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Verification Report

JIANGXI FENGCHENG MINING ADMINISTRATION

VERIFICATION OF THE FIRST MONITORING PERIOD OF

1135;JIANGXI FENGCHENG MINING ADMINISTRATION CMM UTILIZATION PROJECT

Monitoring Period: 2007-09-24~2008-03-24

REPORT NO. 1153875

15th December2008

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.
1153875	2008-04-24	3	15-12-2008	-

Subject: Verification of the First Monitoring Period

Accredited TÜV SÜD Unit:	**TÜV SÜD Contract Partner:**
TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 80686 Munich Germany	Jiangsu TUV Product Service Ltd., Beijing Branch Unit 0918, Landmark Tower 2 100004 Beijing China
Client: Fengcheng Mining Administration Shangtong town, Fengcheng city, Jiangxi Province, 331141, China	**Project Site(s):** Fengcheng City; Jiangxi Province; People's Republic of China; 27°42' – 28°26 N and 115°25' – 116°26' E

Project Title: Jiangxi Fengcheng Mining Administration CMM Utilization Project

Applied Methodology / Version:	ACM0008 / Version 03 ACM0002 / Version 06	**Scope(s):**	8; 10

Project Validator: Det Norske Veritas Certification AS (DNV)

Report number: Report No. 2007-0585, vers. 2 **issuance day:** 2006-12-25

Final PDD version:

Date of issuance:	2007-04-18
Version No.:	05

First Monitoring Report Version:		**Final Monitoring Report Version:**	
Date of issuance:	not indicated	Date of issuance:	2008-12-04
Version No.:	not indicated	Version No.:	03
Publication Date:	2008-04-04		

Verified Emission Reduction in the above reporting period:

Baseline Emissions:	107508 tCO_2e
Project Emissions:	12378 tCO_2e
Emission Reductions:	95130 tCO_2e

Assessment Team Leader:	**Further Assessment Team Members:**
Sven Kolmetz	Paula Auer Xiaoying Chen

Summary of the Verification Opinion:

☒ The review of the monitoring report and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. The verifier can confirm that the GHG emission reduction is calculated without material misstatements.

☐ The review of the monitoring report 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 issuance of CERs for this project 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
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CM	Combined Margin
CR	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission Factor
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
FSR	Feasibility Study Report
GHG	Greenhouse gas(es)
IRL	Information Reference List
IRR	Internal Rate of Return
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
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

1.1 Objective

The verification objective is to verify by an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity that the project is implemented as planned, to confirm that the monitoring system is in place and fully functional, and to assure that the project will generate verifiable emission reductions.

To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan; furthermore the periodic verification evaluates the GHG emission reduction data and express a conclusion with a high, but not absolute, level of assurance about whether the reported GHG emission reduction data is “free” of material misstatements; and verifies that the reported GHG emission data is sufficiently supported by evidence, i.e. monitoring records.

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

Jiangxi Fengcheng Mining Administration CMM Utilization Project

1.2 Scope

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

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

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

The Verification scope is defined as an independent and objective review and ex post determination by the Designated Operational Entity of the monitored reductions in GHG emissions. The verification is based on validated project design document including baseline.

Once TÜV SÜD receives a first Monitoring Report version, it is made publicly available on the UNFCCC CDM-webpages. In case of any request by the UNFCCC a Monitoring Report might be

revised and the final Monitoring Report will form the basis for the final evaluation as presented by this report. Information on the first and on the final Monitoring version is presented at page 1.

1.3 Project Description:

15*500kW CMM gensets started operation in Qujiang coalmine from April 2007. CMM utilized by the project is drained from Jianxin, Pinghu and Qujiang mines of Fengcheng Mining Administration. The emissions reductions are achieved by methane (CH_4) capture and destruction, CMM power generation substituting the fossil fuel power generation.

2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual, an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

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

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

The verification protocol consists of seven tables. The different columns in these tables are described in the figure below.

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

Verification Protocol Table 1: Project Activity Implementation		
PDD	**Verified Situation**	**Conclusion**
The checklist is organised in sections following the arrangement of the applied PDD version. In this column the situation as given in the PDD should be stated.	The section is used to elaborate and discuss the PDD situation and/or the conformance to the situation. 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.	Conclusions are presented based on the assessment of the first monitoring report version. This is either acceptable based on evidence provided (þ), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the verification team has identified a need for further clarification.

Verification Protocol Table 2: Data Management System				
Type	**Name**	**Responsibility**	**Procedures**	**Comments**
In this row the data type (e.g. electonically, manual, accounting) should be given.	The name of the data system, to clearly identify it for further verifications, should be stated here.	Responsible company, team or person to update maintain and control these data type should be clearly identified.	A detailed description of the data management system should be given here. Including. All steps taken to archive the raw data should be given here.	This section should summarise the verification team's responses and final conclusion. This is either acceptable based on evidence provided (þ), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the verification team has identified a need for further clarification.

In the following paragraphs of section 2, the identified data types will be analyzed according to their "Raw Data Archiving and Protection Measures", "Data transfer" and "Data Processing". First giving a short description of the procedures (e.g. data archiving), analyzing the risks of these procedures and finally summarising the verification team's responses and final conclusion. This is either acceptable based on evidence provided (þ), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the verification team has identified a need for further clarification.

Verification Protocol Table 3: Monitoring Plan Implementation				
ID-PDD	**ID-Meth**	**ID-Internal**	**Description**	**Conclusion**
The abbreviation used for the measured parameter. How it is described in the PDD (e.g. EG_y for net electricity).	The abbreviation used for the measured parameter. How it is described in the methodology (e.g. EG_y for net electricity).	The abbreviation used for the measured parameter. How it is described in the internal process (e.g. EG_y for net electricity).	A description of the parameter measured should be given here (e.g. amount of electricity supplied to the grid for net electricity production).	This section should summarise the verification team's responses and final conclusion. This is either acceptable based on evidence provided (þ), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the verification team has identified a need for further clarification.

In the following paragraphs of section 3, monitoring procedures of each parameter will be described, including information about period of operation, Instrument type, measurement range of the measuring equipment, trouble shouting, etc. The parameters are arranged according to their sources (e.g. invoices should be listed under "accounting information").

Verification Protocol Table 4: Data Verification

	Description	Comments	Conclusion
This section addresses different parts of the data verification process (e.g. procedure, documentation, responsabilities, measures).	A description of the different parts of the verification should be given here. If evidences are available to underline the performance,they should be given here.	Any remarks, particularities, that are connected to the verification process need to be stated here.	This section should summarise the verification team's responses and final conclusion. This is either acceptable based on evidence provided (þ), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the verification team has identified a need for further clarification.

In the following paragraphs of section 4, different aspects of the verification process will be addressed and described. In total six aspects will be discussed: the "Internal Review" procedures, the "Usage of default values", the "Reproducibility" of applied data, "Peculiarities" that might have occured, the "Reliability and Plausibility" as well as the "Completeness and Correctness" of data.

Verification Protocol Table 5: Additional Requirements			
Type	**Description**	**Comments**	**Conclusion**
If the project fulfils, or has to fulfil additional requirements indicated in the PDD (e.g. environmental issues, market price of the product) it should be stated here.	A description of the requirements and how they have been assessed should be given here.	Any remarks, particularities, that are connected to these requirements need to be stated here.	This section should summarise the verification team's responses and final conclusion. This is either acceptable based on evidence provided (þ), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the verification team has identified a need for further clarification.

Verification Protocol Table 6: Data Reporting		
Type	**Comments and Results**	**Conclusion**
Addressed in here are the compliance of the project with UNFCCC requirements, the cor-	In this section it should be stated if the project is in compliance with the UNFCCC requirements;	This section should summarise the verification team's responses and final conclusion. This is either acceptable based on evidence provided

rect, complete and transparent presentation of the project.	Correct; and presented in a complete and transparent way.	(þ), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification Request (CR)** is used when the verification team has identified a need for further clarification.

Verification Protocol Table 7: Compilation and Resolutions of CARs, CRs and FARs		
Clarifications and corrective action requests	**Id. of CAR/CR/FAR 1**	**Explanation of the Conclusion for Denial**
If the final conclusions from table 7 results in a denial the referenced request should be listed in this section.	Identifier of the Request.	This section should present a detail explanation, why the project is finally considered not to be in compliance with a criterion.

2.1 Appointment of the Assessment Team

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

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

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

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

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Sven Kolmetz	**ATL**	**þ**	**þ**	**þ**
Paula Auer	**T**	**-**	**-**	**-**
Xiaoying Chen	**GHG-A**	**þ**	**þ**	**þ**

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.

Ms. Paula Auer is an environmental engineer and auditor trainee at the department “TÜV Carbon Management Service” located in the head office of TÜV SÜD Industrie Service GmbH in Munich. She has gathered experience in environmental management before joining TÜV SÜD. She has received training in the CDM validation process and participated already in several CDM project assessments.

Ms. Xiaoying Chen is an expert for GHG inventory validation and verification for TÜV SÜD China, she holds a Master Degree in knowledge management from Conservatoire Nationale des Arts et Metiers and has a strong technical background in renewable energies. She has been involved in GHG activities since 2005, starting as consultant for the development of CDM projects. She has re-

ceived extensive training in CDM validation and verification processes and participated in several CDM project assessments.

