



Voluntary Carbon Standard Version 2007

Verification Report Template

19 November 2007

Verification Report:

Name of Verification company:	Date of the issue:
TÜV SÜD Industrie Service GmbH	2009-06-17
Report Title:	Approved by:
Verification Report: Verification of the "Tiefa Coal Industry Group CMM Utilization Project"	Thomas Kleiser
Client:	Project Title:
Carbon Resource Management	Tiefa Coal Industry Group CMM Utilization Project
Summary:	
<i>TÜV SÜD has performed the initial and first periodic verification of the registered CDM project: "Tiefa Coal Industry Group CMM Utilization Project" (CDM Ref.No: 1880).</i> <i>The project involves the supply of coal mine methane (CMM) to two gas companies, which further supply the gas to factories as industrial fuel and to households as city gas.</i> <i>The verification was performed following the guidance and criteria of the VCS 2007 Standard as well as the ACM0008 (Version 03) CDM methodology.</i> <i>The management of Carbon Resource Management is</i>	

responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions.

A document review, followed by a site visit was conducted to verify the information submitted by the project participants regarding the present verification period. Based on the assessment carried out, the verifier confirms:

- That the project has been partially implemented and operated in accordance with the description given in the registered PDD (1880) and the applied methodology ACM00008 (Version 03), and
- That the deviations from the registered CDM PDD and the applied methodology are only minor and do not affect the accuracy of the determination of the emission reductions.

After closing out the requests, TÜV SÜD confirms that the installed equipment run reliably and the meters are calibrated appropriately.

The GHG emission reductions are calculated without material misstatements. TÜV SÜD's opinion refers to the project's GHG emissions and resulting GHG emission reductions reported, both determined due to the valid and registered project's baseline, its monitoring plan and its associated documents.

Based on the information seen and evaluated we can confirm that the implementation of the project resulted in 951,662 tCO₂e of emission reductions during the verification period 01-04-2006 to 05-12-2008.

Work carried out by:	Number of pages:
Dr. Sven Kolmetz Xiaoying Chen Karin Wagner	15

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1. Introduction

1.1 Objective

Carbon Resource Management has commissioned an independent verification by TÜV SÜD Industrie Service GmbH (TÜV SÜD) of its registered CDM project: "Tiefa Coal Industry Group CMM Utilization Project".

The objective of the verification work is to comply with the requirements of the Voluntary Carbon Standard (VCS) 2007. According to this assessment TÜV SÜD shall:

- ensure that the project activity has been implemented and operated as per the registered PDD "Tiefa Coal Industry Group CMM Utilization Project" Version 3.1.-17-05-2008, and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place, and
- ensure that the published MR and other supporting documents provided are complete and verifiable and in accordance with applicable VCS requirements, and
- ensure that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology,
- evaluate the data recorded and stored as per the "Consolidated baseline 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.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by an accredited VCS Program verifier. The verification is based on the submitted monitoring report, the validated project design documents including its monitoring plan and validation report, the applied monitoring methodology, relevant decisions, clarifications and guidance from the VCS and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the VCS 2007 and related rules and guidance.

TÜV SÜD has applied a rule-based approach. The principles of accuracy and completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions.

1.3 VCS project Description

Project activity: "Tiefa Coal Industry Group CMM Utilization Project"

UNFCCC registration number: 1880

Project Participants: Tiefa Coal Industry (Group) Co. Ltd. and Carbon Resource Management (Mitsui & Co. Ltd. is indicated as the CDM project participant (Japan)).

Location of the project: Tieling City, Diaobingshan City, and Faku County of Shenyang City, China; GPS coordinates of Tieling city: N 42°15', E 123°15'.

Date of UNFCCC / CDM registration: 06-12-2008

Starting date of the VCS crediting period: 01-04-2006

The project involves the supply of coal mine methane (CMM) to two gas companies, which further supply the gas to factories as industrial fuel and to households as city gas. The CMM is collected from six coalmines (Daxing, Dalong, Xiaonan, Xiaoqing, Daming and Xiaoming). In order to keep the gas supply stable, additional equipment including gas tanks and compressors was installed and goaf wells were developed.

1.4 Level of assurance

The level of assurance of this report is defined as limited. Furthermore, TÜV SÜD would like to point out that based on the process and procedures conducted as part of this verification, there was no evidence that indicates that this GHG assertion

- is not materially correct and is not a fair representation of the GHG data and information, and
- was not prepared in accordance with the related VCS 2007 Standard on GHG quantification, monitoring and reporting.

2. Methodology

2.1 Verification Process

The verification process is based on the approach depicted in the VCS 2007 Guidelines.

Standard auditing techniques have been adopted. The verification team performs first a desk review, followed by an on-site visit which results in a protocol including all the findings. The next step is to close out the findings through direct communication with the PPs and finally prepare the verification report. This verification report and other supporting documents then

undergo an internal quality control by the CB “climate and energy” before submission to the VCS Registry operator.

2.2 Verification Team

The appointment of the team takes into account the coverage of the technical area(s), sectoral scope(s) and relevant host country experience for verifying the ER achieved by the project activity in the relevant monitoring period for this verification.

The verification team was consisting of the following members:

Name	Qualification	Coverage of technical scope	Coverage of sectoral expertise	Host country experience
Dr. Sven Kolmetz	ATL	☑	☑	☑
Xiaoying Chen	GHG-A	☑	☑	☑
Karin Wagner	GHG-A	☑	☑	

Dr. Sven Kolmetz is physicist and head 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.

Xiaoying Chen is an auditor for GHG inventory validation and verification at TÜV Industrie Service GmbH Beijing Office, P.R.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 a consultant for the development of CDM projects. She has received extensive training in CDM/VCS validation and verification processes and participated in several CDM and VCS project assessments.

Karin Wagner is an auditor at the “Carbon Management Service” department of TÜV SÜD Industrie Service GmbH in Munich, Germany. She holds a M.Sc. in geological sciences and has gathered experience in environmental consulting

for the mining industry before joining TÜV SÜD. Karin Wagner specializes in the assessment of CDM / JI projects as well as voluntary standards in the sector of mining/mineral production, waste handling and disposal and renewable energies.

2.3 Review of Documents

The Monitoring Report (MR) was submitted by the PP in February 2009 was made publicly available on TÜV SÜD's netinform webpage (www.netinform.net). This report and the accompanying documents including the emission reduction calculations were assessed based on all the relevant VCS criteria. The aim of the assessment in the desk review was to verify the completeness of the data and the information presented in the MR. A first compliance check of the MR with respect to the monitoring plan depicted in the registered PDD and the applied methodology was carried out. Particular attention was paid to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures. The evaluation of the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions was also carried out. A complete list of all documents reviewed is available in Annex 2 of this report.

2.4 On-site Assessment and follow-up Interviews

During 25-02-2009 to 26-02-2009, TÜV SÜD performed a physical site inspection and on-site interviews with project stakeholders to:

- confirm the implementation and operation of the project,
- review the data flow for generating, aggregating and reporting the monitoring parameters, and
- confirm the correct implementation of procedures for operations and data collection, and
- cross-check the information provided in the MR documentation with other sources (raw data), and
- check the monitoring equipment against the requirements of the registered PDD, the approved methodology, and the VCS standard, including calibrations, maintenance, etc., and
- review the calculations and assumptions used to obtain the GHG data and ER, and
- identify whether the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.

