tr><td>Source and gas(es) discussed in the PDD?</td><td>n.a</td></tr></table>	Boundary checklist	Yes / No	Source and gas(es) discussed in the PDD?	n.a	p	p						
Boundary checklist	Yes / No													
Source and gas(es) discussed in the PDD?	n.a													

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
Type: Baseline Emissions		Inclusion / exclusion justified?	n.a			
		Explanation / Justification sufficient?	n.a			
		Consistency with monitoring plan?	n.a.			
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	Boundary checklist	Yes / No		p	p
		Source and gas(es) discussed in the PDD?	Yes			
		Inclusion / exclusion justified?	Yes			
		Explanation / Justification sufficient?	Yes			
		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	Boundary checklist	Yes / No		p	p
		Source and gas(es) discussed in the PDD?	Yes			
		Inclusion / exclusion justified?	Yes			
		Explanation / Justification sufficient?	Yes			
		Consistency with monitoring plan?	Yes			
		The project uses LPG for start-up of the boiler.				
B.3.6. Source: supplemental electricity consumption Description of Source: main emission Gas(es): CO2 Type: Project Emissions	1 • 2	Boundary checklist	Yes / No		p	p
		Source and gas(es) discussed in the PDD?	Yes			
		Inclusion / exclusion justified?	Yes			
		Explanation / Justification sufficient?	Yes			
		Consistency with monitoring plan?	n.a.			
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	Boundary checklist	Yes / No		p	p
		Source and gas(es) discussed in the PDD?	Yes			
		Inclusion / exclusion justified?	Yes			
		Explanation / Justification sufficient?	Yes			
		Consistency with monitoring plan?	n.a.			

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD										
B.3.8. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by / indication included to the PDD?	1 • 2	<p>Yes, the site verified spatial and technological boundaries comply with the indication in the PDD.</p> <p><u>Corrective Action Request No.5.</u></p> <p>To be in line with the latest PDD guidelines:</p> <p>In addition to the table, present a flow diagram of the project boundary, physically delineating the project activity, based on the descriptions provided in section “A.4.3. Technology to be employed by the project activity”. Include in the flow diagram all the equipments, systems and flows of mass and energy described in that section. Particularly, represent in the diagram the emissions sources and gases included in the project boundary and the monitoring variables.</p>	CAR5											
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	<table><tr><td colspan="2">Baseline options and combinations which should be considered:</td></tr><tr><td>ned and discussed in PDD?</td><td>Yes / No</td></tr><tr><td>ustrial facility where waste gas/heat/pressure is generated</td><td>Yes</td></tr><tr><td>ty where the energy is produced</td><td>Yes</td></tr><tr><td>ty where the energy is consumed</td><td>Yes</td></tr></table>	Baseline options and combinations which should be considered:		ned and discussed in PDD?	Yes / No	ustrial facility where waste gas/heat/pressure is generated	Yes	ty where the energy is produced	Yes	ty where the energy is consumed	Yes	p	p
Baseline options and combinations which should be considered:														
ned and discussed in PDD?	Yes / No													
ustrial facility where waste gas/heat/pressure is generated	Yes													
ty where the energy is produced	Yes													
ty 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	Yes. The project identifies and excludes those options not in line with regulatory requirement.	p	p										
B.4.3. Have applicable regulatory or legal requirements been identified?	1 • 2	Yes, the applicable regulatory or legal requirements have been identified.	p	p										

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD															
B.4.4. Does the project participants exclude base-line options that depend on fuels (used for generating heat and/or power), that are not available at the project site?	1• 2	Yes, the PPs excluded the baseline options that depends on the fuels. <u>Corrective Action Request No.6.</u> A reference to Annex 3 is given, to provide further evidence for the gas balances. The gas balance is not included there. Please include it!	CAR6	p															
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	<div>Alternative(s) may include, inter alia:</div> <table><tr><th colspan="2">Categories</th><th>Yes / No</th></tr><tr><td>W1</td><td>Waste gas is directly vented to atmosphere without incineration;</td><td>Yes</td></tr><tr><td>W2</td><td>Waste gas is released to the atmosphere after incineration or waste heat is released to the atmosphere (waste pressure energy is not utilized);</td><td>Yes</td></tr><tr><td>W3</td><td>Waste gas/heat is sold as an energy source;</td><td>Yes</td></tr><tr><td>W4</td><td>Waste gas/heat/pressure is used for meeting energy demand.</td><td>Yes</td></tr></table>	Categories		Yes / No	W1	Waste gas is directly vented to atmosphere without incineration;	Yes	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;	Yes	W4	Waste gas/heat/pressure is used for meeting energy demand.	Yes	p	p
Categories		Yes / No																	
W1	Waste gas is directly vented to atmosphere without incineration;	Yes																	
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;	Yes																	
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	<div>Alternative(s) may include, inter alia:</div> <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></table>	Categories		Yes / No	P1	Proposed project activity not undertaken as a CDM project activity;	Yes	p	p									
Categories		Yes / No																	
P1	Proposed project activity not undertaken as a CDM project activity;	Yes																	

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
		P2	On-site or off-site existing/new fossil fuel fired cogeneration plant;	Yes		
		P3	On-site or off-site existing/new renewable energy based cogeneration plant;	Yes		
		P4	On-site or off-site existing/new fossil fuel based existing captive or identified plant;	Yes		
		P5	On-site or off-site existing/new renewable energy based existing captive or identified plant;	Yes		
		P6	Sourced Grid-connected power plants;	Yes		
		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.);	Yes		
		P8	Cogeneration from waste gas (if project activity is cogeneration with waste gas, this scenario represents cogeneration with lower efficiency than the project activity).	Yes		
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	Alternative(s) may include, inter alia:			p	p
		Categories		Yes / No		
		H1	Proposed project activity not undertaken as a CDM project activity;	N/A		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
		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		
		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	Yes, A baseline scenario matrix has been developed.			p	p
B.4.9. Has the fuel been identified and justified which were used in the baseline scenario (Step 2)?	1 • 2	Yes, the fuel had been identified and justified.			p	p
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	Yes. Version 4 of The Tool for the demonstration and assessment of additionality was used to eliminate non feasibility baseline options.			p	p
B.4.11. Is it demonstrated that the option with the lowest baseline emissions is considered as the	1 • 2	Yes, only one option W2/P6 is applicable.			p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																												
most likely baseline scenario, if more than one feasible alternative remain (Step 4)?																																
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	<div>Applicability criteria of ACM0012:</div> <table><tr><th colspan="4">Project Scenario: Cogeneration of energy</th></tr><tr><th rowspan="2">Scenario</th><th colspan="2">Baseline options</th><th rowspan="2">Yes / No</th></tr><tr><th>Waste gas</th><th>Power</th></tr><tr><td>1</td><td>W2</td><td>P4 or P6</td><td>Yes</td></tr><tr><td>2</td><td>W2</td><td>P2</td><td>Yes</td></tr></table> <div>Project Scenario: Generation of Electricity or Heat only</div> <table><tr><th rowspan="2">Scenario</th><th colspan="2">Baseline options</th><th rowspan="2">Yes / No</th></tr><tr><th>Waste gas</th><th>Power</th></tr><tr><td>1</td><td>W2</td><td>P4 or P6</td><td>Yes</td></tr></table>	Project Scenario: Cogeneration of energy				Scenario	Baseline options		Yes / No	Waste gas	Power	1	W2	P4 or P6	Yes	2	W2	P2	Yes	Scenario	Baseline options		Yes / No	Waste gas	Power	1	W2	P4 or P6	Yes	p	p
Project Scenario: Cogeneration of energy																																
Scenario	Baseline options		Yes / No																													
	Waste gas	Power																														
1	W2	P4 or P6	Yes																													
2	W2	P2	Yes																													
Scenario	Baseline options		Yes / No																													
	Waste gas	Power																														
1	W2	P4 or P6	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	<div>Yes, CDM was considered before the starting date of the project activity. Please see the historic events and mile-stone of the 9 MW TRT power plant proposed by Pinggang Group</div> <div><u>Corrective Action Request No.7.</u></div> <div><ul style="list-style-type: none">Please provide the CDM early consideration evidences both the original copy and the English translation as ne-</div>	CAR 7																													

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		<p>cessary.</p> <ul style="list-style-type: none"> Please provide the CDM consultant contract (in Chinese and an English translation) Please provide the pre-feasibility study report to the Validation team. Please provide the evidence, that the loan of the bank was rejected. Please include the day of the purchase agreement of the main equipment into the timetable. Please provide the audit team with copy of the Certificate of the Design Institute, which issued the FSR. The timeline of the project should be included into section B.5 of the PDD. 		
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	Yes, the option I and option II are excluded, and the option III which is benchmark method is the right choice.	p	p
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	Not applicable	p	p
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 12	Not applicable	p	p
B.5.5. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	1 • 2 12, 16	<p>Yes, IRR, as the most suitable financial indicator is clearly identified.</p> <p><u>Corrective Action Request No.8.</u></p> <p>--The mentioned benchmark is a book, the cover and the impor-</p>	CAR8 CR2	