2.2 Review of Documents

The monitoring report submitted by the client and additional background documents related to the project performance were reviewed. A complete list of all documents reviewed is attached as Annex 2 to this report.

2.3 Follow-up Interviews

On April 14th, 2008 TÜV SÜD performed interviews on-site with project stakeholders to confirm the project installation and the monitoring plan and both the emission reductions presented in the Monitoring report and all the raw data necessary to confirm such calculation. The table below provides a list of all persons interviewed in the context of this on-site visit.

Name	Organisation
Ms. Crystal Cui	CDM consultant from ESI
Mr. Jonathon He	CDM consultant from ESI
Mr. Yimeng Zhang	CDM consultant from ESI
Mr. Stephen Hu	CDM consultant from ESI
Mr. Xiaojian Wu	Manager of Fengcheng CMM power plant
Mr. Shenyong Zhang	General director of Fengcheng coalmine group
Mr. Qingcao Wei	Manager of Fengcheng CMM power plant
Mr. Xiaosong Fan	CDM manager of Fengcheng CMM power plant

2.4 Resolution of Clarification and Corrective Action Requests

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

In general, where insufficient or inaccurate information is available and clarification or new information is required the team shall raise a Clarification Request (CR) specifying what additional information is required.
Where a non-conformance arises the team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- the verification is not able to obtain sufficient evidence for the reported emission reductions or part of the reported emission reductions. In this case these emission reductions shall not be verified and certified;
- the verification has identified misstatements in the reported emission reductions. Emission reductionswith misstatements shall be discounted based on the verifiers ex-post determination of the achieved emission reductions.

The verification process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a CR may result in a CAR. Information or clarifications provided as a result of a CR may also lead to a CAR.
Observations may be raised which are for the benefit of future projects and future verification actors. These have no impact upon the completion of the verification activity.

Corrective Action Requests and Clarification Requests are detailed in the verification protocol in annex 1. The Project Developer is given the opportunity to "close" outstanding CARs and respond to CRs and Observations. The concerns raised and responses that have been given are summarised in chapter 3 below and documented in more detail in the verification protocol in annex 1.

2.5 Internal Quality Control

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

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

3 SUMMARY OF FINDINGS

As informed above all findings are summarized in table 7 of the attached verification protocol.

History of the verification process

A first version of the MR was submitted to the DOE in March 2008. Based on this documentation, a document review and a fact finding mission in form of an on-site audit was performed in April 2008. Afterwards, the client revised the MR according to the requests indicated during the assessment work. The final MR version that was submitted in December 2008 serves as the basis for the final assessment presented herewith.

3.1 Project Implementation

The proposed project activity captures and utilizes coal mine methane (CMM) in the coal mining concession area of Fengcheng Mining Administration. The primary objective of the project is to capture and use coal mine methane (CMM) for power generation. The CMM is drained from three separate mining areas – Jianxin, Pinghu and Qujiang mines – as a result of mining activities. The joint power plant is built in Qujiang. A 20,000m^3 storage tank has been put in place to balance the fluctuating gas flow. The exhaust gas from power generators will be sent to the waste heat utilization equipment. Thermal energy of steam is planned to be utilized for hot water supply for the miners' showers. This has not been realized in this crediting period, hence the emission reductions of this part are not claimed.
There is some baseline use of CMM for residential use in Fengcheng City and this is catered for in the baseline calculations according to the approved methodology.

The project activity has installed a total capacity of 7.5 MW (15*500 kW gen sets) of gas engines for power generation from CMM.

3.2 Findings

In total the assessment team expressed 1 Forward Action Request, 9 Clarification Requests and 6 Corrective Action Requests.

The auxiliary electricity consumption of the project was deducted from the Emission Reductions. [CAR3]. Specific information about the project was included into the Monitoring Report, given clear explanation of the exclusion of Eff_{heat} in the first monitoring period. [CAR4, CR1, CR7]. In regard to the crediting period, the 24th of September was included into the Emission reduction calculation [CAR6].

Detailed information about the location of the back-up meters has been included into the Monitoring Report (MR) [CR2].

Additional documents proving the third party certification of the applied software has been submitted to the DOE [CR3]. The credibility of the software has been checked and verified by the DOE [CR6]. Further documents concerning the gas flux analysis, and the flow meter changings [CR8, CR9] have been provided to the DOE. These documents have been checked and verified by the local auditor.

Formal issues addressing conservative rounding functions in the Emission Reduction Calculation [CAR5], including all relevant parameters and data into the Monitoring Report [CAR2, CR4, CR5], as well as the inclusion of a signature on the MR [CAR1] and the CDM manual [FAR1] have been revised and are resolved.

3.3 Completeness of Monitoring and Consistency with the Methodological Requirements

The audit team has been provided with data covering the whole monitoring period (24/09/2007 – 24/03/2008). There were no gaps in data reporting.

The heat recovery system is not implemented as per the monitoring plan within the registered PDD. The installation was postponed to be in 2009. The cooperation intention letter signed and chopped by Fengcheng Mining Administration and the waste heat consumer has been checked and verified by the DOE. (IRL No. 42) The audit team came to the conclusion, that the requirements of the methodology and the PDD are fulfilled as serious plans to develop the waste heat system have been designed.

All abbreviations and parameter units are consistent with PDD and methodology.

The measurement principles are in compliance with the methodology.

The MR has been revised, the overworked version includes the needed changes. All requirements of the methodology and the monitoring report have been considered. The project is in line with the approved consolidated baseline methodology ACM0008 version 3.

3.4 Accuracy and Reproducability of Emission Reduction Calculations

Three meters are installed on-site, two of them have a spare meter.
The three meters include one gas flow sensor (KVW20IIAB23FWN) which monitors the Methane sent to power plant (please refer to F, T, P in Figure 1 of the CDM Manual), it is installed at the gas pipeline before the power plant.
One infra-red meter which monitors the CH_4 concentration (C). The meters are installed at the gas pipeline before the power plant. A back-up meter is installed.
The methane concentration is measured “on wet basis”. This is in line with the requirements of the methodology.
One power meter (DSSD536) which measures the power generated by the project activity (E_{630} and E_{619}=back-up meter of E_{630}) is installed at the transformer Substation. This meter is bi-directional, measuring both power supply and self consumption.

The flow sensor FE-102 was installed as the replacement of sensor FE-101(the same type sensor) after Nov 2007. The change is traceable in the gas analysis report and has been checked and verified by the DOE. The audit team is of the opinion, that the meter change has not influenced the Emission Reduction Calculation.

In March 2008 a back- up for the infra red meter was installed. The audit team is of the opinion that this is an improvement of the monitoring system.
NMHC samples have been taken. The analysis reports provided by third party have been verified on site.

The accuracy of the meters E_{630} and E_{619} is 0.5S, while the Gas Flow Sensor has an accuracy of <0.5% which is both in line with the national Chinese Standards. The infra red meters have an accuracy of <2%, which is even more accurate and also in line with the Chinese standards.
During onsite audit it can be confirmed that the monitoring and metering system has been implemented by the project owner and that the equipment is working with normal condition.

All instruments used in the project have a valid calibration. The calibration report has been checked and verified by the DOE during the on-site visit. The metering equipment will be calibrated at least once a year according to relevant industrial requirements.

The key parameters that are critical for the determination of GHG emissions are as follows:

- Electricity generated by the project activity
- Electricity consumed by the Project activity
- Gas consumption of the project activity

The emission reduction calculation has been checked by the audit team. The emission reduction is reproducable based on the raw data meassurements. The meter readings have been cross-checked with the internal invoices of the company. The meter reading is consistent with the power generation records, this has been verified during the on-site visit.
In the beginning of the verification process the electricity consumption of the Coal Plant was not considered. This has been revised in the actual version of the emission reduction sheet.

The following data reported in the monitoring report from the project has been assessed in detail. When nothing else is stated, the numbers reported are found to be correctly reported.

Monitored Data:

Date	CH_4 consumption (m^3)	Power Supplied (kWh)	Power from the Grid (kWh)	GEN (kWh)
24th Sep. 2007	10.403,50	11.160	0	11.160
25th Sep. 2007 – 24th Oct. 2007	506.860,50	1.309.200	1.320	1.307.880
25th Oct. 2007 – 24th Nov. 2007	1.025.899,50	2.707.440	120	2.707.320
25th Nov. 2007 – 24th Dec. 2007	1.412.483,00	3.744.000	0	3.744.000
25th Dec. 2007 – 24th Jan. 2008	1.428.217,00	3.382.200	89.400	3.292.800
25th Jan. 2008 – 24th Feb. 2008	1.099.063,00	2.898.600	600	2.898.000
25th Feb. 2008 – 24th Mar. 2008	1.019.432,00	2.682.480	840	2.681.640
Total	**6.502.358,50**	**16.735.080**	**92.280**	**16.642.800**

Emission Reduction Calculation:

Symbol	**Formula**	**Caculation Result (tCO_2e)**

PE_{ME}		0
PE_{MD}	$PE_{MD} = V_{CH4} \times D_{CH4} \times Eff_{E-LEC} \times CEF_{CH4}$	11.920,6925585688
PE_{UM}	$PE_{UM} = GWP_{CH4} \times V_{CH4} \times D_{CH4} \times (1 \bullet Eff_{ELEC})$	457,440920475
PE	$PE = PE_{ME} + PE_{MD} + PE_{UM}$	**12.378,1334790438**
BE_{MD}		0
BE_{MR}	$BE_{MR} = GWP_{CH4} \times V_{CH4} \times D_{CH4}$	91.488,184095
BE_{Use}	$BE_{Use} = GEN \times EF_{ELEC}$	16.020,35928
BE	$BE = BE_{MD} + BE_{MR} + BE_{Use}$	**107.508,543375**
ERs		**95.130**

3.5 Quality of Evidence to Determine Emission Reductions

All necessary documentation is collected, referenced and aggregated and is easily accessible in hard-copy or electronic format. Measurements are performed by calibrated equipment, and the key data can also be cross-checked via other sources, such as sales and inventory data. No assumptions are used that have any material influence on reported emission reductions.