A list of the persons interviewed during this verification activity is included in Annex 2.

2.5 Quality of Evidence to Determine Emission Reductions

Among many others, the following relevant and reliable evidences have been used by the audit team during the verification process:

- Electricity records and invoices (IRL 12, 13, 45), and*
- CMM purchase invoices (IRL 16, 17), and*
- Calibration records (IRL 21-44, 46-51-58), and*
- Laboratory test results (IRL 18, 19).*

Sufficient evidence covering the full verification period in the required frequency is available to validate the figures stated in the final MR and the associated Excel calculation files. The source of the evidences will be discussed in chapter 3 of this report. Specific cross-checks have been done in cases where further sources were available. All figures in the monitoring report were cross-checked by the audit team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

2.6 Resolution of Clarification and Corrective and Forward Action Requests

The objective of this phase of the verification process was to resolve any outstanding issues which needed to be clarified for TÜV SÜD's positive conclusion on the GHG emission reduction calculation.

To guarantee the transparency of the verification process, the concerns raised, based on the desk review and subsequent on-site audit assessment and follow up interviews, together with the responses given are documented in Annex 1 (verification protocol).

A Corrective Action Request (CAR) is raised where TÜV SÜD identifies:

- non-conformities in monitoring and/or reporting with the monitoring plan and/or methodology; and*
- that the evidence provided is not sufficient to prove conformity; and*
- mistakes in assumptions, data or calculations that impair the ER; and*
- FARs stated during validation that are not solved until the on-site visit.*

A Clarification Request (CL) is raised where TÜV SÜD does not have enough information or the information is not clear in order to confirm a statement or data.

A Forward Action Request (FAR) is raised where TÜV SÜD identifies that monitoring and/or reporting required special attention or adjustments for the next verification period.

Information or clarifications provided as a response to a CAR, CL or FAR could also lead to a new CAR.

2.7 Internal Quality Control

As an ultimate step of the verification the final documentation including the verification report and the protocol have to undergo an internal quality control by the Certification Body (CB) "climate and energy", i.e. each report has to be finally approved either by the Head of the CB or the Deputy. In case one of these two persons is part of the assessment team, the approval can only be given by the other one. Upon approval by the CB, the report will be submitted to the project proponents including a written assurance that the GHG emission reductions and removals have been achieved in accordance with the VCS.

3. Verification Findings

3.1 Remaining issues, including any material discrepancy, from previous validation

There are no remaining issues from the previous validation of this project.

3.2 Project Implementation

The project has been overall implemented as described in the registered CDM PDD. The necessary equipment and monitoring instruments as well as the monitoring procedures are available and implemented in an appropriate manner, which is also well documented in the monitoring report (IRL 7) and the monitoring manual (IRL 9).

However, a few discrepancies between the monitoring plan indicated in the registered CDM PDD, the methodology (ACM0008, Version 03) and the actual situation observed on site were identified and are discussed as following:

- The location of the power and flow meters as well as the gas analyzers differs from the figures presented in the registered PDD. There are in total 11 power meters to record the additional electricity consumption, and three flow meters / gas analyzer sets to measure the amount of methane sent to Aode Gas Company (Diabongshin City and Faku Ceramic City) and Tieling Gas Company (FeBe Factory and Tieling City), respectively.

- The lowest CH₄ concentration (41%) was applied instead of hourly or daily data.
- The emission factors (build margin, operating margin and combined margin) are not consistent throughout the registered PDD. However, the ones that are indicated in the PDD on page 28 and that are consistent with the ones published by the NDRC at the time of the GSP were applied (as this is the higher set of values indicated in the registered CDM-PDD, it can be considered as conservative, as they are only applied to calculate project emissions).

TÜV SÜD would like to point out that these differences do not affect the overall monitoring result. TÜV SÜD further considers the overall calculation of the emission reductions based on the implemented instruments and monitoring measures as reliable and appropriate.

The project is completely operational, which could also be verified on site. No data and/or variables presented in the monitoring report and the associated emission reduction calculations differ significantly from the ones stated in the registered PDD, which may lead to an increase in the emission reductions for this period in relation to the estimates in the registered CDM PDD.

3.3 Completeness of Monitoring

The implemented monitoring procedures are in line with the requirements of the validated monitoring plan as well as with the applied methodology ACM0008 (Version 03), except the discrepancies mentioned above.

TÜV SÜD confirms that the implemented monitoring procedures fully satisfy the necessary criteria for a complete monitoring system and that the resulting emission reductions are calculated in a conservative and appropriate manner.

3.4 Accuracy of Emission Reduction Calculations

The calculation of the emission reductions involves the calculation of the project emissions as well as the baseline emissions: $ER = BE(MR) - [PE(ME) + PE(MD) + PE(UM)]$.

The baseline emissions only include the baseline emissions from the release of the methane that is avoided by the project activity.

Project emissions include the sum of the project emissions associated with the additional energy used to capture and use of the methane (PE(ME)), the project emissions resulting from the methane destroyed (PE(MD)) and the project emissions from the un-combusted methane (PE(UM)). These formulas as well as the individual sub-formulas are also in line with the applied methodology.

According to the methodology and the registered CDM PDD, no leakage has to be considered for this project.

Therefore, overall emission reductions equal the difference of the baseline and the project emissions.

TÜV SÜD checked and reviewed the provided Excel spreadsheet for the calculation of these parameters thoroughly and confirms that the applied spreadsheet formulas and connections are correct and in line with the indicated emission reduction calculation in the monitoring plan as well as in the registered CDM PDD and the applied methodology.

Although indicated in the registered CDM PDD, no baseline emissions were claimed for BE(MD), i.e. the baseline emissions from the destruction of methane in the baseline scenario, which can be considered as conservative and was therefore accepted by TÜV SÜD.

TÜV SÜD further confirms that the applied default values are in line with the methodology and the registered monitoring plan and are therefore considered appropriate.

Final results were rounded and truncated in a conservative manner. Random spot checks were performed during the verification process as well as during the on-site visit to eliminate possible manual transition errors. Based on the observations made, TÜV SÜD considers the implemented data handling and compiling system as appropriate and reliable.

The calibration records of the installed meters were checked (IRL 10, 21-44, 46-51, 53-58) during the site visit. Based on TÜV SÜD's observations, the installed metering system can be considered as well maintained and the measured data as accurate within the given range.

In summary, TÜV SÜD considers the calculation of the emission reductions for the given period as accurate and reliable given the indicated range and confidence level of the registered CDM PDD.

3.5 Quality of Evidence to Determine Emission Reductions

The following evidences were used to cross-check on the provided data for the calculation of the emission reductions:

- Electricity consumption confirmation sheets (IRL 12, 13, 52), issued by PO, and
- electricity purchasing invoices (IRL 45), issued by a third party, and
- CMM purchasing invoices (IRL 16 and 17), issued by third parties.

Detailed cross-check measures and procedures are described in the attached verification protocol (Annex 1). The quoted information was reviewed by the audit team and found to be consistent with the data used for the emission reduction calculations.