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		<p>tant content need to be translated into English.</p> <p>--The IRR benchmark in chapter 13.4 of FSR was nominated as 10%, why it is 13% in PDD finally.</p> <ul style="list-style-type: none"> Is the 13% benchmark before or after tax? Please transparently show in the IRR calculation, how the BFG and LDG costs have been calculated! <p><u>Clarification Request 2</u></p> <p>The benchmark book was published just in the month of the FSR report drafted. Please explain.</p>		
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 12 16	See B.5.5.	CAR8 CR2	
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 12 16	Yes, it is.	p	p
B.5.8. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	1 • 2	<p>Yes, the list of barriers are shown:</p> <ol style="list-style-type: none"> Investment barrier Technological barrier Risk of disorder on the key components of TRT unit Demand on extra investment and cost on staff training. 	p	p
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 12 16	Yes, during on site audit, the transparent and documented evidence is provided to show the existence of the barriers.	p	p
B.5.10. In case of applying step 3 (barrier analysis):	1 • 2	Yes, it is.	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	12 16			
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 11 12	There is no similar to the project activity to be identified. The proposal project will become the first power generation project utilized multiform low quality surplus resource in Jiangxi Province.	p	p
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 11 12	See B.5.11.	p	p
B.6. Emissions reductions				
<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	1 • 2	Yes. The consolidated methodology ACM0012 is applied in the context of the Project in the following steps: <ul style="list-style-type: none"> ·calculate the baseline GHG emissions; ·calculate the project GHG emissions; ·calculate the project leakage; ·calculate the emission reductions. <u>Corrective Action Request No.9.</u> The formula calculating fcap for the waste heat is in unit of Nm3, so please correct the calculation process or referred to the ones in ACM0012 ver03.	CAR9	
B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified	1 • 2	Yes. It is.	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
on-site?				
B.6.1.3. Are the formulae required for the determination of baseline emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1 • 2	<p><u>Corrective Action Request No.10.</u></p> <p>--The formula to calculate the project emissions shown in page 23 is not correctly presented. It is different from that formula (1a-1) in the ACM0012/version 2</p> <p>--Are no other fuels used for the boilers? Are the boilers able to use other fuels? Please explain.</p> <p>--It needs to be explained, how QWG;BL was calculated. Have the basis for this data been delivered to the DOE?</p> <p>--Please deliver evidence for the LPG consumption.</p>	CAR10	
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	Yes, the project activity is less than 60 GWh/year, and all the 6 steps are correctly applied and described in the PDD.	p	p
B.6.1.5. Are the formulae required for the determination of project emissions correctly presented, enabling a complete identification of parameter to be used and / or monitored?	1 • 2	No project emission was considered according to the PDD statement and site situation.	p	p
B.6.1.6. If electricity is purchased from the grid, and the CO ₂ emission factor for electricity is determined as the combined margin emission 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?	1 • 2	There is no purchasing electricity from the grid according to the FSR and the PDD.	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
B.6.1.7. Are the formulae required for the determination of emission reductions correctly presented?	1 • 2	Yes, the formulae to calculate the emission reductions are correctly presented. <u>Corrective Action Request No.11.</u> The most recent emission factors of the NDRC published in July 2008 shall be taken into account.	CAR11	p																		
<i>B.6.2. Data and parameters that are available at validation:</i> <i>The calculation of baseline emissions ($BE_{En,y}$) depends on the identified baseline scenario.</i> <i>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.</i> <i>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	Yes, a list of parameters is presented clearly.	p	p																		
Integrate the required amount of sub-checklists for monitoring parameter and comment on any line answered with “No”.																						
B.6.2.2. Parameter Title: f_{wg} fraction of total electricity generated by the project activity using waste gas	1 • 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.3. Parameter Title: f_{cap} fraction of total energy produced using waste gas	1 • 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr></table>	Data Checklist	Yes / No	p	p																
Data Checklist	Yes / No																					

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		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.6.2.4. Parameter Title: $\eta_{Plant, j}$ overall efficiency of the existing plant that would be used by recipient	1 • 2			p	p
		Data Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	yes		
B.6.2.5. Parameter Title: f_{WG} fraction of total heat generated by the project activity electricity using waste gas	1 • 2			p	p
		Data Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		
B.6.2.6. Parameter Title: $\eta_{EP, i, j}$	1,2			p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
efficiency of the element process that would have been supplied heat to the recipient		Data 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?	n.a.		
		Has this value been verified?	n.a.		
		Choice of data correctly justified?	n.a.		
		Measurement method correctly described?	n.a.		
B.6.2.7. Parameter Title: n_{Cogen} efficiency of cogeneration plant using fossil fuel	1,2	Data Checklist	Yes / No	p	p
		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.6.2.8. Parameter Title: $Q_{\text{WG}, y}$ quantity of waste gas used for energy generation during year	1,2	Data Checklist	Yes / No	p	p
		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		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																		
B.6.2.9. Parameter Title: $\eta_{Boiler, fl}$ efficiency of the boiler that would have been used to generate the steam	1, 2	<table><tr><th>Data 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?</td><td>n.a.</td></tr><tr><td>Has this value been verified?</td><td>n.a.</td></tr><tr><td>Choice of data correctly justified?</td><td>n.a.</td></tr><tr><td>Measurement method correctly described?</td><td>n.a.</td></tr></table>	Data 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?	n.a.	Has this value been verified?	n.a.	Choice of data correctly justified?	n.a.	Measurement method correctly described?	n.a.	p	p
Data 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?	n.a.																					
Has this value been verified?	n.a.																					
Choice of data correctly justified?	n.a.																					
Measurement method correctly described?	n.a.																					
B.6.2.10. Parameter Title: $Q_{WG, Fl, B}$ amount of waste gas flared using steam prior to the implementation of the project activity	1, 2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>	Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																					
Title in line with methodology?	Yes																					
Data unit correctly expressed?	Yes																					
Appropriate description of parameter?	Yes																					
Source clearly referenced?	Yes																					
Correct value provided?	Yes																					
Has this value been verified?	Yes																					
Choice of data correctly justified?	Yes																					
Measurement method correctly described?	Yes																					
B.6.2.11. Parameter Title: $Q_{st, fl, B}$ steam used to flare the waste gas prior to the implementation of the project activity	1,2	<table><tr><th>Data 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?</td><td>n.a.</td></tr><tr><td>Has this value been verified?</td><td>n.a.</td></tr><tr><td>Choice of data correctly justified?</td><td>n.a.</td></tr></table>	Data 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?	n.a.	Has this value been verified?	n.a.	Choice of data correctly justified?	n.a.	p	p		
Data 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?	n.a.																					
Has this value been verified?	n.a.																					
Choice of data correctly justified?	n.a.																					

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																		
		Measurement method correctly described?	n.a.																					
B.6.2.12. Parameter Title: NCV_i net calorific value annual average for each consumed fuel and the waste gas/heat	1,2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																							
Title in line with methodology?	Yes																							
Data unit correctly expressed?	Yes																							
Appropriate description of parameter?	Yes																							
Source clearly referenced?	Yes																							
Correct value provided?	Yes																							
Has this value been verified?	Yes																							
Choice of data correctly justified?	Yes																							
Measurement method correctly described?	Yes																							
B.6.2.13. Parameter Title: Q_{WG, BL} quantity of waste gas generated prior to the start of the project activity	1,2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																							
Title in line with methodology?	Yes																							
Data unit correctly expressed?	Yes																							
Appropriate description of parameter?	Yes																							
Source clearly referenced?	Yes																							
Correct value provided?	Yes																							
Has this value been verified?	Yes																							
Choice of data correctly justified?	Yes																							
Measurement method correctly described?	Yes																							
B.6.2.14. Parameter Title: Q_{BL, product} production by process that most logically relates to waste gas generation in baseline	1,2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	p	p				
Data Checklist	Yes / No																							
Title in line with methodology?	Yes																							
Data unit correctly expressed?	Yes																							
Appropriate description of parameter?	Yes																							
Source clearly referenced?	Yes																							
Correct value provided?	Yes																							
Has this value been verified?	Yes																							

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																		
		Choice of data correctly justified?	Yes																					
		Measurement method correctly described?	Yes																					
B.6.2.15. Parameter Title: q_{wg, product} amount of waste gas/heat/pressure the industrial facility generates per unit of product generated by the process that generates waste gas/heat/pressure	1,2	<table><tr><th>Data Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr><tr><td>Correct value provided?</td><td>Yes</td></tr><tr><td>Has this value been verified?</td><td>Yes</td></tr><tr><td>Choice of data correctly justified?</td><td>Yes</td></tr><tr><td>Measurement method correctly described?</td><td>Yes</td></tr></table>			Data Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	Correct value provided?	Yes	Has this value been verified?	Yes	Choice of data correctly justified?	Yes	Measurement method correctly described?	Yes	p	p
Data Checklist	Yes / No																							
Title in line with methodology?	Yes																							
Data unit correctly expressed?	Yes																							
Appropriate description of parameter?	Yes																							
Source clearly referenced?	Yes																							
Correct value provided?	Yes																							
Has this value been verified?	Yes																							
Choice of data correctly justified?	Yes																							
Measurement method correctly described?	Yes																							

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

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			p	p
		Data 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?	n.a.		
		Has this value been verified?	n.a.		
		Choice of data correctly justified?	n.a.		
		Measurement method correctly described?	n.a.		
B.6.2.17. Parameter Title: Emission factor of the grid (CM)	1,2			p	p
		Data Checklist	Yes / No		
		Title in line with methodology?	Yes		
		Data unit correctly expressed?	Yes		
		Appropriate description of parameter?	Yes		
		Source clearly referenced?	Yes		
		Correct value provided?	Yes		
		Has this value been verified?	Yes		
		Choice of data correctly justified?	Yes		
		Measurement method correctly described?	Yes		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