3.6 Management System and Quality Assurance

Fengcheng Mining Administration has established a CDM manual, “CDM Manual, Version 02”, dated 12th May 2008, and has applied its management system to the Coal Mine Methane utilization process.

Two employees of the coal plant are in charge of daily data recording of the electricity meters.
The sales of power are settled monthly, so that the accumulated monthly power data can be double checked by receipts.
The gas flux signals are transmitted to Data Management Centre for displaying and storage in the computer. All data are automatically recorded, saved and handled by the software. The recorded data are printed out and filed on a daily base and the accumulated monthly data will be double checked and signed by the project manager, for a detailed flow chart of the data handling please refer to Figure 2 and Figure 3 in the CDM Manual.
The applied software is “Siemens Wincc” and the certification of this version has been checked and verified by the local auditor (IRL No. 43).
All copies of data will be sent to MCS which is the project consultant, for backup, double check and emission reductions calculation. All data will be archived until two years after the crediting period.
Furthermore internal audits will be hold, to assure the quality of the system.
The project uses state-of-the-art components for its data acquisition and data processing system. All mechanical / electronic components are calibrated. Software components are using a certification by an independent 3rd party institute.

4 VERIFICATION STATEMENT

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

Jiangxi Fengcheng Mining Administration CMM Utilization Project

The verification is based on the currently valid documentation of the UN Framework Convention on Climate Change (UNFCCC). In this context, the relevant documents are the "MarrakeshAccords".

The review of the Monitoring Report and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria.

The verifier confirms that the project is implemented as planned and described in validated and registered project design documents. Installed equipment being essential for generating emission reduction runs reliably. The monitoring system is in place and the project is ready to generate GHG emission reductions. The monitoring plan is in compliance with the monitoring methodology ACM0008 version 3.

The verifier can confirm that the GHG emission reduction is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents.

Munich, 15.12.2008

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

Munich, 15.12.2008

Assessment Team Leader

Industrie Service

Annex 1: Verification Protocol

Verification Protocol

Project Title: Jiangxi Fengcheng Mining Administration CMM Utilization Project

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

Old text from previous verification (unchanged situation) in black colour

Table of Contents

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

1. Project Activity Implementation

1.1. Technology

PDD	Verified Situation	Conclusion
Location (s) *add additional sites if necessary*		
Description / Address: Fengcheng Mining Administration, Fengcheng city, Jiangxi province, P. R China	During the on-site visit, it is can be confirmed that the project site is in compliance with the description of the registered PDD.	þ
GPS coordinates: North latitude 27°42'- 28°26' East longitude 115°25'- 116°26'	The CMM utilization power plant could be located by Google earth through the GPS coordinated provided in the PDD.	þ
Technical Equipment – Main Components *add additional components if necessary*		
Component 1: Power generation sets 15 gen sets *500kW	Capacity: 500KW Manufacture: Shandong Shengdong engine group	þ
Component 2: Residential CMM usage system(part of the baseline scenario)	It is in compliance with the description of the registered PDD.	þ
Component 3: Compression station	It is in compliance with the description of the registered PDD.	þ

PDD	Verified Situation	Conclusion
Component 4: CMM pre-treatment equipment	It is in compliance with the description of the registered PDD.	þ
Component 5: Electricity connection	The electricity generated from the power plant is connected to the substation of Fengcheng coalmine group, this has been verified by the electricity wiring system diagram of Jiangxi Fengcheng Mining Administration CMM Utilization Project.	þ
Component 6: The gas storage tank	A 20,000m3 storage tank has been installed.	þ
Component 7: Waste heat recovery systems	The waste heat recovery system is not implemented as per the registered PDD. **Clarification Request No. 1** The PP is required to clarify that why the heat recovery system is not implemented as per the monitoring plan within the registered PDD.	CR1
Operation Status during verification *add additional sites if necessary*		
Approvals / Licenses Business licenses of Fengcheng Coal mine group	The business licenses of Fengcheng coalmine group is verified during on-site visit, (IRL No. 32), the grid connection approval of Fengcheng CMM power generation project has been verified (IRL No. 31).	þ
Actual Operation Status	Under construction ☐ In operation þ Out of operation ☐ Reason (when out of operation):	þ

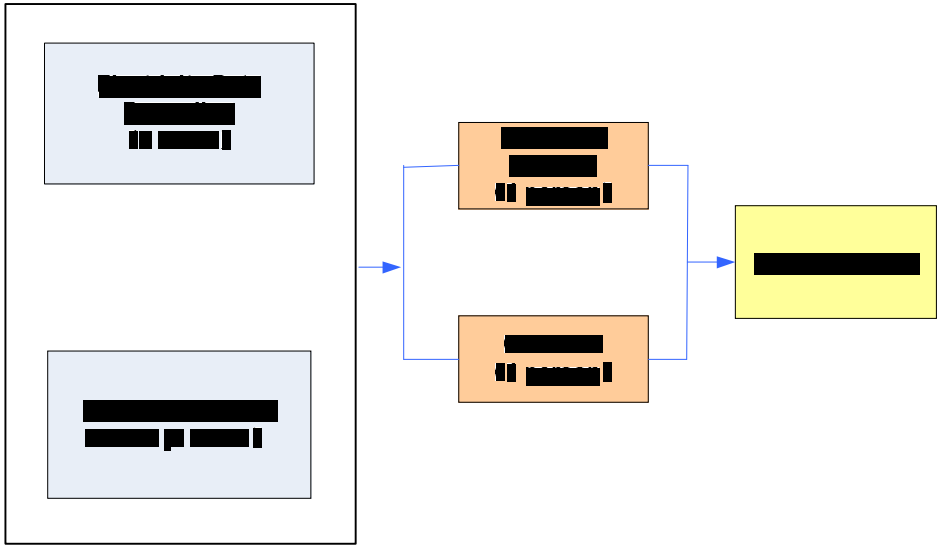
Industrie Service

Date of Completion: 15/12/2008

Number of Pages: 60

PDD	Verified Situation	Conclusion
Remarks to Special Operational Status During the Verification Period	It is verified that the gas flow is correlated with the coal production, also the gas drained from different seams would fluctuate therefore the gas flow and the power generation would be affected.	þ

1.2. Organization

PDD	Verified Situation	Conclusion
Project Participant (s) *add additional participants if necessary*		
Entity / Responsible person: Huojin Wan	Mr. Wan will take fully responsibility of the project activity.	þ
CDM Project management: 	The overall responsibility will be taken by the CDM project manager, two deputy director of the CMM power generation project are in place for the operational management, training, and electricity purchasing management. Staff responsibility: Zhao Zheng, Wu Xiaogang is responsible for monitoring equipment exchange. Li Jixiang, Ye Rui is responsible for maintenance of the monitoring devices. Jiang Weimin is responsible for the storage of the monitored data. Shao Demin, Xiong Fengren is responsible for the electricity monitoring and accounting.	þ

1.3. Quality Management System

PDD	Verified Situation	Conclusion
Quality Management Manual:	The allocation of responsibilities has been documented and incorporated in the operation and management system. See IRL No. 33.	þ
Responsibilities:	See 1.2.	þ
Qualification and Training:	Care has been taken to ensure the qualification of the operational staff through varies of trainings. See IRL No. 30.	þ
Implementation of QM-system	The QM –system is successfully established and fully operated. See IRL No. 30, 33.	þ

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

1.4. Remaining FARs from previous Verifications (or forwarded issues of validation report)

There have been no open issues from the Validation Report

Remaining Requests from Previous Verifications	Summary of project owner response	Audit team conclusion
-	-	-

2. Data Management System

2.1. Description

Structure of raw data archiving				
Describe all the different data collection systems				
Type	Name	Responsible	Procedures	Comments
Manual	CDM Manual Vers. 01 Dated 28th March 2008 (IRL No. 8)	Guideline of monitoring system	1. Data monitoring and recording procedure 2. Data saving and reporting procedure 3. Instruments Maintenance and emergency handling procedure 4. Calculation of ER 5. Project management instruction 6. Quality assurance and quality control 7. Employee training *8.* Internal audit	**Foward Action Request No. 1** We propose to include the signature of the CDM project manager into the CDM manual to ensure the responsibilities.
Data logger	Data logger 1, data logger2 (IRL No. 10, 11)	Monthly electricity generation recording	Reading and recording procedure of ammeter E (internal number as No. 630) and ammeter No.619.	The power generation recording form is listed as Annex1 of the CDM manual. **Clarification Request No. 2** Please indicate in figure 1 of the CDM

				manual to specify the location of the backup meter No.619.
Data logger3	Data logger 3(IRL No.17)	CMM gas analysis daily report	Recording the parameters relating the gas flux monitoring.	**Clarification Request No. 3** According to the description of the CDM manual, the monitored signal of the methane flux and concentration is analyzed and archived through the software developed by Siemens. Please further clarify is there any third party certification of the software available.
PLC 1	Computer a	Display the monitored data of the Gas flux, the computer is also as part of the data archive equipment.	Signals from the gas flow sensor are transmitted to data management centre for displaying and storage in the computer.	þ The computer is produced by Dell, with Wincc 6.0 as the OS, the state-of-the-art components is guaranteed the data acquisition and data processing system.
Laboratory results of NMHC	IRL No.18, 20.	Testing NMHC concentration of the Gas flux for the project emission.	The testing result of NMHC together with the qualification certification of the laboratory is kept in the data management centre.	**Clarification Request No. 4** Please include the NMHC testing result form into the CDM manual.
Accounting	Invoice IRL (No. 13)	Electricity internal purchasing invoice.	The internal power purchasing invoice will be confirmed by the deputy director of the power plant, the copy of the invoice will be archived in the data management centre.	þ