3.6 Management and Operational System

Based on the on-site observations and interviews, as well as the provided documents (IRL 7, 9 (Annex 5)), TÜV SÜD considers the management and operational system of this project as suitable. The operational structure including the identification of responsibilities is well explained in the registered CDM PDD and could be confirmed on site.

Similarly, the error handling procedures as well as record keeping and filing procedures are well defined in the monitoring Manual (IRL 9) and could be verified on site.

In summary, the quality management and the operational system is well implemented and responsibilities and procedures are clearly defined.

3.7 VCS Validation

As this project is claiming GHG credits sequentially under the VCS Program and the CDM, the validation of the following five clauses was completed and the statements are given below:

Description of Project:

- **Demonstration to confirm that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction (1.12 of the VCS Project Description Template):**

The Tiefa Coal Industry Group CMM Utilization Project creates GHG removals through CMM destruction and utilization only and does not create emissions for the purpose of subsequent removal or destruction, since the emissions appear as a secondary action of the coal mining process.

- **Demonstration that the project has not created another form of environmental credit (for example renewable energy certificates) (1.13 of the VCS Project Description Template):**

No form of other environmental credit has been created. The project was registered as a CDM project on 06/12/2008. The following environmental credits are and/or will be claimed for:

- CCX: 01/11/2005 – 31/03/2006
- VCS: 01/04/2006 – 05/12/2008
- CDM: starting on 06/12/2008

Since TÜV SÜD is involved in the various verification assessments indicated above, TÜV SÜD expects that no form of environmental credit is created for the same period in addition to those ones mentioned above.

- **Project rejected under other GHG programs (if applicable) (1.14 of the VCS Project Description Template):**

Not applicable (the project was registered as a CDM project on 06/12/2008).

Ownership:

- **Proof of Title (8.1 of the VCS Project Description Template):**

The letter of approval provided by the Chinese NDRC (<http://cdm.unfccc.int/UserManagement/FileStorage/42BGOONLVRKZLGZQ6QUKFHCPI35BX1>) was considered as a legislative document to proof the title.

- **Projects that reduce GHG emissions from activities that participate in an emissions trading program (if applicable) (8.2 of the VCS Project Description Template):**

As China is a Non-Annex I country under the CDM program and does not have obligation of emission reduction, there is no compliance from this project under this program, i.e. this is not applicable.

4. Double-Counting and Carbon Ownership

Based on a review of the recognized registries of VER standards and an analysis of internet sources, TÜV SÜD has not detected indications that the same project activity is included into any other standards or schemes intended to generate Voluntary Emission Reductions or renewable energy certificates. This was furthermore confirmed in writing by the project participants (IRL 63).

Nonetheless, as double-counting cannot be fully excluded based on the performed assessment, TÜV SÜD refrains from any liabilities related to the potential double-counting of carbon rights.

The ownership of the carbon rights are considered to be held by the project participants. This conclusion has been reached based on the fact that the Tiefa Coal Industry (Group) Co. Ltd. is operator of the plant resulting in the emission reductions. This was sustained by Tiefa Coal Industry's operating license (IRL 14). However, as the holding of carbon rights may be impacted by other legislation or contracts not subject to the audit service, TÜV SÜD refrains from any liabilities related to the legal holding of carbon rights

5. Verification conclusion

The scope of this verification covers the determination of voluntary greenhouse gas emission reductions according to the VCS standard 2007.1 generated by the following project: "Tiefa Coal Industry Group CMM Utilization Project".

The management of Carbon Resource Management is responsible for the preparation of the GHG data and the reported GHG emission reductions on the basis set out within the project's monitoring plan indicated in the registered CDM PDD and the applied methodology ACM0008 (version 03).

As a result of this verification, TÜV SÜD confirms that the project is fully implemented and operational. The installed monitoring system runs reliably and is calibrated appropriately. Further on, the installed system is fully capable of recording the necessary data to determine the emission reductions. VCS emission reductions are calculated without any material misstatements in a conservative and appropriate manner.

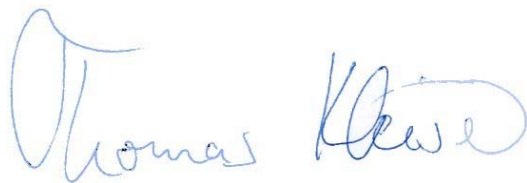
Based on the information provided and evaluated, TÜV SÜD confirms the following statement:

Reporting period: From 01/04/2006 to 05/12/2008

Verified emission in the above reporting period:

Project emissions	182,916	t CO ₂ equivalents
Baseline emissions	1,134,578	t CO ₂ equivalents
Emission reductions	951,662	t CO ₂ equivalents

Munich, 17-06-2009



Thomas Kleiser
Certification body
"climate and energy"

Munich, 17-06-2009



Dr. Sven Kolmetz
Assessment Team Leader

Annex 1:
TÜV SÜD's Verification Protocol

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1. Project Activity Implementation

1.1. Technology

PDD	Verified Situation	Conclusion
Location (s)		
Description / Address: Tieling City, Diaobingshan City, and Faku County of Shenyang City, P. R China	During the on-site visit, it could be confirmed that the project site is in compliance with the description of the registered PDD.	☒
GPS coordinates of Tieling city: North latitude 42°15' East longitude 123°15'	The Coalmine area could be located by Google earth through the GPS coordinates provided in the PDD.	☒
Technical Equipment – Main Components add additional components if necessary		
Component 1: Residential CMM usage system (part of the baseline scenario) and its monitoring system.	The project implementation is in line with the registered PDD; however the monitoring system of the gas flow was not implemented as per the monitoring diagram, instead of monitoring the gas volume at the end user side, the backup points served as the main monitoring points (e.g. the Spherical gas holder, Xiaoqing C.S, Tieling origin station C.S. please refer to figure 2, 3 of the monitoring plan.)	☒
Component 2: The electricity consumption from the capture of coalmine methane.	It is in compliance with the description of the registered PDD.	☒
Operation Status during verification <i>add additional sites if necessary</i>		
Approvals / Licenses: Business licenses of Tiefa Coal mine group	The business licenses of Tiefa coal industry Co., Ltd is verified during on-site visit, (IRL No. 14).	☒
Actual Operation Status	Under construction ☐ In operation ☒	☒

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PDD	Verified Situation	Conclusion
	Out of operation ☐ Reason (when out of operation):	
Remarks to Special Operational Status During the Verification Period	N/A.	☒

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1.2. Organization

PDD	Verified Situation	Conclusion
Project Participant (s)		
Entity / Responsible person: Hongwei Liu (Monitoring Manager)	As per the monitoring manual and also verified on-site, Mr. Hongwei Liu is the overall responsible person. Mr. Liu Hongwei and Ms. Wang Na will “exercise oversight on behalf of the chief engineer”.	☒
CDM Project management: 	As per the manual and verified on-site, the responsibility will be taken by the Monitoring Manager (Liu Hongwei) and the CDM project manager (Wang Na) is in place for the operational management, training, and electricity purchasing management.	☒

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1.3. Quality Management System