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

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
B.6.2.20. Parameter Title: fuel consumption of each power source	1,2	Data Checklist	Yes / No	p	p
		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	Data Checklist	Yes / No	p	p
		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	Data Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

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			

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

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	Data Checklist	Yes / No	p	p
		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.6.2.24. Parameter Title: electricity imports	1,2	Data Checklist	Yes / No	p	p
		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 ₂ emission coefficient of fuels used in connected grids	1,2	Data Checklist	Yes / No	p	p
		Title in line with methodology?	Yes		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

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			
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	Yes, it is.			p	p
B.6.3.2. Are the GHG calculations documented in a complete and transparent manner?	1• 2	Yes, the GHG calculations are documented completely and transparently.			p	p
B.6.3.3. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	1• 2	Yes. It is.			p	p
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	Yes, the equation was correctly used.			p	p
B.6.3.5. Does the parameter of efficiency (n _{BL}) follow one of the stated demands?	1,2				p	p
		Demand		Yes/No		
		i) Assume a constant efficiency of the captive plant / element process / cogeneration plant and de-		No		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		termine 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 power plants / element process 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 similar plants , as used in the project activity; or	No	
		iii) Assume a captive power generation efficiency of 60% based on the net calorific values as a conservative approach (power plant); or Maximum efficiency of 100% (element process); or Maximum efficiency of 90%, based on net calorific values (irrespective of type of cogeneration system and type of heat generated) (cogeneration plant); or	No	
		iv) Estimated from load v/s efficiency curve(s) established for equipment(s) / each element process through measurement and described in Annex I; or	No	

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
		<p>Estimated from load v/s efficiency curve(s) established through measurement of the cogeneration plants 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	Yes, the method 1 was selected.	p	p
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 17	Yes, the OM,BM,CM were properly documented as the attachment of PDD.	p	p
B.6.4. Summary of the ex-ante estimation of emission reductions				
B.6.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	1 • 2	Yes. The project will utilize the pressure energy and heat energy from the BFG to generate electricity which will result in fewer GHG emissions than the baseline scenario.	p	p
B.6.4.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1 • 2	Yes. The form is correctly applied.	p	p
B.6.4.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1 • 2	Yes. The project is commissioning now and it is expected to start the crediting period from Jan. 2008 with a 10-year fixed crediting period. According to the project implementation it seems reason-	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																								
		able.																										
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	Yes. It is.	p	p																								
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	Yes, the list of parameters are presented there.	p	p																								
B.7.1.2. Parameter Title: FF_{i,y} , 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	<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	p	p
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																											

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																								
		Only boiler ignition consumption LPG was considered.																										
B.7.1.3. Parameter Title: NCV_i net calorific value of the fossil fuel I (project emissions)	1, 2	<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> <p>Yes, the value of NCV_i is traceable.</p>	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	p	p
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.7.1.4. Parameter Title: EF_{CO2, i} CO2 emission factor per unit of energy or mass of the fuel type i (project emissions)	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	p	p														
Monitoring Checklist	Yes / No																											
Title in line with methodology?	Yes																											
Data unit correctly expressed?	Yes																											
Appropriate description of parameter?	Yes																											
Source clearly referenced?	Yes																											

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		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		
		Yes, This value is correctly calculated in PDD			
B.7.1.5. Parameter Title: EC_{PJ, y} Additional electricity consumed in year y, for gas cleaning equipment, as a result of the implementation of the project activity. (project emissions)	1, 2			p	p
		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.		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		QA/QC procedures appropriate?	n.a.																										
		Yes, The electricity used for the gas clean process was ignored.																											
B.7.1.6. Parameter Title: EF _{CO2, EL, y} CO2 emission factor for electricity consumed by the project activity in year y (project emissions)	1, 2	<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> <p>Yes, a IPCC default value is used.</p>		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	p	p
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.7.1.7. Parameter Title: FC _{EL, CP, k, y} 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	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	p	p																
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.8. Parameter Title: NCV_k 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			p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD																								
		Only LPG is used for the ignition of the boiler.																										
B.7.1.9. Parameter Title: EF _{CO2, k} 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	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table> <p>Only LPG is used for the ignition of the boiler.</p>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	p	p
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											
Source clearly referenced?	NA																											
Correct value provided for estimation?	NA																											
Has this value been verified?	NA																											
Measurement method correctly described?	NA																											
Correct reference to standards?	NA																											
Indication of accuracy provided?	NA																											
QA/QC procedures described?	NA																											
QA/QC procedures appropriate?	NA																											
B.7.1.10. Parameter Title: EC _{CP, y} Quantity of electricity generated in the captive power plant at the project site in year y (project emissions)	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr></table>	Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	p	p																
Monitoring Checklist	Yes / No																											
Title in line with methodology?	NA																											
Data unit correctly expressed?	NA																											
Appropriate description of parameter?	NA																											

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		Source clearly referenced?	NA																										
		Correct value provided for estimation?	NA																										
		Has this value been verified?	NA																										
		Measurement method correctly described?	NA																										
		Correct reference to standards?	NA																										
		Indication of accuracy provided?	NA																										
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.11. Parameter Title: ws_{i, j} 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	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	p	p
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
B.7.1.12. Parameter Title: $Q_{WG,y}$ quantity of waste gas used for energy generation during year y (Nm3) (baseline emissions)	1, 2	Monitoring Checklist	p	p
		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		
B.7.1.13. Parameter Title: $EF_{elec,i,j}$ CO ₂ 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 CO ₂ /MWh (baseline emissions)	1, 2	Monitoring Checklist	p	p
		Yes / No		
		Title in line with methodology?		
		NA		
		Data unit correctly expressed?		
		NA		
		Appropriate description of parameter?		
		NA		
		Source clearly referenced?		
		NA		
		Correct value provided for estimation?		
		NA		
		Has this value been verified?		
		NA		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.14. Parameter Title: EF_{CO2, is, j} CO ₂ emission factor per unit of energy of the fossil fuel used in the baseline generation source i (i=is) providing energy to recipient j. (baseline emissions)	1, 2			p	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.15. Parameter Title: EF_{CO2, COGEN} CO ₂ emission factor per unit of energy of the fuel that would have been used in the baseline co-generation plant	1, 2			p	p
		Monitoring Checklist	Yes / No		
		Title in line with methodology?	NA		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
(baseline emissions)		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.16. Parameter Title: EG_{i,j,y} 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	Monitoring Checklist		p	p
		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		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																								
		QA/QC procedures appropriate?	Yes																											
B.7.1.17. Parameter Title: EG_{j,y} quantity of electricity supplied to the recipient plant j by the project activity during the year y in MWh (baseline emissions)	1, 2	<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	p	p
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: HG_{j,y} 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 between the hot water/oil supplied to and returned by the recipient plant(s) to element process of co-	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	p	p												
Monitoring Checklist	Yes / No																													
Title in line with methodology?	NA																													
Data unit correctly expressed?	NA																													
Appropriate description of parameter?	NA																													
Source clearly referenced?	NA																													
Correct value provided for estimation?	NA																													

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
generation plant) (baseline emissions)		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.19. Parameter Title: $EF_{CO_2, i, j}$ CO ₂ emission factor per unit of energy of the baseline fuel used in ith boiler used by recipient j, in tCO ₂ /TJ, in absence of the project activity (baseline emissions)	1, 2	Monitoring Checklist		p	p
		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.7.1.20. Parameter Title: $EF_{CO_2, j}$ CO ₂ emission factor of fossil fuel (tCO ₂ /TJ) that would have been used at facility 'j' for flaring the waste gas	1, 2	Monitoring Checklist		p	p
		Title in line with methodology?	Yes		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
(baseline emissions)		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.7.1.21. Parameter Title: $Q_{i,h}$ amount of individual fuel (waste gas and other fuel(s)) i consumed at the energy generation unit during hour h (baseline emissions)	1, 2	Monitoring Checklist		p	p
		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		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																								
		QA/QC procedures described?	Yes																											
		QA/QC procedures appropriate?	Yes																											
B.7.1.22. Parameter Title: EG_{tot, y} total annual energy produced at the cogeneration plants, with waste gas and fossil fuel (baseline emissions)	1, 2	<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	p	p
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.7.1.23. Parameter Title: Q_{WG, h} quantity of waste gas used for energy generation per hour h (baseline emissions)	1, 2	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>Yes</td></tr><tr><td>Data unit correctly expressed?</td><td>Yes</td></tr><tr><td>Appropriate description of parameter?</td><td>Yes</td></tr><tr><td>Source clearly referenced?</td><td>Yes</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	Appropriate description of parameter?	Yes	Source clearly referenced?	Yes	p	p														
Monitoring Checklist	Yes / No																													
Title in line with methodology?	Yes																													
Data unit correctly expressed?	Yes																													
Appropriate description of parameter?	Yes																													
Source clearly referenced?	Yes																													