External data	Form e	Default values listing	The list of default values and the ex-ante parameters is listed in section B.2.1.of the monitoring report.	**Clarification Request No. 5** Please develop a form in which all the external data should be listed and correctly sourced. The external data verification and storage method should also be indicated
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*				

2.2. Raw Data Archiving and Protection measures

Name	Description of data archiving and protection measures	Risks and comments	Concl.
Data logger 1 and data logger2 (IRL No. 10,11)	The data saving and reporting procedure is clearly defined in the CDM manual section2. All copies of raw data will be sent to MCS which is the project consultant, for backup, double check and emission reduction calculation. All data will be archived until 2 years after the crediting period.	The power generation and consumption is metered internally by metering devices which are listed with all their relevant characteristics in the “equipment list”. Metering methods and type of equipment correspond with the methodology requirements.	þ
Data logger 3(IRL No.17)	The data saving and reporting procedure is clearly defined in the CDM manual section2. All copies of raw data will be sent to MCS which is the project	The CMM gas flux analysis records are securely archived in the data management centre.	þ

	consultant, for backup, double check and emission reduction calculation. All data will be archived until 2 years after the crediting period.		
Laboratory results of NMHC	The laboratory results of NMHC analysis are archived in the data management centre.	See CR4.	See CR4
Invoice	The power purchasing confirmation is done by different departments before the invoice is issued, and the accounting records are archived in the data management centre.	There is no remaining risk regarding the accounting system.	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

2.3. Data transfer

Description of data transfer from raw data archiving to calculation tool			
Name	Description and responsibilities	Risks and comments	Concl.
Data logger 1 and data logger2 (IRL No. 10, 11)	The electricity data are measured continuously by ammeters and accumulated constantly. Two operational staff will be responsible for the daily data reading and recording.	Except for mistyping, the risk of data losses is very low.	þ
Computer a	The gas flux and methane concentration is monitored through sensor Infra Red Gas Monitor 01(series number 24407) and Gas Flow Sensor 01(series number FE-101), the monitored data will be analyzed automatically through the software and will be archived by the same computer where the software is installed.	There is a backup computer for the gas flux monitoring, thus risk of data failure in the gas flux monitoring part is very low.	þ
Testing result	The testing result of NMHC concentration together with the qualification certification of the tester will be kept in the data management centre.	None.	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

2.4. Data Processing

Description of data processing from transferred data to final results in the calculation tool

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

Step	Description	Risks and comments	Concl.
Consistency	All the abbreviations are consistent with PDD while the units of the monitored data are not consistent with the methodology ACM0008version 3. E.g. MMelec, GENy	**Corrective Action Rquest No. 1** Please revise the monitoring report accordingly.	CAR1
Calculation Tool description	Formulae to calculate baseline emission, project emission and emission reduction are clearly presented in the calculation tool, where all the intermediate steps are included.	**Clarification Request No. 6** The date of the issuing the calculation tool should be indicated. The BEuse in the calculation formulae is missing without clarification.	CR6
Transformation from transferred data to useable data	The power consumption part is not calculated as per the calculation tool.	**Corrective Action Rquest No. 2** The power consumed should be taken into account of the project emission.	CAR2
Elimination of not plausible data		**Clarification Request No. 7** Please provide the graphical analysis about the gas flux and concentration variation.	CR7
Transformation from useable data to input data for further calculation	The monthly statistics of the monitored data are correctly transferred from the data management centre to the consultant for ER calculation.	N/A	þ
Ex-ante data	A list of default value is presented in the MR section B.2.1.	**Corrective Action Rquest No. 3** Please note that the Ex-ante data is different to the default parameter, please list the Ex-ante data separately. The ex-ante data of Effheat is not listed	CAR3

		as per the registered PDD.	
Default parameter		See CAR3.	See CAR3
Formulae check	The formulae is correctly presented as per the methodology ACM0008 version3.	The ER calculation formulae included in the calculation sheet is consistent with the methodology, however see CR1	See CR1
Rounding functions		The rounding function is not conservative. **Corrective Action Rquest No. 4** Please calculate with all available decimal places and to round conservatively at the end of the calculation.	CAR4
Calculation tool changes and protection measures	The calculation tool is protected against unauthorized changes.	N/A	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

3. Monitoring Plan Implementation

3.1. List of Parameter to be monitored

ID-PDD	ID-Meth.	ID-Internal	Description	Conclusion
Instrumentation *insert all components that are metered by instruments as necessary due to PDD and applied methodology version*				
MM_{ELEC}	MM_{ELEC}	V_{GAS}	Methane sent to power plant	See 2.2.2.
CEF_{NMHC}	CEF_{NMHC}		Carbon emission factor for combusted non methane hydrocarbons	See 2.2.3.
PC_{CH4}	PC_{CH4}		Concentration of methane in extracted gas	See 2.2.2.
GEN_y	GEN_y	GEN	Annual power supplied by the project activity	See2.2.1
$HEAT_y$	$HEAT_y$		Total waste heat recovered by the project	See CR1
Sampling *insert all components that are sampled as necessary due to PDD and applied methodology version*				
PC_{NMHC}	PC_{NMHC}		Non methane hydrocarbons (NMHC) concentration in coal mine gas	See 2.2.3.
Accounting *insert all components that are accounted as necessary due to PDD and applied methodology version*				
GEN_y	GEN_y	GEN	Annual power supplied by the project activity	See 2.4.1
External Data *insert all components that are coming from external data sources as necessary due to PDD and applied methodology version*				
$EF_{BM,y}$	$EF_{BM,y}$		Build margin emission factor of Central China Power Grid	þ
$EF_{OM,y}$	$EF_{OM,y}$		Operating margin emission factor of Central China Power Grid	þ
$EF_{CO2, Coal}$	$EF_{CO2, Coal}$		CO_2 emission factor of coal used in heat generation	þ
Eff_{heat}	Eff_{heat}		Efficiency of methane destruction in heat plant	þ

ID-PDD	ID-Meth.	ID-Internal	Description	Conclusion
DCH4	DCH4		Density of methane	þ
EffELEC	EffELEC		Efficiency of methane destruction in power plant	þ
CEFCH4	CEFCH4		Carbon emission factor for combusted methane	þ
GWPCH4	GWPCH4		Global warming potential of methane	þ
Others *insert all miscellaneous components as necessary due to PDD and applied methodology version à not applicable*				

3.2. Monitoring Instrumentation

3.2.1. Instrument 1: Gas Flow Sensor

PDD	Verified Situation	Conclusion
Instrumentation Information *list all different instruments which have been used during the monitoring period; use a separate table for each single instrument*		
ID-PDD: FG	Required for MMelec	þ
ID-Internal: **Sensor02**		þ
Data to be Measured:	Methane measured sent to power plant	þ
Data Logging:	Daily recording	þ
Archiving of Raw Data:	In annex 2 of the CDM manual	þ
Measurement Principle:	continues monitoring	þ
Period of Operating Time:	Begin November 2007 Until present	þ
Instrument Type:	KVW20IIAB23FWN	þ
Serial Number:	FE-102	þ
Manufacturer Model Nr.:	Moore-Kingways (Shanghai) Control System Co., Ltd.	þ
Specific Location:	On the gas pipeline before power plant	þ

Industrie Service

Date of Completion: 15/12/2008

Number of Pages: 60

Measurement Range:	423.423m3/h—1584.338m3/h	þ
Measurement Unit:	m3/h	þ
Calibration:	25th Nov, 2007	þ
Required Calibration Frequency:	Annually	þ
Uncertainty Level:	accuracy rate < + 0.44%	þ
Monitoring & Calculation		
Reading Frequency:	Automatically, accumulatively recorded, the daily report can be automatically set up by software.	þ
Recording Frequency:	The daily data will be automatically recorded from the software, while the accumulated monthly report will be checked and signed by the project manager.	þ
Trouble Shooting:	See section C. in CDM manual, the emission reduction would not be accounted for a conservative manner when the flow meter is in malfunction.	þ