PDD	Verified Situation	Conclusion
Quality Management Manual: No Manual mentioned in the PDD (just general statement that "Tiefa Coal Industry Group's monitoring team is responsible).	The allocation of responsibilities has been documented and incorporated in the operation and management system. See IRL No. 9.	☒
Responsibilities: As per PDD, the responsibilities lie within the Tiefa Coal Industry Group's monitoring team.	See 1.2. The CDM manager holds the overall responsibility for the majority of the tasks and actions associated with the monitoring and verification procedures.	☒
Qualification and Training: N/A.	The operational staff is well trained and experienced technician from the existing CMM utilization projects within Tiefa coalmine group. The CDM manager is responsible for the organization of the training and refresher courses.	☒
Implementation of QM-system: N/A	The QM – system is successfully established and fully operated.	☒

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

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

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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. 02 Dated 23/03/2009 (IRL No. 9)	Tiefa Coal Industry Group (Liu Hongwei)	1. Data monitoring and re-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	<u>Foward Action Request No. 1</u> We propose to include the signature of the CDM project manager into the CDM manual to ensure the responsibility. The version number of the manual should also be added for future updated and revised manuals.
Monthly power consumption records	Power consumption records, (IRL No. 12, 13, 52)	Tiefa Coal Industry Group (Liu Hongwei)	Reading and recording procedure of 11 power meters (detail technical specification please refer to IRL No. 20)	The power generation recording form is listed as Annex 4 of the CDM manual. <u>Clarification Request No. 1</u> Please indicate in figure 1 of the CDM manual to specify the location of the backup meter No. 619. Please also revise the figure 2 of the manual and present a clear map of the various loca-

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Structure of raw data archiving				
Describe all the different data collection systems				
Type	Name	Responsible	Procedures	Comments
				tions of the meters (i.e. where is Shi-huandi Gas Station, Zhangzhuang Gas Station, Hongfang Gas Station). The map should further include a separate figure for each meter that is installed and used for the calculation of the emission reductions. <u>Corrective Action Request No. 1</u> Errors occurred in both electricity consumption records and the CMM volume in the CER calculation spreadsheet, please update the figures as per the metering records.
Data logger 1	Data logger 1 (IRL No.15)	Tiefa Coal Industry Group (Liu Hong-wei)	Recording the parameters relating the gas flux monitoring.	☒
PLC 1	Computer a	Tiefa Coal Industry Group (Liu Hongwei)	Signals from the gas flow sensor are transmitted to data management centre for displaying and will be archived in the computer.	☒ 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 (18, 19, 62)	Tiefa Coal Industry Group (Liu Hongwei)	The testing result of NMHC is kept in the data management centre.	☒

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Structure of raw data archiving				
Describe all the different data collection systems				
Type	Name	Responsible	Procedures	Comments
Accounting	Invoice IRL (No. 45)	Local grid company	The power purchasing invoice will be confirmed by the deputy director of the financial Dept of Tiefa coalmine group, the copy of the invoice will be archived in the data management centre.	☒
External data	Form e	Tiefa Coal Industry Group (Liu Hongwei)	The list of default values and the ex-ante parameters is listed in section 4 of the monitoring report.	<u>Clarification Request No. 2</u> 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. Risk Classification: Low Further Remarks: None				

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2.2. Raw Data Archiving and Protection measures

Name	Description of data archiving and protection measures	Risks and comments	Concl.
Monthly power consumption records (IRL 12, 13, 52)	The data saving and reporting procedure is clearly defined in the CDM manual section 4.8. All copies of raw data will be sent to CRM 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 consumption of the devices relating to the gas supply system is metered internally by metering devices which are listed with all their relevant characteristics in the "equipment list"(IRL 20). Metering methods and the type of equipment correspond with the methodology requirements. Every month the power consumption will be crossed checked by the grid company, based on the power consumption confirmation, invoices will be issued monthly.	☒
Monthly gas supply records(IRL 15)	The data saving and reporting procedure is clearly defined in the CDM manual section 4 and 5. All copies of raw data will be sent to CRM which is the project consultant, for back-up, double check and emission reduction calculation. All data will be archived until 2 years after the crediting period.	The CMM gas flux analysis records are securely archived in the data management centre.	☒
Laboratory results of NMHC (IRL 18, 19, 62)	The laboratory results of NMHC analysis are archived in the data management centre.	The laboratory results of NMHC analysis are securely archived in the data management centre.	☒
Invoice	The power purchasing confirmation is done by the local grid company 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.	☒
Key Reporting Risks: The risks for material misstatement are reduced by these control measures. Risk Classification: Low Further Remarks: None			

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2.3. Data transfer

Description of data transfer from raw data archiving to calculation tool			
Name	Description and responsibilities	Risks and comments	Concl.
Monthly power consumption records (IRL 12, 13, 52)	The electricity data are measured continuously by wattmeter and accumulated constantly. Two operational staff will be responsible for the daily data reading and monthly recording.	Except for mistyping, the risk of data losses is very low.	☒
Computer a	The gas flux is monitored through flow meters (series number 527, 528, 1432 at the spherical gasholder, Tieling Origin Station, and Xiaoqing Coal Mine). The monitored data will be analyzed automatically through the software and will be archived by the same computer where the software is installed. The methane concentration will be monitored by the concentration sensors installed at Xiaoqing, Shihuangdi and Tieling gas station. Please refer to figure 2 and figure 3 of the monitoring plan for the specific metering points.	The gas flux signal is transferred to the data processing centre via GPRS, the fault transmission of the meter value should be taken into account for the risk management.	☒
Testing result	The testing result of NMHC concentration will be kept in the data management centre.	None.	☒
Key Reporting Risks: The risks for material misstatement are reduced by these control measures. Risk Classification: Low Further Remarks: None			

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2.4. Data Processing

Description of data processing from transferred data to final results in the calculation tool			
Step	Description	Risks and comments	Concl.
Consistency	The abbreviations of the monitored parameters are not fully consistent with PDD, e.g. $CONS_{ELEC, PJ, t}$, PC_{CH_4} , PC_{NMHC} , MM_{GAS} .	<u>Clarification Request No. 2</u> Please revise the monitoring report accordingly.	CAR2
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.	See CAR1	See CAR1
Transformation from transferred data to useable data	The power consumption part is calculated as per the calculation tool.	Please see CAR1	See CAR1
Elimination of not plausible data	See CR3.	<u>Clarification Request No.3</u> Please provide the graphical analysis about the gas flux and concentration variation.	CR3
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	☒
Ex-ante data	A list of default value is presented in the MR section 4.2.	N/A	☒
Default parameter	A list of default value is presented in the MR section 4.2.	<u>Corrective Action Request No. 3</u> The GWP of methane should be adjusted based on VCS2007 requirements. The factor descriptions (first column) in Table 2 of the manual are not correct. Please revise.	CAR3

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Description of data processing from transferred data to final results in the calculation tool			
Step	Description	Risks and comments	Concl.
Formulae check	The formulae are correctly presented as per the methodology ACM0008 version3.	The ER calculation formulae included in the calculation sheet is consistent with the methodology.	☒
Rounding functions	See risks and comments.	The rounding function is not conservative. <u>Corrective Action Request No. 4</u> 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.	The access to the tool is restricted.	☒
Key Reporting Risks: The risks for material misstatement are reduced by these control measures. Risk Classification: Middle Further Remarks: None			

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3. Monitoring Plan Implementation