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		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.7.1.24. Parameter Title: NCV_{WG} net Calorific Value of Waste Gas (baseline emissions)	1, 2	Monitoring Checklist		p	p
		Title in line with methodology?	Yes / No		
			NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.25. Parameter Title: ST_{whr, y}	1, 2			p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
energy content of the steam generated in waste heat recovery boiler fed to turbine via common steam header (baseline emissions)		Monitoring Checklist	Yes / No		
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		
		Correct reference to standards?	NA		
		Indication of accuracy provided?	NA		
		QA/QC procedures described?	NA		
		QA/QC procedures appropriate?	NA		
B.7.1.26. Parameter Title: ST_{other, y} energy content of the steam generated in other boilers fed to turbine via common steam header (baseline emissions)	1, 2	Monitoring Checklist	Yes / No	p	p
		Title in line with methodology?	NA		
		Data unit correctly expressed?	NA		
		Appropriate description of parameter?	NA		
		Source clearly referenced?	NA		
		Correct value provided for estimation?	NA		
		Has this value been verified?	NA		
		Measurement method correctly described?	NA		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD																								
		Correct reference to standards?	NA																										
		Indication of accuracy provided?	NA																										
		QA/QC procedures described?	NA																										
		QA/QC procedures appropriate?	NA																										
B.7.1.27. Parameter Title: $EF_{heat, j, y}$ 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	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	p	p
Monitoring Checklist	Yes / No																												
Title in line with methodology?	NA																												
Data unit correctly expressed?	NA																												
Appropriate description of parameter?	NA																												
Source clearly referenced?	NA																												
Correct value provided for estimation?	NA																												
Has this value been verified?	NA																												
Measurement method correctly described?	NA																												
Correct reference to standards?	NA																												
Indication of accuracy provided?	NA																												
QA/QC procedures described?	NA																												
QA/QC procedures appropriate?	NA																												
B.7.1.28. Parameter Title: steam flow rate	1, 2	<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></table>		Monitoring Checklist	Yes / No	Title in line with methodology?	Yes	Data unit correctly expressed?	Yes	p	p																		
Monitoring Checklist	Yes / No																												
Title in line with methodology?	Yes																												
Data unit correctly expressed?	Yes																												

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS		PDD in GSP	Final PDD
		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.7.1.29. Parameter Title: pressure of steam	1, 2	Monitoring Checklist	Yes / No	p	p
		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		

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD																								
		QA/QC procedures appropriate?	Yes																											
B.7.1.30. Parameter Title: temperature of steam/hot water/hot oil		<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr><tr><td>Has this value been verified?</td><td>NA</td></tr><tr><td>Measurement method correctly described?</td><td>NA</td></tr><tr><td>Correct reference to standards?</td><td>NA</td></tr><tr><td>Indication of accuracy provided?</td><td>NA</td></tr><tr><td>QA/QC procedures described?</td><td>NA</td></tr><tr><td>QA/QC procedures appropriate?</td><td>NA</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	Has this value been verified?	NA	Measurement method correctly described?	NA	Correct reference to standards?	NA	Indication of accuracy provided?	NA	QA/QC procedures described?	NA	QA/QC procedures appropriate?	NA	p	p
Monitoring Checklist	Yes / No																													
Title in line with methodology?	NA																													
Data unit correctly expressed?	NA																													
Appropriate description of parameter?	NA																													
Source clearly referenced?	NA																													
Correct value provided for estimation?	NA																													
Has this value been verified?	NA																													
Measurement method correctly described?	NA																													
Correct reference to standards?	NA																													
Indication of accuracy provided?	NA																													
QA/QC procedures described?	NA																													
QA/QC procedures appropriate?	NA																													
B.7.1.31. 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	<table><tr><th>Monitoring Checklist</th><th>Yes / No</th></tr><tr><td>Title in line with methodology?</td><td>NA</td></tr><tr><td>Data unit correctly expressed?</td><td>NA</td></tr><tr><td>Appropriate description of parameter?</td><td>NA</td></tr><tr><td>Source clearly referenced?</td><td>NA</td></tr><tr><td>Correct value provided for estimation?</td><td>NA</td></tr></table>			Monitoring Checklist	Yes / No	Title in line with methodology?	NA	Data unit correctly expressed?	NA	Appropriate description of parameter?	NA	Source clearly referenced?	NA	Correct value provided for estimation?	NA	p	p												
Monitoring Checklist	Yes / No																													
Title in line with methodology?	NA																													
Data unit correctly expressed?	NA																													
Appropriate description of parameter?	NA																													
Source clearly referenced?	NA																													
Correct value provided for estimation?	NA																													

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS			PDD in GSP	Final PDD
		Has this value been verified?	NA			
		Measurement method correctly described?	NA			
		Correct reference to standards?	NA			
		Indication of accuracy provided?	NA			
		QA/QC procedures described?	NA			
		QA/QC procedures appropriate?	NA			
B.7.2. 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 18	Yes. The management structure chart is provided in the PDD. It is compliance with the envisioned situation.			p	p
B.7.2.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	1• 2 18	Yes. There are data collection sector, data validation sector, and backup data sector. They are responsibility for data collection and archiving.			p	p
B.7.2.3. Does the monitoring plan provide current good monitoring practice?	1• 2 18	Yes. It is good monitoring practice currently.			p	p
B.7.2.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	1• 2 18	In annex 4 no more information is provided. In this chapter the monitoring plan is described clearly.			p	p
B.8. Date of completion of the application of the baseline study and monitoring methodology an the name of the responsible person(s)/entity(ies)						
B.8.1.1. Is there any indication of a date when the baseline was determined?	1• 2	Yes. It is April 11 2007.			p	p
B.8.1.2. Is this consistent with the time line of the PDD history?	1• 2	Yes. It is.			p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
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 10	KOE Environmental Consulting, Inc. (Japan) completed the application of the baseline and monitoring methodology. Clarification Request 3 The contact information (telephone number) of KOE Consulting Co. has been changed in PDD.	CR3	
B.8.1.4. Is information provided whether this person / entity is also considered a project participant?	1 • 2	Yes. KOE is not project participant.	p	p
C. Duration of the project activity / crediting period				
C.1. Duration of the project activity				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1 • 2 12	Yes. The starting date of the project is defined on Jan. 1st 2008, and the expected operational lifetime is 15 years. The project is commissioning now. So the expected starting crediting date is reasonable.	p	p
C.2. Choice of the crediting period and related information				
C.2.1. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1 • 2	A fixed crediting period 10 years is chosen. Corrective Action Request No.12. The crediting period and the renewable crediting period of proposed project needs to be updated.	CAR12	
D. Environmental impacts				
D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts				
D.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described?	1 • 2 6, 7	Yes. EIA, dated on Dec. 20 2006 has been provided to DOE during onsite. The main environmental impacts have been sufficiently described in the PDD.	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
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 6, 7	Yes. EIA is a must in P.R. China for new construction project. The EIA of the proposal project is approved by the Pingxiang city Environment Protection Bureau on Dec. 20 2006.	p	p
D.1.3. Will the project create any adverse environmental effects?	1 • 2 6, 7	According to the results from the approved EIA, there is no great adverse environmental effect.	p	p
D.1.4. Were transboundary environmental impacts identified in the analysis?	1 • 2 6, 7	No trans-boundary environmental impacts is described in EIA report or approval of EIA.	p	p
D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party				
D.2.1. Have the identified environmental impacts been addressed in the project design sufficiently?	1 • 2 6, 7	According to the results from the approval of EIA, the environmental impacts are considered insignificant..	p	p
D.2.2. Does the project comply with environmental legislation in the host country?	1 • 2 7, 13	Yes. As the EIA of the proposal project has been approved by the authorized organization.	p	p
E. Stakeholders' comments				
E.1. Brief description how comments by local stakeholders have been invited and compiled				
E.1.1. Have relevant stakeholders been consulted?	1 • 2 16	Yes. In Feb. 2007, Pinggang Group carried out a survey on the local residents. And The government of Pingxiang City issued a support letter for the Project after conducting sufficient investigation.	p	p
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1 • 2 16	Yes. Totally 50 questionnaires launched to the local stakeholders and 49 of them returned with 98% response rate.	p	p
E.1.3. If a stakeholder consultation process is re-	1 • 2	There are no regulation/laws in China for carrying out the stake-	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
quired by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	16	holder consulting process for this kind of project activity.		
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	1 • 2	Yes. Questionnaires process is described in complete and transparent manner.	p	p
E.2. Summary of the comments received				
E.2.1. Is a summary of the received stakeholder comments provided?	1 • 2	Yes. The summary has been described in the PDD. During on site the validation team has verified the original questionnaires.	p	p
E.3. Report on how due account was taken of any comments received				
E.3.1. Has due account been taken of any stakeholder comments received?	1 • 2	Yes, all the surveyed stakeholders had been taken into consideration and they are summarized in the PDD.	p	p
F. Annexes 1 - 4				
F.1. Annex 1: Contact Information				
F.1.1. Is the information provided consistent with the one given under section A.3?	1 • 2	<u>Corrective Action Request No.13.</u> -The information shows the organization in the appendix 1 is not consistent with the project owner in A.3. of PDD. -The MoC signature person from China side is not the contact person in Annex 1 of PDD. -The company name (project owner) in LoA (China) is not consist with that of in the MoC. -LoA in Chinese needs to be provided too.	CAR14	
F.1.2. Is the information on all private participants and directly involved Parties presented?	1 • 2	Yes, the involved parties are presented there.	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
F.2. Annex 2: Information regarding public funding				
F.2.1. Is the information provided on the inclusion of public funding (if any) in consistency with the actual situation presented by the project participants?	1 • 2	Yes. There is no public funding from Annex I parties for this project.	p	p
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	Not applicable.	p	p
F.3. Annex 3: Baseline information				
F.3.1. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1 • 2 17 23	Data recommended in the <i>Notification on Determining Baseline Emission Factor of China's Grid</i> for the Central China Power Grid are provided in annex 3..	p	p
F.3.2. If additional background information on baseline data is provided: Is this information consistent with data presented by other sections of the PDD?	1 • 2 17 23	Yes. It is.	p	p
F.3.3. Is the data provided verifiable? Has sufficient evidence been provided to the validation team?	1 • 2 17 23	Yes. The provided information has been verified during on site.	p	p
F.3.4. Does the additional information substantiate / support statements given in other sections of the PDD?	1 • 2 17 23	Yes. It does.	p	p
F.4. Annex 4: Monitoring information				
F.4.1. If additional background information on moni-	1 • 2	No additional information in the annex 4 is provided.	p	p