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok.	þ
Installation: *Manner of execution*	The flow sensor FE-101 is replaced by flow sensor FE-102 in Nov, 2007, this is verified during the on-site audit.	The flow sensor FE-102 was installed as the replacement of sensor FE-101(the same type sensor) after Nov 2007, however there is no such restart recording indications of the accumulated gas flow recording monthly report. **Clarification Request No. 8** The PP is required to clarify the inconsistency between the meter changing and the accumulated gas flow monthly report.	CR8
Functionality:	Normal	Ok.	þ
Quality assurance:	Third Party Certificate available	See IRL No.27. Calibration result: “Qualified”	þ
Maintenance:	Daily plausibility check	The daily plausibility is checked by the operational staff of the power plant.	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

3.2.2. Instrument 2: Gas Flow Sensor

PDD	Verified Situation	Conclusion
Instrumentation Information *list all different instruments which have been used during the monitoring period; use a separate table for each single instrument*		
ID-PDD: FG	Required for MMelec	þ
ID-Internal: **Sensor01**		þ
Data to be Measured:	Methane measured sent to power plant	þ
Data Logging:	Daily recording	þ
Archiving of Raw Data:	In annex 2 of the CDM manual	þ
Measurement Principle:	continues monitoring	þ
Period of Operating Time:	Begin April 2007 Until Nov 2007	þ
Instrument Type:	KVW20IIAB23FWN	þ
Serial Number:	FE-101	þ
Manufacturer Model Nr.:	Moore-Kingways (Shanghai) Control System Co., Ltd.	þ
Specific Location:	On the gas pipeline before power plant	þ
Measurement Range:	467.695m3/h—1564.863m3/h	þ
Measurement Unit:	m3/h	þ

Industrie Service

Date of Completion: 15/12/2008

Number of Pages: 60

Calibration:	30th November 2006	þ
Required Calibration Frequency:	Annually	þ
Uncertainty Level:	accuracy rate < + 0.41%	þ
Monitoring & Calculation		
Reading Frequency:	Automatically, accumulatively recorded, the daily report can be automatically set up by software.	þ
Recording Frequency:	The daily data will be automatically recorded from the software, while the accumulated monthly report will be checked and signed by the project manager.	þ
Trouble Shooting:	See section C. in CDM manual, the emission reduction would not be accounted for a conservative manner when the flow meter is in malfunction.	þ

Verification Protocol

Project Title: Jiangxi Fengcheng Mining Administration CMM Utilization Project

Industrie Service

Date of Completion: 15/12/2008

Number of Pages: 60

Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok.	þ
Installation: *Manner of execution*	The flow sensor FE-101 is replaced by flow sensor FE-102 in Nov, 2007, this is verified during the on-site audit.	Ok.	þ
Functionality:	Normal		þ
Quality assurance:	Third Party Certificate available	See IRL No.26. Calibration result: “Qualified”	þ
Maintenance:	Daily plausibility check	The daily plausibility is checked by the operational staff of the power plant.	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

3.2.3. Instrument 3: CH_4 concentration sensor

PDD	Verified Situation	Conclusion
Instrumentation Information *list all different instruments which have been used during the monitoring period; use a separate table for each single instrument*		
ID-PDD:	Required for CH4 con concentration monitoring	þ
ID-Internal: **Infra Red Gas Monitor 02**		þ
Data to be Measured:	CH4 concentration in CMM	þ
Description of Location:	On the gas pipeline before power plant	þ
Signal Transformation and Transfer:	Signal will be transmitted in the data management centre and will be automatically analyzed and stored by the software.	þ
Data Logging:	Automatically	þ
Archiving of Raw Data:	Daily archiving as per the form Annex2 in the CDM manual.	þ
Measurement Principle:	Continuously	þ
Period of Operating Time:	Begin March 2008	þ
Instrument Type:	97460	þ
Serial Number:	26678	þ
Manufacturer Model Nr.:	Guardian Plus	þ
Specific Location:	On the gas pipeline before power plant	þ

Measurement Range:	0--100	
Measurement Unit:	%LEL	
Calibration:	Date: 20th March, 2008. Calibration result: "Qualified"	
Required Calibration Frequency:	Annually	
Uncertainty Level:	2%	
Monitoring & Calculation		
Reading Frequency:	Automatically recording	þ
Recording Frequency:	Automatically recorded. Daily report will be kept in the data management centre	
Trouble Shooting:	e.g. Default value used in case of malfunction	

Inspection Results During Verification			
Operation of Instrumen-tation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok.	þ
Installation: *Manner of execution*	Installed in March 2008	Ok.	þ
Functionality:	Normal	Ok.	þ
Quality assurance:	Third Party Certificate avail-able	See IRL No. 24	þ
Maintenance:	Daily plausibility check	The daily plausibility is checked by the operational staff of the power plant.	þ

Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*	

3.2.4 Instrument 4: CH_4 concentration sensor

PDD	Verified Situation	Conclusion
Instrumentation Information *list all different instruments which have been used during the monitoring period; use a separate table for each single instrument*		
ID-PDD:	Required for CH4 con concentration monitoring	þ
ID-Internal: **Infra Red Gas Monitor 01**	Ok.	þ
Data to be Measured:	CH4 concentration in CMM	þ
Description of Location:	On the gas pipeline before power plant	þ
Signal Transformation and Transfer:	Signal will be transmitted to the data management centre and will be automatically analyzed and stored by the software.	þ
Data Logging:	Automatically	þ
Archiving of Raw Data:	Daily archiving as per the form Annex2 in the CDM manual.	þ
Measurement Principle:	Continuously	þ
Period of Operating Time:	Begin: April 2007 End: March 2008	þ
Instrument Type:	97460	þ

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

Serial Number:	24407	þ
Manufacturer Model Nr.:	Guardian Plus	þ
Specific Location:	On the gas pipeline before power plant	þ
Measurement Range:	0--100	þ
Measurement Unit:	%LEL	þ
Calibration:	Date: 26th March, 2007.	þ
Required Calibration Frequency:	Annually	þ
Uncertainty Level:	3%	þ
Monitoring & Calculation		
Reading Frequency:	Automatically recording	þ
Recording Frequency:	Automatically recorded. Daily report will be kept in the data management centre	þ
Trouble Shooting:		

Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok.	þ
Installation: *Manner of execution*	This sensor was implemented from Apr 2007until Mar 2008	Ok.	þ
Functionality:	Normal	Ok.	þ
Quality assurance:	Third Party Certificate avail-	See IRL No.26. Calibration result: “Qualified”	þ

	able		
Maintenance:	Daily plausibility check	The daily plausibility is checked by the operational staff of the power plant.	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

3.2.5. Instrument 5: Ammeter

PDD	Verified Situation	Conclusion
Instrumentation Information *list all different instruments which have been used during the monitoring period; use a separate table for each single instrument*		
ID-PDD:E	Power generated by the project activity	þ
ID-Internal: **630**[#]		þ
Data to be Measured:	Power generated by the project activity	þ
Description of Location:	Transformer Substation	þ
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	þ
Data Logging:	Daily recording and accumulating	þ
Archiving of Raw Data:	Two operational staff will be responsible for the daily recording and checking of the power generated and self used.	þ
Measurement Principle:	Continuously	þ

Industrie Service

Date of Completion: 15/12/2008

Number of Pages: 60

Period of Operating Time:	Begin April 2007 Until present	þ
Instrument Type:	DSSD536	þ
Serial Number:	0914-956249	þ
Manufacturer Model Nr.:	Holley Metering	þ
Specific Location:	Transformer Substation	þ
Measurement Range:	Not indicated	þ
Measurement Unit:	Not indicated	þ
Calibration:	25th March 2007 and 22nd March 2008	þ
Required Calibration Frequency:	Annually	þ
Uncertainty Level:	0.5S	þ
Monitoring & Calculation		
Reading Frequency:	Daily recording	þ
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre	þ
Trouble Shooting:	Backup meter will be replaced if the meter is in malfunction.	þ

Inspection Results During Verification			
Operation of Instrumen-tation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok.	þ
Installation: Manner of execution	Installed since Apr 2007	Ok.	þ
Functionality:	Normal	Ok.	þ
Quality assurance:	*Calibration*	IRL No. 14. 15. Calibration result: "Qualified"	þ
Maintenance:	*Description*	Operational staff	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

3.2.6. Instrument 6: Ammeter

PDD	Verified Situation	Conclusion
Instrumentation Information *list all different instruments which have been used during the monitoring period; use a separate table for each single instrument*		
ID-PDD:	Power consumed by the project activity	þ
ID-Internal: **619**[#]	Ok.	