3.1. List of Parameter to be monitored

ID-PDD	ID-Meth.	ID-Internal	Description	Conclusion
Instrumentation				
CONS _{ELECT,PJ,t}	CONS _{ELECT,PJ}	See following sections	Additional electricity consumption for capture and use of methane. Power consumptions by compressors and air compressors.	☒
PC _{CH4}	PC _{CH4}	See following sections	Concentration of methane in extracted gas	☒
MM _{GAS}	MM _{GAS}	See following sections	Methane measured supplied to gas grid, amount of Methane supplied to and consumed by Faku Ceramic City, Diaobingshan City, Tieling City and Febe Factory.	☒
Sampling				
PC _{NMHC}	PC _{NMHC}	None	Non methane hydrocarbons (NMHC) concentration in coal mine gas	☒
Accounting				
CONS _{ELECT,PJ,t}	CONS _{ELECT,PJ,t}	None	Annual power consumed by the project	☒
MM _{GAS}	MM _{GAS}	None	Methane measured supplied to gas grid	☒
External Data				
EF _{BM,y}	EF _{BM,y}	None	Build margin emission factor of Northeast China Power Grid	☒
EF _{OM,y}	EF _{OM,y}	None	Operating margin emission factor of Northeast China Power Grid	☒
D _{CH4}	D _{CH4}	None	Density of methane	☒
CEF _{CH4}	CEF _{CH4}	None	Carbon emission factor for combusted methane	☒

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ID-PDD	ID-Meth.	ID-Internal	Description	Conclusion
GWP _{CH4}	GWP _{CH4}	None	Global warming potential of methane	☒
Eff _i	Eff _{GAS}	None	Efficiency of methane destruction in use gas grid.	☒

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3.2. Monitoring Instrumentation

3.2.1. Instrument 1: Gas Flow Sensor 0527

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	Required for MM _{GAS}	☒
ID-Internal:	527	☒
Data to be Measured:	Methane measured sent to gas grid for Faku Ceramic City, Diaobingshan City.	☒
Data Logging:	The sampling frequency of the automatic electronic monitoring system is 0.5 seconds intervals.	☒
Archiving of Raw Data:	The raw data will be transferred to the computer in the control room and later on saved on suitable media. Hourly paper recordings will also be archived.	☒
Measurement Principle:	continuous monitoring	☒
Period of Operating Time:	Begin 03/08/2005, Still installed	☒
Instrument Type:	LWQZ-III 300C I 2	☒
Serial Number:	527	☒
Manufacturer Model Nr.:	Zhejiang Cangnan Meter Co. Ltd.	☒
Specific Location:	Measured at Shihuangdi Gas Station	☒
Measurement Range:	320m ³ /h—6500m ³ /h	☒
Measurement Unit:	m ³ /h	☒
Calibration:	25th July, 2007	☒
Required Calibration Frequency:	Every two years, according to the JJG198-1994 National standard	

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Uncertainty Level:	accuracy rate < + 0.07%		☒
Monitoring & Calculation			
Reading Frequency:	Automatically, accumulatively recorded, the daily report can be automatically set up by software.		☒
Recording Frequency:	The daily data will be automatically recorded by the software, while the accumulated monthly report will be checked and signed by the project manager.		☒
Trouble Shooting:	See section 4.8 in CDM manual, it's regulated that in case any abnormalities detected, manual measurements will be applied. <u>Clarification Request No.4</u> Please clarify how the manual measurement would be applied, and how the meter value would be recorded in a conservative manner?		CR4
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD.	Ok.	☒
Installation:	The flow sensor No. 0527 was installed on 03/08/2005, this is verified during the on-site audit.	Ok.	☒
Functionality:	Normal.	Ok.	☒
Quality assurance:	Third Party Certificate available.	See IRL No.21, 22. Calibration result: "Qualified".	☒
Maintenance:	Daily plausibility check.	The daily plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A			

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Risk Classification: Low	
Further Remarks: None	

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3.2.2. Instrument 2: Gas Flow Sensor 0528

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	Required for MM _{GAS}	☒
ID-Internal:	528	☒
Data to be Measured:	Methane measured sent to gas grid for Tieling City.	☒
Data Logging:	The sampling frequency of the automatic electronic monitoring system is 0.5 seconds intervals.	☒
Archiving of Raw Data:	The raw data will be transferred to the computer in the control room and later on saved on suitable media. Hourly paper recordings will also be archived.	☒
Measurement Principle:	continuous monitoring	☒
Period of Operating Time:	Begin June 2005, still installed	☒
Instrument Type:	LWQZ-III 300C I 2	☒
Serial Number:	528	☒
Manufacturer Model Nr.:	Zhejiang Cangnan Meter Co. Ltd.	☒
Specific Location:	Measured at Tieling origin Gas Station.	☒
Measurement Range:	320m ³ /h—6500m ³ /h	☒
Measurement Unit:	m ³ /h	☒
Calibration:	09/02/2007	☒
Required Calibration Frequency:	Every two years	☒
Uncertainty Level:	accuracy rate < +/- 0.08%	☒
Monitoring & Calculation		

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Reading Frequency:	Automatically, accumulatively recorded, the daily report can be automatically set up by software.		☑
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.		☑
Trouble Shooting:	See section 4.8 in CDM manual, it's regulated that in case any abnormalities detected, manual measurement will be applied. See CR2.		See CR2
Inspection Results During Verification			
Operation of Instrumen- tation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok.	☑
Installation:	The flow sensor No. 528 was installed on 20th June 2005, this is verified during the on-site audit.	Ok.	☑
Functionality:	Normal	Ok.	☑
Quality assurance:	Third Party Certificate available.	See IRL No. 23, 24. Calibration result: "Qualified".	☑
Maintenance:	Daily plausibility check.	The daily plausibility is checked by the operational staff of the power plant.	☑
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.3. Instrument 3: Gas Flow Sensor 1432

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	Required for MM _{GAS}	☒
ID-Internal:	1432	☒
Data to be Measured:	Methane measured sent to gas grid for Tieling City.	☒
Data Logging:	The sampling frequency of the automatic electronic monitoring system is 0.5 seconds intervals.	☒
Archiving of Raw Data:	The raw data will be transferred to the computer in the control room and later on saved on suitable media. Hourly paper recordings will also be archived.	☒
Measurement Principle:	continuous monitoring	☒
Period of Operating Time:	Begin April 2005, still installed	☒
Instrument Type:	LUXZ-200	☒
Serial Number:	1432	☒
Manufacturer Model Nr.:	Zhejiang Cangnan Meter Co. Ltd	☒
Specific Location:	measured at Xiaoqing Gas Station	☒
Measurement Range:	340m ³ /h—3600m ³ /h	☒
Measurement Unit:	m ³ /h	☒
Calibration:	21/11/ 2006; 20/11/2008	☒
Required Calibration Frequency:	Every two years	☒
Uncertainty Level:	accuracy rate < +/- 0.95%	☒
Monitoring & Calculation		

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Reading Frequency:	Automatically, accumulatively recorded, the daily report can be automatically set up by software.		☑
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.		☑
Trouble Shooting:	See section 4.8 in CDM manual, it's regulated that in case any abnormalities detected, manual measurement will be applied.		See CR2
Inspection Results During Verification			
Operation of Instrumen- tation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok.	☑
Installation:	The flow sensor No. 1432 was installed on 18 th April 2005, this is verified during the on-site audit.	Ok.	☑
Functionality:	Normal	Ok.	☑
Quality assurance:	Third Party Certificate avail- able	See IRL No.25, 26. Calibration result: “Qualified”	☑
Maintenance:	Daily plausibility check	The daily plausibility is checked by the operational staff of the power plant.	☑
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.4. Instrument: CH₄ concentration sensor 05012