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

CHECKLIST TOPIC / QUESTION	Ref.	COMMENTS	PDD in GSP	Final PDD
toring is provided: Is this information consistent with data presented in other sections of the PDD?	18			
F.4.2. Is the information provided verifiable? Has sufficient evidence been provided to the validation team?	1 • 2 18	See F.4.1	p	p
F.4.3. Do the additional information and / or documented procedures substantiate / support statements given in other sections of the PDD?	1 • 2 18	See F.4.1	p	p

Table 2 Resolution of Corrective Action and Clarification Requests

Clarifications and corrective action re-quests by validation team	Ref. to table 1	Summary of project owner response	Validation team conclusion
<p><u>Corrective Action Request No.1.</u></p> <p>To be consistent with latest PDD guidelines, please include:</p> <p>--The project scenario, including a summary of the scope of activities/measures that are being implemented within the proposed project activity;</p> <p>--The baseline scenario, as identified in section "B.4 Description of how the baseline scenario is identified and description of the identified baseline scenario".</p>	A.2.3.	<p>The content of A.2.has been modified totally according to the CAR 1 and the spirit of CDM-PDD guidance version 7.</p> <p>The revised content is highlighted with track of change in revised PDD, (please referred to ANNEX 01).</p>	<p>p The project includes the installation of a 20 MW Waste Gas and Surplus Steam based Captive Power Generation Plant.</p> <p>The project will be installed in Pingxiang Iron and Steel Group Co., Ltd, Jiangxi Province, P.R. China and aims to generate electricity which substitutes electricity from the Central China.</p>

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

			<p>Grid System.</p> <p>In the absence of the project activity blast furnace gas (BFG) and waste Converter Gas (LDG) would be released into the atmosphere (after ignition) and the surplus steam is released into the atmosphere.</p> <p>The project scenario prior to the project activity is consistent with the identified baseline scenario.</p> <p>The issue can be considered to be closed.</p>
<p><u>Corrective Action Request No.2.</u></p> <p>The project owner is named Pingxiang Iron and Steel Group Co., Ltd. It should be kept the same in the PDD.</p>	A.3.1	<p>The name of the owner is "Pingxiang Iron and Steel Group Co., Ltd", thereby the one in A.2. has been corrected accordingly, however, the one in Annex 01 of PDD did not find any inconsistency with that.</p> <p>The revised content is highlighted with track of change in revised PDD, (please referred to ANNEX 01).</p>	<p>⌋ The name of the project owner is consistent within the PDD, the LoAs and the MOC.</p> <p>The issue can be considered to be resolved.</p>
<p><u>Corrective Action Request No.3.</u></p> <p>Please describe the real location of the project site by using the longitude and latitude. Only the city's longitude and latitude are stated in the PDD</p>	A.4.1.	<p>The coordinate of the project activity has been supplemented as (E 113°54'22", N 27°39'04")</p> <p>The revised content is highlighted with track of change in revised PDD, (please referred to ANNEX 01).</p>	<p>⌋ The GPS coordinates have been cross-checked with Google Maps. The issue can be considered closed.</p>

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

<p><u>Corrective Action Request No.4.</u></p> <p>To be in line with the latest PDD guidelines, please include the following information:</p> <ul style="list-style-type: none"> I The scenario existing prior to the start of the implementation of the project activity, with a list of the equipment(s) and systems in operation at that time I A list and the arrangement of the main manufacturing/production technologies, systems and equipments involved. Include in the description information about the age and average lifetime of the equipments based on manufacturer's specifications and industry standards, and existing and forecast installed capacities, load factors and efficiencies. The monitoring equipments and their location in the systems is of particular interest; I The emissions sources and the greenhouse gases involved in the project activity, according to the methodology used; and existing and forecast energy and mass flows and balances of the systems and equipments included in the project activity; I The types and levels of services (normally in terms of mass or energy flows) provided by the systems and equipments that are being modified and/or installed under the project activity and their relation, if any, to other manufacturing/production equipments and systems outside the project boundary. The types and levels of services provided by those manufacturing/production systems and equipments out- 	<p>A.4.3.10.</p>	<p>The content of A.4.3 .has been modified totally according to the CAR 1 and the spirit of CDM-PDD guidance version 7.</p> <p>The revised content is highlighted with track of change in revised PDD, (please referred to ANNEX 01).</p>	<p>⌋ The scenario existing prior to the project activity, including information about the equipment used (3 sets of Blast Furnace, 2 Converters, cooling system) has been included into the PDD.</p> <p>A list of the main equipment and its parameter has been included into the PDD, as well as a diagram showing the measurement instruments in the diagram.</p> <p>The needed information has been included. Issue can be considered closed.</p>
--	------------------	--	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

side the project boundary may also constitute important parameters of the description. The description should clearly explain how the same types and levels of services provided by the project activity would have been provided in the baseline scenario.			
<p><u>Corrective Action Request No.5.</u></p> <p>To be in line with the latest PDD guidelines: In addition to the table, present a flow diagram of the project boundary, physically delineating the project activity, based on the descriptions provided in section "A.4.3. Technology to be employed by the project activity". Include in the flow diagram all the equipments, systems and flows of mass and energy described in that section. Particularly, represent in the diagram the emissions sources and gases included in the project boundary and the monitoring variables.</p>	B.3.8.	<p>Client first response: The content of A.4.3 .has been modified totally according to the CAR 1 and the spirit of CDM-PDD guidance version 7.</p> <p>The revised content is highlighted with track of change in revised PDD, (please referred to ANNEX 01).</p> <p>DOE's response: Please include the mentioned flow diagram in this section of the PDD.</p> <p>PP' second response: The flow chart has been presented in A.4.3 as well in revised PDD.</p>	<p>⌋ The latest PDD guidelines have been considered in the revised PDD. The issue can be considered closed.</p>
<p><u>Corrective Action Request No.6.</u></p> <p>A reference to Annex 3 is given, to provide further evidence for the gas balances. The gas balance is not included there. Please include it!</p>	B.4.4.	<p>The gas balance is supplemented in annex 3 of PDD. The revised content is highlighted with track of change in revised PDD, (please referred to ANNEX 01).</p> <p>The historical records of iron and steel production is shown as ANNEX 01.2</p>	<p>⌋ The gas balances have been sent to the audit team. Annex 03 is an internal document reference and was not referring to the PDD.</p>
<p><u>Corrective Action Request No.7.</u></p> <ul style="list-style-type: none"> Please provide the CDM early consideration evidences both the original copy and 	B.5.1.	<p>PP first response: --The evidence of early consideration of CDM includes:</p>	<p>⌋ A complete timeline has been included into the PDD. Continuous CDM</p>

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

<p>the English translation as necessary.</p> <ul style="list-style-type: none"> • Please provide the CDM consultant contract (in Chinese and an English translation) • Please provide the feasibility study report to the Validation team. • Please provide the evidence, that the loan of the bank was rejected. • Please include the day of the purchase agreement of the main equipment into the timetable. • Please provide the audit team with copy of the Certificate of the Design Institute, which issued the FSR. <p>The timeline of the project should be included into section B.5 of the PDD.</p>	<p>--Feasibility Study Report (the consideration of CDM has been included), it has been submit to TUV-SUD;</p> <p>--the minute of staff annual conference in early 2006. (the consideration of CDM of the proposed project has been announced), provided as ANNEX 06.1</p> <p>--The visit report of energy recovery project of Hunan Liangang Group. provided as ANNEX 06.2</p> <p>--The consultant contract of CDM is provided as ANNEX 06.2</p> <p>--The day of main equipment purchase agreement is added in the timeline in PDD.</p> <p>--The certificate of the design institute is provided as ANNEX 06.3</p> <p>--The timeline of the project activity is moved to B.5.</p> <p>DOE's first response:</p> <p>Continuous CDM consideration has not been shown in the timeline.</p> <p>Please include information about e.g. GSP start, LoA approvals, on-site audit.</p> <p>Furthermore, please include day of the purchase agreement of the main equipment into the timetable.</p> <p>PP' second response:</p> <p>A continuous time line including CDM status has been added according to requirements of Annex 46 of EB 41.</p> <p>Please check the revised PDD.</p> <p>Among the updated timeline, the evidence is provided as ANNEX 06.6, to testify the event of signing</p>	<p>consideration has been demonstrated and proven by reliable evidences.</p>
--	--	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		Lol with the buyer. Besides, evidence of other events has been provided before.	
<p><u>Corrective Action Request No.8.</u></p> <p>The mentioned benchmark is a book, the cover and the important content need to be translated into English.</p> <p>--The IRR benchmark in chapter 13.4 of FSR was nominated as 10%, why it is 13% in PDD finally.</p> <ul style="list-style-type: none"> Is the 13% benchmark before or after tax? Please transparently show in the IRR calculation, how the BFG and LDG costs have been calculated! 	B.5.5	<ul style="list-style-type: none"> <u>The mentioned benchmark is a book, the cover and the important content need to be translated into English.</u> The cover and relevant pages of the book are provided as ANNEX 02, of which the important content has been translated into English. <u>The IRR benchmark in chapter 13.4 of FSR was nominated as 10%, why it is 13% in PDD finally.</u> Due to the finishing date of the FSR is earlier Aug 2006, when the <i>Methods and Parameters for Economic Assessment of Construction Project (version3)</i> is still not well published. Thus the FSR still followed the earlier version (ver 02). Among <i>Methods and Parameters version 02</i>, the project IRR benchmark is valued as 9~11% for iron and steel enterprises. Consequently, 10% is selected as an average value for the proposed project based on the <i>Methods and Parameters version 02</i>. However, it should based on <i>Methods and Parameters version 03</i> to evaluate the financial feasibility of the project considering the decision-making is done till the fourth quarter of 2006, when the version 03 has been well applied by relevant sector in China. 	<p>⌋ The benchmark evidence, confirming an equity IRR after tax of 13% has been submitted to the DOE.</p> <p>Due to local and sectoral experience TÜV SÜD can confirm that the benchmark is applicable., even though the FSR was assuming a different benchmark.</p> <p>A detailed breakdown, in combination with relevant evidences for the LPG and BFG cost have been send to the audit team.</p> <p>Evidences for the oan refusal from the bank</p> <p>The project participant provided the audit team with an overview on the O&M costs spend by the project owner for the project activity.</p> <p>In 2008 the operational costs have been 0.80-0.89</p>