Data to be Measured:	power consumed by the project	
Description of Location:	Transformer Substation	
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	
Data Logging:	Manully recording and accumulating	
Archiving of Raw Data:	Two operational staff will be responsible for the daily recording and checking of the power generated and self used.	
Measurement Principle:	Continuously	
Period of Operating Time:	Begin April 2007 Until now	
Instrument Type:	DSSD536	
Serial Number:	0914-956279	
Manufacturer Model Nr.:	Holley Metering	
Specific Location:	Transformer Substation	
Measurement Range:	Not indicated	
Measurement Unit:	Not indicated	
Calibration:	25th March 2007 and 22nd March 2008	
Required Calibration Frequency:	Annually	
Uncertainty Level:	0.5S	
Monitoring & Calculation		
Reading Frequency:	Daily recording	þ

Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre	þ
Trouble Shooting:		

Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	þ
Installation: *Manner of execution*	Since Apr 2007	Ok	þ
Functionality:	Normal	Ok	þ
Quality assurance:	Third Party Certificate available	See IRL No.14. 15. Calibration result: “Qualified”	þ
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

3.3. Sampling Information

3.3.1. Sampling Point a: NMHC result

PDD	Verified Situation	Conclusion
Sampling Information *list all different sampling points which have been used during the monitoring period; use a separate table for each single sampling point*		
ID-PDD: PCNMHC	Ok	þ
ID-Internal: PCNMHC	Ok	þ
Sample Taken From:	CMM storage tank	þ
Location of Sampling Point:	CMM storage tank	þ
Monitoring & Calculation		
Sampling Principle:	0.5 litre sampling bag, number 3	þ
Methodology of Sampling:	In compliance with meth./PDD	þ
Frequency of Sampling:	Annually	þ
Training of Sampling Personnel:	Reference of training - In compliance with meth./PDD IRL No. 30	þ
Sample Analysed for / Data to be Measured:	Concentration of Non-methane hydrocarbon in the sample/4th Sep, 2007	þ
Sample Analysed by:	Jiangsu provincial supervising & testing research institute for products quality IRL No.20	þ
Certification of Analyser/ Laboratory:	Jiangsu province quality supervision bureau. IRL No.21	þ
Analysis Principle:	National standard for mixed gas analysis regulation “GB/T 10628-1989”.	
Methodology of Sample Analysis:	In compliance with meth./PDD	þ
Measurement Unit:	%	þ
Measurement Range:	N/A	þ

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

PDD	Verified Situation	Conclusion
Uncertainty Level:	N/A	þ
Archiving of Raw Data:	See CR4	þ

Inspection Results During Verification			
Operation of Sampling	Method of Verification	Verification Results	Conclusion
Documentation	The PC_{NMHC} result is archived in the data management centre.	Ok	þ
Representativity		Ok	þ
Reproducibility	The testing result was verified during the on-site visit, the result of PC_{NMHC} is 0.98	Ok	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

3.3.2. Sampling Point a: NMHC result

PDD	Verified Situation	Conclusion
Sampling Information *list all different sampling points which have been used during the monitoring period; use a separate table for each sin-*		

PDD	Verified Situation	Conclusion
gle sampling point		
ID-PDD: PCNMHC	Ok	þ
ID-Internal: PCNMHC	Ok	þ
Sample Taken From:	CMM storage tank	þ
Location of Sampling Point:	CMM storage tank	þ
Monitoring & Calculation		
Sampling Principle:	Sampling bag	þ
Methodology of Sampling:	In compliance with meth./PDD	þ
Frequency of Sampling:	Annually	þ
Training of Sampling Personnel:	Reference of training - In compliance with meth./PDD IRL No. 30	þ
Sample Analysed for / Data to be Measured:	Concentration of Non-methane hydrocarbon in the sample/1st Apr, 2008. IRL No. 18	þ
Sample Analysed by:	Shanghai standard gas testing centre	þ
Certification of Analyser/ Laboratory:	Certification of metrological authorization of Shanghai standard gas testing center, issued by Shanghai quality and technical supervision bureau. IRL No.19	þ
Analysis Principle:	National standard for mixed gas analysis regulation “GB/T 10628-1989”.	þ
Methodology of Sample Analysis:	In compliance with meth./PDD	þ
Measurement Unit:	%	þ
Measurement Range:	N/A	þ
Uncertainty Level:	N/A	þ

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

PDD	Verified Situation	Conclusion
Archiving of Raw Data:	See CR4	þ

4.

Inspection Results During Verification			
Operation of Sampling	Method of Verification	Verification Results	Conclusion
Documentation	The PCNMHC result is archived in the data management centre.	Ok	þ
Representativity		Ok	þ
Reproducibility	The testing result was verified during the on-site visit, the result of PCNMHC is 0.97	Ok	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

4.1. Accounting information

PDD	Verified Situation	Conclusion
Accounting Information *list all significant accounted components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD: N/A	N/A	þ
ID-Internal:	N/A	þ
Description of Accounted Component:	Internal power purchasing confirmation documents IRL No.12	þ
Accounting Unit:	KWh	þ
Quality Assurance Measures / System:	The internal purchasing confirmation document is the basis for the power purchasing	þ
Account Archived:	Sep 2007 to Apr 2008	þ
Account Credible / in Line with PDD:	With the signature from different department	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		
PDD	Verified Situation	Conclusion
Accounting Information *list all significant accounted components which have been used during the monitoring period; use a separate table for*		

each single component		
ID-PDD: N/A	N/A	þ
ID-Internal:	N/A	þ
Description of Accounted Component:	Internal power purchasing invoices IRL No.13	þ
Accounting Unit:	Yuan/KWh	þ
Quality Assurance Measures / System:	The internal power purchasing invoice is the basis for the cross checking with the meter value of the power generation	þ
Account Archived:	Sep 2007 to Apr 2008	þ
Account Credible / in Line with PDD:	With the signature from different department	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		

4.2. External Data

PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD: PMMBL,GAS,y	Listed in the PDD	þ
ID-Internal: PMMBL,GAS,y	Listed in the PDD	þ
Description of Data / Data Refers to:	Post-mining CMM that would have been captured and destroyed by residential usage in the baseline scenario	þ
Unit of Data (if appropriate):	tCH_4/y	þ
Date of Data Income:	Estimated as from the FSR.	þ
Source of Data:	Calculated based on the data of thermal energy demand in the past 5 years before the starting date of the proposed project activity monitored by gas flow meters and concentration meters. ACM0008 recommended method is used to ex-ante determine baseline thermal energy demand	þ
Reliability of Data Source:	N/A	þ
Is the Data up-to-date?	Yes, the data is verified during the on-site audit	þ
Uncertainty Level:	N/A	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		

PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD: $EF_{OM,y}$	Listed in the PDD	þ
ID-Internal: $EF_{OM,y}$	Listed in the PDD	þ
Description of Data / Data Refers to:	Operating margin emission factor of Central China Power Grid	þ
Unit of Data (if appropriate):	tCO2e/MWh	þ
Date of Data Income:	Dec 2006	þ
Source of Data:	The method recommended by China DNA is used for calculation. "China Energy Statistical Yearbook" and "China Electric Power Yearbook" are quoted as references.	þ
Reliability of Data Source:	It is from the publications of the Chinese DNA.	þ
Is the Data up-to-date?	It is in compliance with the registered PDD	þ
Uncertainty Level:	N/A	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		
PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single*		

component		
ID-PDD: EFBM,y	Listed in the PDD	þ
ID-Internal: EFBM,y	Listed in the PDD	þ
Description of Data / Data Refers to:	Build margin emission factor of Central China Power Grid	þ
Unit of Data (if appropriate):	tCO2e/MWh	þ
Date of Data Income:	Dec 2006	þ
Source of Data:	The method recommended by China DNA is used for calculation. "China Energy Statistical Yearbook" and "China Electric Power Yearbook" are quoted for references.	þ
Reliability of Data Source:	It is from the publications of the Chinese DNA	þ
Is the Data up-to-date?	It is in compliance with the registered PDD	þ
Uncertainty Level:	N/A	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks.*		
PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD: $EF_{CO2, Coal}$	Listed in the PDD, See CR1	See CR1
ID-Internal: Not available	Listed in the PDD	See CR1

Description of Data / Data Refers to:	CO2 emission factor of coal used in heat generation	See CR1
Unit of Data (if appropriate):	tC/TJ	See CR1
Date of Data Income:		See CR1
Source of Data:	1996 IPCC default value	See CR1
Reliability of Data Source:		See CR1
Is the Data up-to-date?		See CR1
Uncertainty Level:		See CR1
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		
PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD: Effheat	See CR1	See CR1
ID-Internal: Effheat	See CR1	See CR1
Description of Data / Data Refers to:	Boiler efficiency of the heat generation	See CR1
Unit of Data (if appropriate):	•	See CR1
Date of Data Income:		See CR1

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

Source of Data:	ACM0008 7.4.4 Option B	See CR1
Reliability of Data Source:	e.g.: certification of data source	See CR1
Is the Data up-to-date?		See CR1
Uncertainty Level:		See CR1
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		

PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD D_{CH4}	Listed in the PDD	þ
ID-Internal: D_{CH4}	Listed in the PDD	þ
Description of Data / Data Refers to:	Density of methane under normal conditions of temperature and pressure	þ
Unit of Data (if appropriate):	t/m3	
Date of Data Income:	1996	
Source of Data:	1996 IPCC	
Reliability of Data Source:	Yes	
Is the Data up-to-date?	Yes	

Uncertainty Level:	N/A	
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		

PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD: Eff_{ELEC}	Listed in the PDD	þ
ID-Internal: Eff_{ELEC}	Listed in the PDD	þ
Description of Data / Data Refers to:	Efficiency of methane destruction/oxidation in power generation	þ
Unit of Data (if appropriate):	•	þ
Date of Data Income:	1996	þ
Source of Data:	1996 IPCC	þ
Reliability of Data Source:	Yes	þ
Is the Data up-to-date?	Yes	þ
Uncertainty Level:	N/A	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.*		

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

Further Remarks: *No further remarks*	

PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD: CEF_{CH4}	Listed in the PDD	þ
ID-Internal: CEF_{CH4}	Listed in the PDD	þ
Description of Data / Data Refers to:	Carbon emission factor for combusted methane	þ
Unit of Data (if appropriate):	tCO_2e/tCH_4	þ
Date of Data Income:	22nd Dec, 2006	þ
Source of Data:	ACM0008 version3	þ
Reliability of Data Source:	UNFCCC	
Is the Data up-to-date?	Yes	
Uncertainty Level:	N/A	
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		