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	Required for CH ₄ concentration monitoring	☒
ID-Internal:	5012	☒
Data to be Measured:	CH ₄ concentration in CMM	☒
Description of Location:	Xiaoqing Gas station	☒
Signal Transformation and Transfer:	Signal will be transmitted in the data management centre and will be automatically analyzed and archived by the software.	☒
Data Logging:	Automatically	☒
Archiving of Raw Data:	The raw data will be transferred to the computer in the control room and later on saved on suitable media. Hourly paper recordings will also be archived.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 20/07/2005 Present	☒
Instrument Type:	GWJ-2	☒
Serial Number:	05012	☒
Manufacturer Model Nr.:	Xian concentration Meter Co. Ltd	☒
Specific Location:	Xiaoqing gas station	☒
Measurement Range:	0--100	☒
Measurement Unit:	%LEL	☒
Calibration:	22/06/2006; 20/06/2007; 18/06/2008	☒

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Required Calibration Frequency:	Annually		☒
Uncertainty Level:	Not indicated		
Monitoring & Calculation			
Reading Frequency:	Automatically recording		☒
Recording Frequency:	Automatically recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	If any anomalies detected, manual measurement will be applied.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD.	Ok.	☒
Installation:	The concentration sensor was calibrated when installed	Ok.	☒
Functionality:	Normal	Ok.	☒
Quality assurance:	Third Party Certificate available	See IRL No. 27	☒
Maintenance:	Daily plausibility check	The daily plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.5. Instrument: CH₄ concentration sensor 54206

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	Required for CH ₄ concentration monitoring	☒
ID-Internal:	54206	☒
Data to be Measured:	CH ₄ concentration in CMM	☒
Description of Location:	At Shihuangdi gas station	☒
Signal Transformation and Transfer:	Signal will be transmitted to the data management centre and will be automatically analyzed and stored by the software.	☒
Data Logging:	Automatically	☒
Archiving of Raw Data:	The raw data will be transferred to the computer in the control room and later on saved on suitable media. Hourly paper recordings will also be archived.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin: 01/08/2005 Still installed	☒
Instrument Type:	GWJ-2	☒
Serial Number:	54206	☒
Manufacturer Model Nr.:	Xian concentration Meter Co. Ltd	☒
Specific Location:	At Shihuangdi gas station	☒
Measurement Range:	0--100	☒
Measurement Unit:	%LEL	☒
Calibration:	The most recent calibration date: 18/06/ 2008. Calibration result: "Qualified". Previous calibration records please refer to IRL 39-41.	☒

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Required Calibration Frequency:	Annually		☒
Uncertainty Level:	Not indicated		☒
Monitoring & Calculation			
Reading Frequency:	Automatically recording		☒
Recording Frequency:	Automatically recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	If any anomalies detected, manual measurement will be applied.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD.	Ok.	☒
Installation:	This sensor was calibrated when installed.	Ok.	☒
Functionality:	Normal	Ok.	☒
Quality assurance:	Third Party Certificate available	See IRL No.28. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The daily plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.6. Instrument: CH₄ concentration sensor 48818

PDD	Verified Situation	Conclusion
Instrumentation Information <i>list all different instruments which have been used during the monitoring period; use a separate table for each single instrument</i>		
ID-PDD:	Required for CH ₄ con concentration monitoring	☒
ID-Internal:	48818	☒
Data to be Measured:	CH ₄ concentration in CMM	☒
Description of Location:	At Tieling gas station	☒
Signal Transformation and Transfer:	Signal will be transmitted to the data management centre and will be automatically analyzed and stored by the software.	☒
Data Logging:	Automatically	☒
Archiving of Raw Data:	The raw data will be transferred to the computer in the control room and later on saved on suitable media. Hourly paper recordings will also be archived.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin: 23/07/2005 Still installed	☒
Instrument Type:	GWJ-2	☒
Serial Number:	48818	☒
Manufacturer Model Nr.:	Xian concentration Meter Co. Ltd	☒
Specific Location:	At Tieling gas station	☒
Measurement Range:	0--100	☒
Measurement Unit:	%LEL	☒

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Calibration:	The most recent calibration date: 18/06/ 2008. Calibration result: "Qualified". Previous calibration records please refer to IRL 42-44.		☒
Required Calibration Frequency:	Annually		☒
Uncertainty Level:	Not indicated		☒
Monitoring & Calculation			
Reading Frequency:	Automatically recording		☒
Recording Frequency:	Automatically recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	If any anomalies detected, manual measurement will be applied.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok.	☒
Installation:	This sensor was calibrated when installed.	Ok.	☒
Functionality:	Normal	Ok.	☒
Quality assurance:	Third Party Certificate available	See IRL No.29. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The daily plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.7. Instrument: power meter Shihuangdi 25#

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Shihuangdi 25#	☒
Data to be Measured:	power consumed by high voltage compressor at Shihuangdi gas station	☒
Description of Location:	Shihuangdi gas station south part 25#	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 10/11/2001, replaced by new meter on 11/10/2008	☒
Instrument Type:	DS864-2, changed to type DSSD331	☒
Serial Number:	2001-165215, new serial number: 20080766030055	☒
Manufacturer Model Nr.:	Changsha Weisheng Power Meter Co. Ltd.	☒
Specific Location:	Shihuangdi gas station	☒
Measurement Range:	3*100v 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	11/10/2008 (new meter)	☒
Required Calibration Frequency:	Every 5 years, according to JJG596-1999 metering regulation	☒
Uncertainty Level:	0.5	☒

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate available	See IRL No.30. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.8. Instrument: power meter Shihuangdi 24#

PDD	Verified Situation	Conclusion
Instrumentation Information <i>list all different instruments which have been used during the monitoring period; use a separate table for each single instrument</i>		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal: Shihuangdi 24#	Shihuangdi 24#	☒
Data to be Measured:	power consumed by high voltage compressor at Shihuangdi gas station	☒
Description of Location:	Shihuangdi gas station south part 24#	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 10/11/2001; replaced by new meter on 11/10/2008	☒
Instrument Type:	DS864-4, changed to DSSD331	☒
Serial Number:	2001-042304, new S/N: 20080766030056	☒
Manufacturer Model Nr.:	Changsha Weisheng Power Meter Co. Ltd	☒
Specific Location:	Shihuangdi gas station	☒
Measurement Range:	3*100v 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	11/10/2008	☒
Required Calibration Frequency:	Every 5 years	☒

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Uncertainty Level:	0.5		☒
Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instru- mentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate available	See IRL No.31. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.9. Instrument: power meter Shihuangdi North