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>Therefore, the value of benchmark (equity IRR) is selected as 13% appropriately according to version 03 in PDD and if makes sense</p> <p>I <u>“Is the 13% benchmark before or after tax?”</u></p> <p>The value of 13% is selected from the <i>Methods and Parameters version 03</i>, which is specified as “benchmark for equity IRR after tax”. The relevant part has been highlighted in ANNEX 02.</p> <p>I <u>“Please transparently show in the IRR calculation, how the BFG and LDG costs have been calculated!”</u></p> <p>The IRR spreadsheet is provided as ANNEX 03, The cost of BFG and LDG is calculated based on the additional investment in some accessory e.g. gas tank, gas pipes, plus the gas treatment cost, maintenance cost of the accessory facilities.</p> <p>besides, the prices and amount are both presented in FSR, furthermore, a special illustration is made by the FSR design institute as a support evidence of the gases prices, as shown ANNEX 04.1,1 to explain and prove the justice of gas prices.</p> <p>The cross-check of the gases cost is made to justice the reasonability, as ANNEX 04.1,2</p> <p>On the other hand, the step-3 of additionality analysis is also effectively demonstrated the barriers obstacle the project in the absence of</p>	<p>RMB/kWh. This calculation is based on an BFG and LDG price of 0.2 RMB/m³ and 0.3 RMB/m³. This is higher than the assumed price in the IRR calculation submitted for registration (BFG 0.06 RMB/m³ and LDG 0.14 RMB/m³). This is due to the fact that a price for the NCV has been excluded for the IRR calculation.</p> <p>Furthermore an excel calculation sheet has been submitted to the audit team, where depreciation costs have been excluded from the O&M costs and have been included in the total investment.</p> <p>The IRR of the project activity is still below the benchmark of 12%.</p> <p>Furthermore the assumptions of the PP have been evidence tough invoices.</p> <p>Nevertheless the O&M costs of the project activity</p>
--	--	---	---

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>CDM, and how that is mitigated by CDM. the proofs for the financing barrier e.g. the rejection letter of loan application, the conditional intent of loan etc, are attached as <u>AN-NEX 04.2.1,2,3</u>. moreover, these evidence is able to support timeline of the project</p> <p><u>DOE's first response:</u></p> <p>According to the evidences submitted (breakdown of BFG and LPG prices by the Design Institute) a depreciation ratio is assumed for the gas storage and the gas piping.</p> <p>This is not in line with the "Guidance on the Assessment of Investment Analysis" para 5. The depreciation costs need to be deducted.</p> <p>Furthermore, according to the statements in the PDD, only equity is used for the project activity. In case this is correct no loan was needed to finance the project. Hence why should a loan refusal prohibit the implementation of the project activity?</p> <p>In accordance to EB 38 para (c) each input value needs to be cross checked with reliable evidences. For that reason, could you be so kind to provide us with the following documents:</p> <ul style="list-style-type: none"> • Purchase agreement of main equipment • Evidence for operational hours <p><u>PP's second response:</u></p>	<p>are still unreasonable high (about 30 % of the total investment).</p> <p>The project participant skips the investment analysis and relies on barrier analysis only.</p>
--	--	--	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>to clarify the project detail further, below issues are developed:</p> <p>1. Clarification on depreciation issue.</p> <p>The depreciation included in BFG and LPG prices in the breakdown is based on some associated expenditures to the project, other than the initial investment of project. Hence it does not conflict with rules of IRR calculation and the "Guidance".</p> <p>Since the accessories beyond estimated investment in FSR were performed for the project to store and feed gases, the depreciation is involved in the gases prices so as to recover the cost of additional facilities. Considering the initial investment has excluded such accessory cost, it is reasonable to count depreciation of additional facilities in gases cost.</p> <p>The expenditures could be substantiated by documents mentioned in <u>following issues</u>.</p> <p>In addition, in order to facilitate DOE to confirm the appropriateness of the overall inputs values, PP has made a comparison on O&M cost rate with other similar projects, as presented in ANNEX 04.1.3. According to the comparison, it supports the rationality of current O&M cost.</p> <p>2. Cross check on other items of investment.</p> <p>According to the final accounting records, the actual overall expenditures of the project had come to 99.72 million RMB, among which 74 million RMB is constituted with the major part, covering most components described in FSR of the project. In addition, about 37</p>	
--	--	--	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>million RMB occurred due to the accessory facilities, e.g. the gas tank and pipes that not presented in FSR.</p> <p>The documents, general contract and the final accounting records are attached as ANNEX 04.1.4.</p> <p>Additionally, we had performed a sampling statistics to test the rationality of BFG cost in the proposed project in last round of response. Based on the result of eight steel firms in China, in 2006, it range from upper value of 0.08 RMB/m³ to a lower value of 0.045 RMB/m³. Thus, the cost of BFG is in a sensible range to be calculated as 0.06 RMB/m³.</p> <p>The document had been provided as ANNEX 04.1.2 in last response accessories.</p> <p>3. the barriers brought by the loan refuse and the reason why loan was rejected</p> <p>As described in step 3 of para B.5 of the latest revised PDD, equity of private steel firm is mainly rely on self-accumulation due to lack of financing approach. Therefore, equity is imperative to survive and develop their core business for Pinggang Group, as a non-public steel company in China. Especially confronted with a stiff completion stress from other companies, particularly the state owned steel enterprises. In other word, in term of the priority of equity allocations, a WHR project obviously lack of basic priority compared the other necessary expansion and</p>	
--	--	---	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>upgrading. <i>(The evidence has been cited in revised PDD, if you require, I could provide relevant files.)</i></p> <p>Moreover, based on the IRR in step 2, it not financially feasible to perform the project by equity, considering the capital cost of equity of a steel enterprise. Because the benchmark of equity IRR is 13% that means the capital cost of steel firm is at least in 13%. Therefore, without any loan support is a barrier to implement the proposed project.</p> <p>Conclusive, it is not feasible to conduct a WHR project that is neither financially attractive nor core-business.</p> <p>As to the reason of loan refuse, although the bank did not explain their detailed consideration in original rejection letter, in a latter document, an intention letter of loan for the project issued by the same bank could indirectly explain the reason. In the letter, the same bank turns to show their interest on the project after registration of CDM. Therefore, it indicates that financial factor is a key issue in decision-making on the loan application.</p> <p>In other word, the bank has intention to loan for the project only after it could manifest a certainty of CDM revenue.</p> <p>Furthermore, as described in investment barrier analysis in B.5, negative attitude of banks toward this kind of projects are prevalent in China.</p>	
--	--	---	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>The description on related barriers please has presented in prior revised PDD, and the evidence of conditional loan intention letter has been provided as ANNEX 04.2.2 before.</p> <p>4. The actual situation to check the inputs in IRR.</p> <p>The operational hours and power delivery of the project has been recorded, based on the historic data in 2008, the annual average operating hours is 5802 h, and net power delivery is 105,450 MWh, which can indicate the conservativeness of parameters to calculate IRR.</p> <p>The evidence, historic operation records in 2008, is attached as ANNEX 07.1</p> <p><u>DOE's second response:</u></p> <ul style="list-style-type: none"> • The PP has provided the audit team with an overview of the electricity produced in 2008. Hence records for the O&M costs should also be available. Please provide the audit team with an overview of the invoices for the O&M costs in 2008. • The audit team understands that depreciation costs have been included in the O&M cost for the gas pipeline system and the gas storage because these costs have not been considered in the total investment before. <p>Please provide the audit team with an IRR calculation including the gas pipe system as well as the gas store system into the "total in-</p>	
--	--	---	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>vestment costs" while excluding depreciation from the O&M costs.</p> <p>As the system is already in operation invoices for the equipment should be available and provided to the audit team.</p> <p><u>Response by Project Participant:</u></p> <ul style="list-style-type: none"> I PP could provide an annual financial balance sheet of the power plant, and the evidence is attached as ANNEX 04.1.5. According to the balance sheet, the unit O&M cost of the project is around 0.80 - 0.89 RMB/kWh, among which BFG and LDG is charged as 0.2 RMB/m3 and 0.3 RMB/m3. It is obviously higher than the treatment cost (BFG, 0.06 RMB/m3; LDG, 0.14 RMB/m3) in PDD, that is because of inclusion of profit of gases. Given such fact, I suppose that it is more reasonable to use gases cost (BFG, 0.06 RMB/m3; LDG, 0.14 RMB/m3) without any profit in IRR calculation. I The adjusted IRR calculation sheet is provided as ANNEX _IRR_V02. From the IRR sheet; it could be observed that there no change the conclusion of financially non-attractiveness but lower IRR result. Therefore, I suppose that it is conservative to use prior version of IRR sheet. I Because the contract has not been totally paid by the owner, the invoice is not available so far. However, referring to other registered similar project .e.g. Angang Projects, we suppose it is acceptable to check the investment sum based on contract, as we provided before. 	
--	--	---	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