PDD	Verified Situation	Conclusion
External Data *list all external data components which have been used during the monitoring period; use a separate table for each single component*		
ID-PDD: GWP_{CH4}	Listed in the PDD	þ
ID-Internal: GWP_{CH4}	Listed in the PDD	þ
Description of Data / Data Refers to:	Global warming potential of methane	þ
Unit of Data (if appropriate):	tCO_{2e}/tCH_4	þ
Date of Data Income:	22nd Dec, 2006	þ
Source of Data:	ACM0008 version3	þ
Reliability of Data Source:	UNFCCC	þ
Is the Data up-to-date?	Yes	þ
Uncertainty Level:	N/A	þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		

4 Data Verification (not required for initial verification)

4.1 Internal Review

Description and performance of internal review			
	Description	Comments	Concl.
Procedure	The raw data relating to the emission reduction have been cross checked by the internal power purchasing invoices.	The raw data are traceable, however see CR8.	See CR8
Documentation	The data management centre is supervised by the deputy director of the CMM power plant, Mr. Fan, all the evidence have been re-viewed by the audit team.	The raw data documentation procedure is considered to be complete.	þ
Responsibilities	ESI, the ER buyer made the final internal approval of the Monitor-ing Report		þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

4.2 Usage of default values

Description and performance of internal review			
	Description	Comments and Results	Concl.
Procedure	Default values have been correctly adopted as per the methodology, in section 2.4 of the CDM manual, it is regulated in case malfunction or missing calibration of the measuring devices happens, the emission reduction would be calculated as zero to be conservative.		þ
Documentation	The meter changing documentation is not clearly presented.	See CR8	See CR8
Responsibilities	The operational manager of the CMM power plant will take fully responsibility of the meter changing supervision.		þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

4.3 Reproducibility

Description and performance of the assessment			
	Description	Comments and Results	Concl.
Procedure	A complete check was performed by the audit team on the emission reduction calculation, the major raw data: power generation and gas consumption have been cross checked by the internal invoices. The calculated emission reduction is reproducible based on the raw data.	See CAR2, the power consumed by the project activity is missing in the ER calculation.	
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

4.4 Peculiarities

Description of Peculiarities and unexpected Daily Events during the verification period			
	Description	Comments and Results	Concl.
Performance	There was a fluctuation of the gas supply from September to November 2007. The reason of the gas fluctuation is relating to the coalmine production variation. The gas supply fluctuation would decrease the baseline emission.	The emission reduction is slightly affected by the gas fluctuation, however the impact would decrease the emission reduction.	þ
Documentation	The peculiarity of the gas supply is clearly traceable by the daily gas analysing report. It is in comply with the methodology.		þ
Measures	The gas supply would be stabilized by the gas storage system.		þ
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

4.5 Reliability and Plausibility

Description of crosschecks and plausibility checks			
	Description	Comments and Results	Concl.
Performance	During the on-site audit, the data in the calculation tool were cross checked by the auditors, the provided emission reduction is in a plausible range. The correlation between the power generation(KWh) and the CH4 consumption(m^3) is about 2.57		
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*			

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

4.5 Completeness and Correctness

Description of completeness and correctness			
	Description	Comments and Results	Concl.
Correctness		See CR1	
Completeness		See CR1	
Further Remarks: *no further comments*			

Industrie Service

Date of Completion: 15/12/2008
Number of Pages: 60

5 Additional requirements

Description of additional requirements to be checked			
	Description	Comments and Results	Concl.
e.g. environmental issues	N/A		
e.g. market price of the product	N/A		
Further Remarks: *No further remarks*			

6 Data Reporting

Description of the Monitoring Report		
	Comments and Results	Concl.
Compliance with UNFCCC regulations	*All requirements of the methodology and the monitoring report have been considered. The project is in line with the approved consolidated baseline methodology ACM0008.* *The MR has been revised and the overworked version includes the required changes of the verification.* *The verification period from 24th September 2007 to 24th March 2008 is covered by the documents and evidences received during the on-site audit.*	
Completeness and Transparency	**Corrective Action Rquest No. 5** 24th Sept is missing from the 1st monitoring period. Please revise the MR accordingly.	CAR5
Correctness	*All of the provided values are correctly transferred from the related and assessed sources (e.g. calculation tool.)*	
Key Reporting Risks: *The risks for material misstatement are reduced by these control measures and the remaining risk is low.* **Further Remarks:** *No further remarks*		

7 Compilation and Resolutions of CARs, CRs and FARs

Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion
Corrective Action Rquest No. 1 On the cover page of the Monitoring Report, a signature of the responsible person is missing. This needs to be included.	**Response Project Participant:** The project manager of Fengcheng Mining Administration has signed on the cover page of Monitoring Report.	þ Please refer to IRL No. 39.
Corrective Action Rquest No. 2 Please revise the monitoring report accordingly. The MMelec should be listed as well in the Monitoring Report. The Density should be included into the MR.	**Response Project Participant:** MMelec and the Density of methane have been included in the Monitoring Report.	þ The relevant parameter has been specified in section B.2.3. Please refer to IRL No. 39.
Corrective Action Rquest No. 3 The power consumed should be taken into account of the project emission.	**Response Project Participant:** The power consumed has been taken into account. The Monitoring Report and ERs calculation sheet have been revised accordingly.	þ The issue is considered to be resolved.
Corrective Action Rquest No. 4 Please note that the Ex-ante data is different to the default parameter, please list the Ex-ante data separately. The ex-ante data of Effheat is not listed as per the registered PDD.	**Response Project Participant:** The Ex-ante data have been separately listed. It has been clarified in the Monitoring Report that since waste heat recovery is not implemented yet, the ex-ante data of Eff_{heat} is not listed.	þ

Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion
Corrective Action Rquest No. 5 Please calculate with all available decimal places and to round conservatively at the end of the calculation.	**Response Project Participant:** The ERs calculation excel sheet has been revised to calculate with all available decimal places and to round conservatively at the end of the calculation.	þ
Corrective Action Rquest No. 6 24th Sept is missing from the 1st crediting period. Please revise the MR accordingly.	**Response Project Participant:** The MR has been revised to include monitoring data and emission reductions of 24th Sep. 2007.	þ
Clarification Requests by audit team	**Summary of project owner response**	**Audit team conclusion**
Clarification Request No. 1 The PP is required to clarify that why the heat recovery system is not implemented as per the monitoring plan within the registered PDD.	**Response Project Participant:** The waste heat recovery is postponed to be implemented in 2009. **Further Response from project owner:** The cooperation intension letter signed and chopped by Fengcheng Mining Administration and the waste heat consumer is provided to DOE. It is stated in the intention letter that Fengcheng Mining Administration and the waste heat consumer – Fengcheng Qujiang Coal Development Co., Ltd. will cooperation on	**DOE's first response:** Is there any implementation plan available to evidence the future implementation? þ **DOE's second response:** The cooperation intention letter signed by Fengcheng Mining Administration and the waste heat consumer has been verified by the DOE, please refer to IRL No. 42.

Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion
	the waste heat utilisation project. It is planned the waste heat utilisation equipment to be operated in 2009.	
Clarification Request No. 2 Please indicate in figure 1 of the CDM manual to specify the location of the backup meter No.619.	**Response Project Participant:** Figure 1 has been revised to specify the location of backup meter No.619.	þ The location of the backup electric ammeter No. 619 has been specified in the figure1 of the CDM manual. Please refer to IRL No. 38.
Clarification Request No. 3 According to the description of the CDM manual, the monitored signal of the methane flux and concentration is analyzed and archived through the software developed by Siemens. Please further clarify is there any third party certification of the software available.	**Response Project Participant:** Siemens is a world notable company. The information on the "Wincc" software which is used by the project can be found at the following website: http://www.ad.siemens.com.cn/products/as/hmi/software/. This indicates that "Wincc" is certified software. **Further Response from project owner:** The hard copy indicating that Wincc is certified software developed by Siemens is provided to DOE.	**DOE's first response:** Please submit the hard copy of the certification of the software to the DOE. þ **DOE's second response:** Please refer to IRL No. 43.
Clarification Request No. 4	**Response Project Participant:**	þ

Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion
Please include the NMHC testing result form into the CDM manual.	The NMHC testing result form is added as Annex 3 of the CDM manual.	Please refer to IRL No. 38.
Clarification Request No. 5 Please develop a form in which all the external data should be listed and correctly sourced. The external data verification and storage method should also be indicated.	**Response Project Participant:** The form indicating all the external data and their sources is developed in both Monitoring Report and ERs calculation Excel sheet. It has been clarified in the MR that the external data are stored by the project consultant – MCS and can be easily tracked and verified.	þ All the external data are correctly listed in the MR and the ERs calculation spreadsheet. Please refer to IRL No. 39, 40.
Clarification Request No. 6 How was the pressure measured (kPa)? How does the computer system calculate the norm volume out of the working volume?	**Response Project Participant:** The specification of pressure meter has been provided to DOE to show how the pressure is measured. The normal volume is calculated out of the working volume by the following equation: $K1 = \frac{Pf + 101.325}{101.325} * \frac{273.15}{273.15 + Tf}$ $Q1 = Q2 * K1$ In which:	**DOE's first response**: In Annex 2 ("the format of CMM Consumption Monthly report") average input values are used. On what measurement are these averages based? Every hour? Every 15minutes? þ The working process of the Siemens software has been checked by the DOE.

Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion
	K1: Adjustment Factor Pf: Working Pressure Tf: Working Temperature Q1: Gas flow under normal conditions Q2: Gas flow under working conditions **Further Response from project owner:** In Annex 2 of the CDM Manual, the input values of the monitored data on the Monthly report should be the instantaneous data, but not the average data. The CDM monitoring manual is revised accordingly. In this project, the electric signals from the detectors are collected by the monitoring system every 0.5s and accumulated every 2s. A great deal of data are saved in the database and can be tracked. On daily and monthly report, all the monitored data are shown as the instantaneous values, while the accumulated data are calculated every 2 seconds. Because the calculation of average data will not contribute to calculate emission reductions, this is not undertaken by the monitoring system auto-	

Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion
	matically.	
Clarification Request No. 7 The date of the issuing the calculation tool should be indicated. • The $HEAT_y$ part in the BEuse calculation formulae is missing without clarification. This accounts for the whole monitoring report and needs to be explained	**Response Project Participant:** The calculation tool used in this project is defined in ACM0008 Version 03. The date of this version is indicated in the MR. It has been clarified in the MR that the waste heat recovery has not been implemented in this monitoring period, so $HEAT_y$=0.	þ
Clarification Request No. 8 Please provide the graphical analysis about the gas flux and concentration variation.	**Response Project Participant:** The graphical analysis about the gas flux and concentration variation has been provided to DOE. **Further Response from project owner:** During March 5-7, 2008 the time examination and maintenance of equipment was carried out in Qujiang coalmine. The mining activities would pause during the maintenance period, so the gas supply was limited, which lead to the gas flux in the piping system low down in these three days.	**DOE's first response:** Please clarify the reason of the lowest gas flux in the piping system from the period of March 5-7, 2008. þ
Clarification Request No. 9	**Response Project Participant:**	þ

Corrective Action Requests by audit team	**Summary of project owner response**	**Audit team conclusion**
The PP is required to clarify why the flow meter changing is not traceable in the monthly gas analysis report.	The flow meter changing is traceable. The monthly gas analysis report with instruments changing records on has been provided to DOE.	The working record has been verified by the DOE, the meter changing was marked.
Forward Action Requests by audit team	**Summary of project owner response**	**Audit team conclusion**
Foward Action Request No. 1 We propose to include the signature of the CDM project manager into the CDM manual to ensure the responsibilities.	**Response Project Participant:** The project manager of Fengcheng Mining Administration has signed on the CDM manual.	þ

Industrie Service

Annex 2: Information Reference List

Reference No.	Document or Type of Information
1.	Project Design Document for CDM project "Jiangxi Fengcheng Mining Administration CMM Utilization Project", version 05 • dated 18th, Apr 2007.
2.	Consolidated methodology for coal bed methane and coal mine methane capture and use for power (electrical or motive) and heat and/or destruction by flaring ACM0008, version 3.
3.	Tool for the demonstration and assessment of additionality, version 03.
4.	Participant list of on-site interview, signed on 14th, Apr, 2008.
5.	Verification team: Dr. Sven Kolmetz — CDM ATL TÜV SÜD Industrie Service GmbH Ms. Paula Auer — CDM Auditor trainee, TÜV SÜD Industrie Service GmbH Ms. Xiaoying Chen — CDM Auditor, TÜV SÜD China On-site interviews at the project site in Fengcheng city, Jiangxi province, P.R China., conducted on Apr, 14th, 2008 by auditing team of TÜV SÜD: Dr. Sven Kolmetz — CDM ATL TÜV SÜD Industrie Service GmbH Ms. Paula Auer — CDM Auditor trainee, TÜV SÜD Industrie Service GmbH Ms. Xiaoying Chen — CDM Auditor, TÜV SÜD China Interviewed person: Ms. Crystal Cui — CDM consultant from ESI Mr. Jonathon He — CDM consultant from ESI Mr. Yimeng Zhang — CDM consultant from ESI Mr. Stephen Hu — CDM consultant from ESI Mr. Xiaojian Wu — Manager of Fengcheng CMM power plant Mr. Shenyong Zhang — General director of Fengcheng coalmine group Mr. Qingcao Wei — Manager of Fengcheng CMM power plant Mr. Xiaosong Fan — CDM manager of Fengcheng CMM power plant

Reference No.	Document or Type of Information
6.	Monitoring Report of Jiangxi Fengcheng Mining Administration CMM Utilization Project, monitoring period: 25th Sep. 2007 to 24th Mar 2008, version1.
7.	Emission reduction calculation spread sheet, regarding the monitoring period Sep. 2007 to 24th Mar 2008. Submission date 14th Apr, 2008.
8.	CDM manual of jiangxi Fengcheng Mining Administration CMM Utilization Project, version01.
9.	Monitoring equipment list of jiangxi Fengcheng Mining Administration CMM Utilization Project. Submission date 14th Apr, 2008.
10.	Power generation monthly report of jiangxi Fengcheng Mining Administration CMM Utilization Project (Main meter No. 630), from Sep, 2007 to Mar, 2008.
11.	Power generation monthly report of jiangxi Fengcheng Mining Administration CMM Utilization Project (Backup meter No. 619), from Sep, 2007 to Mar, 2008.
12.	Internal power purchasing confirmation documents, dated from Sep, 2007 to Mar, 2008, issued by Ganxi grid power company fengcheng branch.
13.	Internal power purchasing invoices, dated from Sep, 2007 to Mar, 2008, with signatures of financial department, marketing department, coalmine administration.
14.	Calibration records of ammeter type DSSD536, No.630 and No. 619, issued by Ganxi grid power company, dated 25th Mar, 2007.
15.	Calibration records of ammeter type DSSD536, No.630 and No. 619, issued by Ganxi grid power company, dated 22nd Mar, 2008.
16.	Certification of metrological authorization of Ganxi grid power company, issued by Jiangxi quality and technical supervision bureau, valid until Oct, 2009.
17.	CMM gas analysis daily report, from 24th Sep, 2007 to 24th Mar, 2008.
18.	Testing result of NMHC content, issued by Shanghai standard gas testing center, dated 1st Apr, 2008.
19.	Certification of metrological authorization of Shanghai standard gas testing center, issued by Shanghai quality and technical supervision bureau.
20.	Testing result of NMHC content, issued by Jiangsu provincial supervising & testing research institute for products quality, dated 4th Sep, 2007
21.	Certification of metrological authorization of Jiangsu provincial supervising & testing research institute for products quality. Issued by Jiangsu province quality supervision bureau.
22.	National standard for mixed gas analysis regulation “GB/T 10628-1989”.
23.	Testing certification of CMM concentration sensor01, type Guardian Plus 97460, issued by National station of mining safety metrology,

Reference No.	Document or Type of Information
	dated 26th Mar, 2007.
24.	Testing certification of CMM concentration sensor02, type Guardian Plus 97460, issued by National station of mining safety metrology, dated 20th Mar, 2008.
25.	Laboratory accreditation certificate of National station of mining safety metrology, issued by National institute of metrology, date of expiry: 24th Nov, 2009.
26.	Testing certification of CMM flow meter, type Moore-Kingways KVW20IIAB23FWN, serial FE-101, issued by Shanghai inspection and testing institure of instrument and automatic systems, dated 30th Nov, 2006.
27.	Testing certification of CMM flow meter, type Moore-Kingways KVW20IIAB23FWN, serial FE-102, issued by Shanghai inspection and testing institure of instrument and automatic systems, dated 25th Nov, 2007.
28.	Laboratory accreditation certificate of Shanghai inspection and testing institute of instrument and automatic systems, issued by CNAS, expire date: 25th Dec, 2010.
29.	The electricity wiring system diagram of Jiangxi Fengcheng Mining Administration CMM Utilization Project.
30.	Varies training records established by Fengcheng CMM power generation plant. From year 2006 until present.
31.	Grid connection approval of Fengcheng CMM power generation project, issued by Jiangxi power grid company, dated 24th July, 2006.
32.	Business license of Jiangxi Fengcheng coalmine administration, issued by Fengcheng industry and commercial administration, valid until Jan, 2009.
33.	CDM monitoring staff responsibility regulation.
34.	IPCC: Revised Guidelines (1996) for National Greenhouse Gas Inventories
35.	IPCC: 2000, Good Practice Guidance
36.	Validation report of Jiangxi Fengcheng Mining Administration CMM Utilization Project, report number 2007-0585.
37.	The revised CDM Manual of Jiangxi Fengcheng Mining Administration CMM Utilization Project version2, dated 8th May, 2008.
38.	The revised Monitoring Report of of Jiangxi Fengcheng Mining Administration CMM Utilization Project version2, dated 12th May, 2008.
39.	The revised ERs calculation spreadsheet, dated 12th May, 2008.
40.	Fengcheng gas supply analyzing chart, submitted 12th May, 2008.
41.	The cooperation intension letter signed between Fengcheng Mining Administration and Fengcheng Qujiang Coal Development Co., Ltd. Regarding the future waste heat recovery system, dated 14th May, 2008.
42.	Wincc system certification by Siemens.