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Shihuangdi North	☒
Data to be Measured:	power consumed by Low voltage compressor at Shihuangdi gas station	☒
Description of Location:	Shihuangdi gas station	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 21/11/2001, replaced by new meter on 24/02/2008, and again on 12/10/2008	☒
Instrument Type:	DTSD341	☒
Serial Number:	20080766040141	☒
Manufacturer Model Nr.:	Changsha Weisheng Power Meter Co. Ltd	☒
Specific Location:	Shihuangdi gas station north part	☒
Measurement Range:	3*220/380v 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	12/10/2008 (new meter)	☒
Required Calibration Frequency:	Not indicated	☒
Uncertainty Level:	0.5	☒

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate available	See IRL No.35. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.10. Instrument: power meter Zhangzhuang 60#

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Zhangzhuang 60#	☒
Data to be Measured:	power consumed by high voltage compressor at Zhuangzhuang coalmine	☒
Description of Location:	Zhuangzhuang coalmine	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 10/12/2005, Still installed	☒
Instrument Type:	DS862-4	☒
Serial Number:	206839	☒
Manufacturer Model Nr.:	Delixi Power Meter Co. Ltd	☒
Specific Location:	Zhangzhuang coalmine / gas station	☒
Measurement Range:	3*100v 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	02/12/2005; 10/04/2008	☒
Required Calibration Frequency:	Every 3 years	
Uncertainty Level:	2.0	

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumen- tation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate avail- able	See IRL No.10, 46. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.11. Instrument: power meter zhangzhuang compressor

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Zhangzhuang compressor	☒
Data to be Measured:	power consumed by high voltage compressor at Zhangzhuang coalmine	☒
Description of Location:	Zhangzhuang coalmine	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily and checking of the power generated and self consumption.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 15/10/2001, Present	☒
Instrument Type:	DT862-2	☒
Serial Number:	012008	☒
Manufacturer Model Nr.:	Shanghai People Industry Power Meter Co. Ltd	☒
Specific Location:	Zhangzhuang coalmine / gas station	☒
Measurement Range:	3*100v 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	17/05/2005; 16/05/2008	☒
Required Calibration Frequency:	Every 3 years	☒
Uncertainty Level:	2.0	☒

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate available	See IRL No.32, 47. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.12. Instrument: power meter Xiaoqing

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Xiaoqing	☒
Data to be Measured:	power consumed by low voltage compressor at Xiaoqing coalmine	☒
Description of Location:	Xiaoqing coalmine	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 05/09/2002, replaced by new meter on 12/10/2008	☒
Instrument Type:	DT862-4, new type DTSD341	☒
Serial Number:	9902-8-000673, new S/N: 20080766040137	☒
Manufacturer Model Nr.:	Changsha Weisheng Co., Ltd	☒
Specific Location:	Xiaoqing coalmine / gas station	☒
Measurement Range:	3*220v/380v 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	17/05/2005; 12/10/2008	☒
Required Calibration Frequency:	Not indicated	☒
Uncertainty Level:	0.5	☒

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate available	See IRL No.33, 48. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.13. Instrument: power meter Hongfang

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Hongfang coalmine	☒
Data to be Measured:	power consumed by low voltage compressor at Hongfang coalmine	☒
Description of Location:	Hongfang coalmine	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 17/10/2001, replaced by new meter on 16/05/2008, again on 14/10/2008.	☒
Instrument Type:	DT862-4, new type: DTSD341	☒
Serial Number:	005248, new S/N: 20080766040133	☒
Manufacturer Model Nr.:	Changsha Power Meter Co. Ltd. / Changsha Weishend Power Meter Co. Ltd.	☒
Specific Location:	Hongfang coalmine	☒
Measurement Range:	3*220V/380V 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	17/05/2005; 16/05/2008; 14/10/2008	☒
Required Calibration Frequency:	Not indicated	☒
Uncertainty Level:	0.5	☒

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate available	See IRL No.34, 49. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.14. Instrument: power meter Daxing 23#

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Daxing 23#	☒
Data to be Measured:	power consumed by high voltage compressor at Daxing coalmine	☒
Description of Location:	Daxing coalmine	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 05/01/2007, replaced by new meter on 11/10/2008	☒
Instrument Type:	DS862-4, new type DTSD331	☒
Serial Number:	10373439, new S/N: 20080766030057	☒
Manufacturer Model Nr.:	Changsha Weisheng Power Meter Co. Ltd	☒
Specific Location:	Daxing coalmine / gas station	☒
Measurement Range:	3*100v 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	05/01/2007; 11/10/2008	☒
Required Calibration Frequency:	Every 5 years	
Uncertainty Level:	0.5	

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumen- tation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate avail- able	See IRL No.50, 51. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.15. Instrument: power meter Daxing 28#

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Daxing 28#	☒
Data to be Measured:	power consumed by high voltage compressor at Daxing coalmine	☒
Description of Location:	Daxing coalmine	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 05/01/2007, replaced by new meter on 26/08/2007	☒
Instrument Type:	DS862-4, new type DSSD159A1	☒
Serial Number:	DL/T614-1997, new S/N: 00075122	☒
Manufacturer Model Nr.:	Dandong Shuangfeng Power Meter Co. Ltd	☒
Specific Location:	Daxing coalmine / gas station	☒
Measurement Range:	3*100v 3*1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	05/01/2007; 26/08/2007	☒
Required Calibration Frequency:	Every 5 years	
Uncertainty Level:	0.5	

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumentation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate available	See IRL No.53, 54. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.16. Instrument: power meter Daming 7#

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Daming 7#	☒
Data to be Measured:	power consumed by high voltage compressor at Daming coalmine	☒
Description of Location:	Daming coalmine	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 04/07/2007, replaced by new meter on 13/10/2008	☒
Instrument Type:	DS862-4, new type DSSD341	☒
Serial Number:	2007-06-10387917, new S/N: 20080766040123	☒
Manufacturer Model Nr.:	Changsha Weisheng Power Meter Co. Ltd	☒
Specific Location:	Daming coalmine / gas station	☒
Measurement Range:	3×220/380V 3×1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	04/07/2007; 13/10/2008	☒
Required Calibration Frequency:	Every 5 years	
Uncertainty Level:	0.5	

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Monitoring & Calculation			
Reading Frequency:		Monthly recording	☒
Recording Frequency:		Manually recorded. Daily report will be kept in the data management centre	☒
Trouble Shooting:		In case of instrument failure, data will be declared void.	☒
Inspection Results During Verification			
Operation of Instrumen- tation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate avail- able	See IRL No.55, 56. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.2.17. Instrument: power meter Daming 15#

PDD	Verified Situation	Conclusion
Instrumentation Information		
ID-PDD:	CONS _{ELECT,PJ,t}	☒
ID-Internal:	Daming 15#	☒
Data to be Measured:	power consumed by high voltage compressor at Daming coalmine	☒
Description of Location:	Daming coalmine	☒
Signal Transformation and Transfer:	Manually recording, daily report will be archived in the data management centre	☒
Data Logging:	Manually recording and accumulating	☒
Archiving of Raw Data:	Two operational staff will be responsible for the daily checking of the power generated and self used.	☒
Measurement Principle:	Continuously	☒
Period of Operating Time:	Begin 04/07/2007, replaced by new meter on 13/10/2008	☒
Instrument Type:	DS862-4, new type DSSD341	☒
Serial Number:	2007-05-10379497, new S/N: 20080766040125	☒
Manufacturer Model Nr.:	Changsha Weisheng Power Meter Co. Ltd	☒
Specific Location:	Daming coalmine / gas station	☒
Measurement Range:	3×220/380V 3×1.5(6)A	☒
Measurement Unit:	KWh	☒
Calibration:	04/07/2007; 13/10/2008	☒
Required Calibration Frequency:	Every 5 years	
Uncertainty Level:	0.5	