<p><u>Corrective Action Request No.9.</u></p> <p>--The formula calculating fcap for the waste heat is in unit of Nm3, so please correct the calculation process or referred to the ones in ACM0012 ver03.</p>	B.6.1.1.	<p>The way to decide value of fcap has been correct with reference to ACM0012 ver03.</p> <p>The method 2 of fcap in ACM0012 ver03.is quoted to solve this problem.</p> <p>This correction is done based on the clarification "F-CDM-AM-Clar_Resp_ver 01.1 - AM_CLA_0101",which is submitted by TUV-SUD. (http://cdm.unfccc.int/UserManagement/FileStorage/AM_CLAR_F2E9IGIK9QBGSMVMXOSWO5YXTN0KMMM)</p> <p>The revised content is highlighted with track of change in revised PDD, (please referred to ANNEX 01).</p> <p>In addition, the parameter $q_{bl,product}$ of fcap of surplus steam is selected based on the required method of ACM0012 Ver 03.</p> <p>The calculation process is shown in ANNEX 01.1</p>	<p>⌋ The fcap calculation formula has been transparently shown in the PDD. The methodology has been cross checked with the required methodology and seems to be appropriate.</p>
<p><u>Corrective Action Request No.10.</u></p> <p>--The formula to calculate the baseline emissions shown in the PDD is not correctly presented. It is different from that formula (1a-1) in the ACM0012/version 2</p> <p>--Are no other fuels used for the boilers? Are the boilers able to use other fuels? Please explain.</p> <p>--It needs to be explained, how QWG;BL was calculated. Have the basis for this data been delivered to the DOE?</p>	B.6.1.3	<p>I <u>The formula to calculate the project emissions shown in page 23 is not correctly presented.</u></p> <p>Due to the waste energy is recovered form two separated part, waste BFG, LDG and the surplus steam, which is belong to type of waste gases and waste heat respectively.</p> <p>Therefore, the baseline emissions calculation formula is adjusted to meet the condition.</p> <p>It is minor and reasonable method to make use of</p>	<p>⌋ All required evidences have been submitted to the DOE.</p> <p>And where required the calculation methods have been revised.</p>

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

<p>--Please deliver evidence for the LPG consumption.</p>		<p>formula in methodology.</p> <p>I <u>--Are no other fuels used for the boilers? Are the boilers able to use other fuels? Please explain.</u></p> <p>According to the FSR, no fuels would be used in the boiler except the LPG used for startup.</p> <p>Considering the technology limitation to gas fuel of the boiler and the nature source distribution, there is no other gas fossil fuel could be used in the boiler.</p> <p>I <u>It needs to be explained, how QWG:BL was calculated. Have the basis for this data been delivered to the DOE?</u></p> <p>Due to there are two gases i.e. BFG and LDG used as fuel of the boiler, which comes from different source i.e. blast furnace and converter respectively. To demonstrate that the quantity of waste energy content of BFG and LDG in years before the project activity carried out,</p> <p>I <u>--Please deliver evidence for the LPG consumption</u></p> <p>The evidence of LPG consumption is provided as ANNEX 05.</p> <p><u>DOE's first response:</u></p> <p>$Q_{WG,BFG,BL}$</p> <p>Please indicate where this value comes from. Is it the average value of the last 3 years?</p>	
---	--	--	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>The minimum of the two figures should be used: (1) average annual historical production data from start-up, (2) the most relevant manufacturer's data for normal operating conditions.</p> <p>$Q_{WG, LDG, BL}$</p> <p>Please indicate where this value comes from. Is it the average value of the last 3 years?</p> <p>The minimum of the two figures should be used: (1) average annual historical production data from start-up, (2) the most relevant manufacturer's data for normal operating conditions.</p> <p>$Q_{BL, product}$</p> <p>Please indicate which exact values have been used for this calculation.</p> <p>$q_{wcm, product}$</p> <p>Please deliver the evidence for that to the DOE!</p> <p><u>PP's second response:</u></p> <p>The $Q_{WG, BFG, BL}$, $Q_{WG, LDG, BL}$ in ACM0012 V02 is admitted to use :</p> <p>"The maximum quantity of waste gas flared /combusted or waste heat released into the atmosphere under normal operation conditions in the 3 years previous to the project activity. "</p> <p>On grounds of that, the 3 years historic data was adopted. The data source is the plant historic record</p> <p>DOE's third response:</p> <p>Evidence for $q_{wcm, product}$ is still missing.</p>	
--	--	--	--

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

<p><u>Corrective Action Request No.11.</u></p> <p>The most recent emission factors of the NDRC published in July 2008 shall be taken into account.</p>	<p>B.6.1.7.</p>	<p><u>PP's first response:</u></p> <p>It has been updated to the latest version of EF in the revised PDD.</p> <p>The revised content is highlighted with track of change in revised PDD, (please referred to ANNEX 01).</p> <p><u>DOE' s second response:</u></p> <p>According to updated EB decision the Emission Factors of the time of the first submission of the PDD shall be used for the ER calculations.</p> <p>Please update the emission factors.</p> <p><u>PP's second response:</u></p> <p>The emission factors have been updated. They are in line with the published values of the NDRC at the time of the GSP.</p>	<p>⌋ The emission factors of the time of the PDD submission have been chosen for the emission reduction calculation.</p>
<p><u>Corrective Action Request No.12.</u></p> <p>The crediting period and the renewable crediting period of the project need to be updated.</p>	<p>C.2.1.</p>	<p><u>PP's first response:</u></p> <p>The starting date of the crediting period is estimated and has been updated. (please referred to ANNEX 01).</p> <p><u>DOE' s second response:</u></p> <p>The reason why the starting date of the project activity was chosen in C.1.1 shall be included.</p> <p><u>PP's second response:</u></p> <p>According to date that real actions occurred, 25/12/2006 was designated as start date of the proposed project according to "CDM glossary "</p>	<p>⌋ The starting date of the project activity is 25/12/2006 has been chosen. It is the date when the construction of the project activity has started, which is in line with the CDM glossary.</p> <p>The reason why this starting date has been used has been included into the PDD.</p>

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service

		<p>Since it is the date when the integrated contract signed and construction started as well. Please refer to the timeline in B.5. for cross-check.</p> <p>The evidence is provided as ANNEX 04.1.4.</p> <p>The corresponding action of project has been presented in C.1.1 and in timeline of B.5 as well.</p> <p><u>DOE's third response:</u></p> <p>Please include the reason why the starting date has been chosen into section C.1.1 in the PDD.</p>	
<p><u>Corrective Action Request No.13.</u></p> <p>-The information shows the organization in the appendix 1 is not consistent with the project owner in A.3. of PDD.</p> <p>-The MoC signature person from China side is not the contact person in Annex 1 of PDD.</p> <p>-The company name (project owner) in LoA (China) is not consist with that of in the MoC.</p> <p>-LoA (China) in Chinese needs to be provided too.</p>	F.1.1.	<p>The MOC will be corrected and kept in consistency with LoA.</p> <p>The MOC will be provided later, but before the final report start.</p>	
CRs			
<p><u>Clarification request 1 :</u></p> <p>There is a "how" in the title of B.3. of PDD, it is against the PDD form.</p>	B.3.1	The word has been eliminated accordingly.	<p>⌋ The PDD has been revised and the "word" has been taken out of the PDD.</p>
<p><u>Clarification request 2 :</u></p> <p>The benchmark book was published just in the month of the FSR report drafted. Please explain.</p>	B.5.5.	<p>The benchmark book is published in Aug 2006, nearly the same month the FSR is finished.</p> <p>However, the startup of construction is in Nov 2006, obviously, the benchmark put into effect form Aug</p>	<p>⌋ The evidence for the benchmark has been submitted to the audit team. The document</p>

Validation Protocol

Project Title: Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant

Date of Completion: June 10th, 2009

Number of Pages: 77



Industrie Service


		2006 is applicable to assess the financial feasibility of the project activity.	has been published in August 2006, hence the benchmark of 13% is reasonable.
<u>Clarification request 3 :</u> The contact information (telephone number) of KOE consulting co. has been changed in PDD.	B.8.1.3	Yes, it is changed.	⌋ The PDD has been revised and is incorporating the most recent information available.

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


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




Annex 2: Information Reference List

Final Report	2009-06-10	Validation of the “Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant” Information Reference List	Page 1 of 4	 Industrie Service
--------------	------------	---	----------------	--


Reference No.	Document or Type of Information																														
1.	Project Design Document for CDM project “Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant”, version 04, submitted on March 13 2008																														
2.	Project Design Document for CDM project “Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant”, version 01 dated 11/04/2007																														
3.	ACM0012 /version 02 – “Consolidated baseline methodology for GHG emission reduction for waste gas or waste heat or waste pressure based energy system”																														
4.	Tool for the demonstration and assessment of additionality, version 04																														
5.	Participant list of on-site interview, signed on June 19 2007																														
6.	<p>On-site documents reviews in the office of Pingxiang Iron and Steel Group Co., Ltd on June 19 2007 and at the project site interview in the Baiyuan Street, Anyuan district, Pingxiang City Jiangxi Province, P.R. China, conducted on June 20 of 2007 by auditing team of TÜV SÜD:</p> <p>Validation team: Mr. Carl Zhou CDM Auditor, TUV SÜD Industries Service GmbH</p> <p>Interviewed persons:</p> <table><tr><td>Ms. Zhu Xia</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>Vice-leader of safety and environment dept.</td></tr><tr><td>Mr. Wen Jinfa</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>Engineer of planning and control dept.</td></tr><tr><td>Mr. Xie Lanxiang</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>Engineer of engineering dept.</td></tr><tr><td>Mr. Yang Rulin</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>Engineer of safety and environment dept.</td></tr><tr><td>Mr. Liao Defeng</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>Engineer of power factory</td></tr><tr><td>Mr. Zou Yonghong</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>Senior engineer of engineering dept.</td></tr><tr><td>Mr. Gong Gang</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>Engineer of production dept.</td></tr><tr><td>Mr. Yuan Hongquan</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>Engineer of safety and environment dept.</td></tr><tr><td>Ms. Lin Jinhua</td><td>Pingxiang Iron and Steel Group Co., Ltd</td><td>vice leader of financial dept.</td></tr><tr><td>Mr. Cao Yuan</td><td>KOE Environmental Consultancy, Inc.</td><td>Project manager</td></tr></table>	Ms. Zhu Xia	Pingxiang Iron and Steel Group Co., Ltd	Vice-leader of safety and environment dept.	Mr. Wen Jinfa	Pingxiang Iron and Steel Group Co., Ltd	Engineer of planning and control dept.	Mr. Xie Lanxiang	Pingxiang Iron and Steel Group Co., Ltd	Engineer of engineering dept.	Mr. Yang Rulin	Pingxiang Iron and Steel Group Co., Ltd	Engineer of safety and environment dept.	Mr. Liao Defeng	Pingxiang Iron and Steel Group Co., Ltd	Engineer of power factory	Mr. Zou Yonghong	Pingxiang Iron and Steel Group Co., Ltd	Senior engineer of engineering dept.	Mr. Gong Gang	Pingxiang Iron and Steel Group Co., Ltd	Engineer of production dept.	Mr. Yuan Hongquan	Pingxiang Iron and Steel Group Co., Ltd	Engineer of safety and environment dept.	Ms. Lin Jinhua	Pingxiang Iron and Steel Group Co., Ltd	vice leader of financial dept.	Mr. Cao Yuan	KOE Environmental Consultancy, Inc.	Project manager
Ms. Zhu Xia	Pingxiang Iron and Steel Group Co., Ltd	Vice-leader of safety and environment dept.																													
Mr. Wen Jinfa	Pingxiang Iron and Steel Group Co., Ltd	Engineer of planning and control dept.																													
Mr. Xie Lanxiang	Pingxiang Iron and Steel Group Co., Ltd	Engineer of engineering dept.																													
Mr. Yang Rulin	Pingxiang Iron and Steel Group Co., Ltd	Engineer of safety and environment dept.																													
Mr. Liao Defeng	Pingxiang Iron and Steel Group Co., Ltd	Engineer of power factory																													
Mr. Zou Yonghong	Pingxiang Iron and Steel Group Co., Ltd	Senior engineer of engineering dept.																													
Mr. Gong Gang	Pingxiang Iron and Steel Group Co., Ltd	Engineer of production dept.																													
Mr. Yuan Hongquan	Pingxiang Iron and Steel Group Co., Ltd	Engineer of safety and environment dept.																													
Ms. Lin Jinhua	Pingxiang Iron and Steel Group Co., Ltd	vice leader of financial dept.																													
Mr. Cao Yuan	KOE Environmental Consultancy, Inc.	Project manager																													

Final Report	2009-06-10	Validation of the “Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant” Information Reference List	Page 2 of 4	 Industrie Service
--------------	------------	---	----------------	--

Reference No.	Document or Type of Information
7.	Contract of purchasing devices, No. 02-0607-0005-EPC-10B-12-4387 with Zhongye Jingcheng engineering technical Co. Ltd and Beijing Jingcheng Keling Environmental protection Science Co. Ltd., dated 28/12/2006
8.	Consulting contract with KOE Environmental Consultancy, Inc.(Japan) signed on June 16 2006.
9.	Contract of supplying power with Pingxiang power supply company, signed in Jan. 2005, (the valid date from April of 2005 to April of 2006)
10.	The report of the 16 th meeting of employees representatives , dated on Dec. 23 2005.(the decision of considering CDM)
11.	The FSR of Pingxiang Iron & Steel Co., LTD of The Fuel Gas Generation & Low Pressure Steam Generation Project Capital Engineering & Research Incorporation Ltd. August 2006,
12.	Project registration record, registered by Pingxiang city economy and trading committee, dated on 1 st Nov. 2006.
13.	Approval of EIA, dated on Dec. 20 2006, Pingxiang city Environment Protection Bureau
14.	EIA, dated on October 30 2006
15.	The IRR evidence: The methods and parameters of economic assessment of construction projects, version 03• China planning publishing company
16.	Monitoring manual of the proposed project, by the project owner
17.	Notice on Strictly Prohibiting the Installation of Fuel-fired Generators with the Capacity of 135 MW or Below issued by the General Office of the State Council, decree no. 2002-6.
18.	Interim Rules on the Installation and Management of Small-scale Fuel-fired Generators (issued in Aug., 1997).
19.	Xian liqing, Discussion on Utilization of Low- pressure Afterheat Steam[J] ,Metallurgical Power .2005, 5(111) :86~87
20.	Discussion on plan of waste heat steam utilization in steelmaking process[J] , energy for metallurgical industry.2005, 5(24) :54~56
21.	Xu Gang-hui, Analysis of Iron and Steel Enterprises Energy-saving Ways for Jiangxi Metallurgical Group Corporation.[J]. Jiangxi Metallurgy, 2007.Vol.27,No.4
22.	Notification on Determining Baseline Emission Factor of China's Grid is adopted, which is issued by Chinese DNA on December 15th, 2006 on http://cdm.ccchina.gov.cn , the Build Margin emission factor ($EF_{BM,y}$) of the Central China Power

Final Report	2009-06-10	Validation of the “Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant” Information Reference List	Page 3 of 4	 Industrie Service
--------------	------------	---	----------------	--

Reference No.	Document or Type of Information
23.	LoA of the proposal project from China No. 657 was approved in Oct. 2007;
24.	LoA of proposed project from Japan was approved on Nov. 7 2007.
25.	MoC of the proposed project was signed on Oct. 17 2007 by both parties.
26.	the draft agreement for the waste gas purchase with an third party company• Pingxiang xiangshi CaO Co. Ltd, dated on Jan. 10, 2006. Submitted on Feb. 22 2008
27.	a signed agreement for the BFG purchase which including the proposed price of BFG, Pingxiang xiangshi CaO Co. Ltd, dated on Jan. 10, 2005. Submitted on Feb. 22 2008
28.	Gas balances, Iron and Steel production records from 2004-2006, issued by Pingxiang Iron and Steel Co. Ltd.
29.	IRR calculation sheet
30.	Gas price Certification mentioning the price of the Waste Gas, dated 20th May 2006
31.	Pinggang annual power generation records
32.	Letter of Intent with CER buyer, signed by “The Tokyo Electric Power Co., Inc and Pingxiang Iron and Steel GroupCo., Ltd. issued on 19 th June 2007
33.	General contract of gas and steam power plant project in anyuan factory of Pinggang Group., dated 28/12/2006
34.	Electricity Bill of Pingxiang Power Company, July 2006
35.	Rejection Letter of loan application for Pinggang 20 MW project; issued by Industry and Commercial Bank of China (ICBC)
36.	Conditional intent of loan for pinggan 20 MW and 9MW projects; issued by ICBC
37.	Internal approval letter to implement the project activity as a CDM project, dated 02/07/2009
38.	report on 16 th employee representative congress, 23/12/2005
39.	Consultant agreement, dated June 2006
40.	Supervision report, dated 25/12/2006
41.	Education tax issued by China State Council

Final Report	2009-06-10	Validation of the “Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant” Information Reference List	Page 4 of 4	 Industrie Service
--------------	------------	---	----------------	--

Reference No.	Document or Type of Information
42.	China City Construction tax
43.	Illustration of Jiangxi Federation of industry and commerce
44.	Discussion on plan of waste heat steam utilization in steel making process; issued by energy for metallurgical industry September 2005
45.	Discussion on Utilization of Low-pressure Afterheat Steam, issued by Metallurgical Power, May 2005
46.	Financing Energy Efficiency in China, by William Chandler and Holly Gwin; 6 th December 2007
47.	Private Sector Development in People's Republic of China, presented at the 2004 Laeba annual conference, Beijing, People's Republic of China, December 3-4 2004
48.	Production statistic of metallurgical industry (2004- 2006)
49.	Jiangxi Metallurgical Group Corporation business scope
50.	Analysis of Iron and Steel Enterprises Energy saving ways for Jiangxi Metallurgical Group Corporation
51.	Project Design Document for CDM project “Jiangxi Pinggang Group 20MW Waste Gas and Surplus Steam based Captive Power Plant”, version 5.2 dated 05/04/2009