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Monitoring & Calculation			
Reading Frequency:	Monthly recording		☒
Recording Frequency:	Manually recorded. Daily report will be kept in the data management centre		☒
Trouble Shooting:	In case of instrument failure, data will be declared void.		☒
Inspection Results During Verification			
Operation of Instrumen- tation	Method of Verification	Verification Results	Conclusion
Measuring Principle:	In compliance with meth./PDD	Ok	☒
Installation:	The ammeter was calibrated when installed.	Ok	☒
Functionality:	Normal	Ok	☒
Quality assurance:	Third Party Certificate avail- able	See IRL No.57, 56. Calibration result: "Qualified"	☒
Maintenance:	Daily plausibility check	The plausibility is checked by the operational staff of the power plant.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.3. Sampling Information

3.3.1. Sampling Point a: NMHC result

PDD	Verified Situation	Conclusion
Sampling Information <i>list all different sampling points which have been used during the monitoring period; use a separate table for each single sampling point</i>		
ID-PDD: PC _{NMHC}	Ok	✓
ID-Internal: PC _{NMHC}	Ok	✓
Sample Taken From:	CMM storage tank	✓
Location of Sampling Point:	CMM storage tank	✓
Monitoring & Calculation		
Sampling Principle:	Not indicated	✓
Methodology of Sampling:	In compliance with meth./PDD	✓
Frequency of Sampling:	Annually	✓
Training of Sampling Personnel:		✓
Sample Analysed for / Data to be Measured:	Concentration of Non-methane hydrocarbon in the sample / 12/09/2007	✓
Sample Analysed by:	National metallurgy industry coal product quality supervision centre IRL No.18	✓
Certification of Analyser/ Laboratory:	Ok.	✓
Analysis Principle:	National standard for mixed gas analysis regulation "GB/T 10628-1989".	
Methodology of Sample Analysis:	In compliance with meth./PDD	✓
Measurement Unit:	%	✓
Measurement Range:	N/A	✓

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PDD		Verified Situation	Conclusion
Uncertainty Level:		N/A	☒
Archiving of Raw Data:		Testing report is archived in the CDM department of Tiefa coal industry group	☒
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	☒
Representativity	N/A	Ok	☒
Reproducibility	The testing result was verified during the on-site visit, the result of PCNMHC is below 1%.	Ok	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.3.2. Sampling Point a: NMHC result

PDD	Verified Situation	Conclusion
Sampling Information		
ID-PDD: PC _{NMHC}	Ok	✓
ID-Internal: PC _{NMHC}	Ok	✓
Sample Taken From:	CMM storage tank	✓
Location of Sampling Point:	CMM storage tank	✓
Monitoring & Calculation		
Sampling Principle:	Sampling bag	✓
Methodology of Sampling:	In compliance with meth./PDD	✓
Frequency of Sampling:	Annually	✓
Training of Sampling Personnel:	Reference of training - In compliance with meth./PDD	✓
Sample Analysed for / Data to be Measured:	Concentration of Non-methane hydrocarbon in the sample 21/06/2008. IRL No. 19	✓
Sample Analysed by:	Shanghai standard gas testing centre	✓
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	✓
Analysis Principle:	National standard for mixed gas analysis regulation "GB/T 10628-1989".	✓
Methodology of Sample Analysis:	In compliance with meth./PDD	✓
Measurement Unit:	%	✓
Measurement Range:	N/A	✓
Uncertainty Level:	N/A	✓

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PDD		Verified Situation	Conclusion
Archiving of Raw Data:		Testing report is archived in the CDM department of Tiefa coal industry group	☒
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	☒
Representativity	N/A	Ok	☒
Reproducibility	The testing result was verified during the on-site visit, the result of PC _{NMHC} is 0.97.	Ok	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None			

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3.4. Accounting information

PDD	Verified Situation	Conclusion
Accounting Information		
ID-PDD: N/A	N/A	☒
ID-Internal:	N/A	☒
Description of Accounted Component:	Internal power purchasing confirmation documents IRL No.12, 13, 52.	☒
Accounting Unit:	KWh	☒
Quality Assurance Measures / System:	The internal purchasing confirmation document is the basis for the power purchasing	☒
Account Archived:	Apr 2006-Dec 2008	☒
Account Credible / in Line with PDD:	With the signature from different department	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None		
PDD	Verified Situation	Conclusion
Accounting Information		
ID-PDD: N/A	N/A	☒
ID-Internal:	N/A	☒
Description of Accounted Component:	Internal power purchasing invoices IRL No.12, 13, 52.	☒
Accounting Unit:	Yuan/KWh	☒
Quality Assurance Measures / Sys-	The internal power purchasing invoice is the basis for the cross checking against the	☒

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tem:	meter value of the power generation	
Account Archived:	Apr 2006-Dec 2008	☒
Account Credible / in Line with PDD:	With the signature from different department	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: None		

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3.5. External Data

PDD	Verified Situation	Conclusion
External Data		
ID-PDD: $PMM_{BL,GAS,y}$	Listed in the PDD	☒
ID-Internal: $PMM_{BL,GAS,y}$	Listed in the PDD	☒
Description of Data / Data Refers to:	Post-mining CMM that would have been captured and destroyed by residential usage in the baseline scenario	☒
Unit of Data (if appropriate):	tCH ₄ /y	☒
Date of Data Income:	Estimated as from the FSR.	☒
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 sensor and concentration meters. ACM0008 recommended method is used to ex-ante determine baseline thermal energy demand	☒
Reliability of Data Source:	As per registered PDD.	☒
Is the Data up-to-date?	It is in compliance with the registered PDD.	☒
Uncertainty Level:	N/A	☒
Key Reporting Risks: N/A Risk Classification: N/A Further Remarks: N/A		
PDD	Verified Situation	Conclusion
External Data		
ID-PDD: $EF_{OM,y}$	Listed in the PDD	☒
ID-Internal: $EF_{OM,y}$	Listed in the PDD	☒
Description of Data / Data Refers to:	Operating margin emission factor of Central China Power Grid	☒

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Unit of Data (if appropriate):	tCO ₂ e/MWh	☒
Date of Data Income:	Dec 2006	☒
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.	☒
Reliability of Data Source:	It is from the publications of the Chinese DNA.	☒
Is the Data up-to-date?	It is in compliance with the registered PDD	☒
Uncertainty Level:	N/A	☒
Key Reporting Risks: N/A Risk Classification: N/A Further Remarks: N/A		
PDD	Verified Situation	Conclusion
External Data		
ID-PDD: EF _{BM,y}	Listed in the PDD	☒
ID-Internal: EF _{BM,y}	Listed in the PDD	☒
Description of Data / Data Refers to:	Build margin emission factor of Central China Power Grid	☒
Unit of Data (if appropriate):	tCO ₂ e/MWh	☒
Date of Data Income:	Dec 2006	☒
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.	☒
Reliability of Data Source:	It is from the publications of the Chinese DNA	☒
Is the Data up-to-date?	It is in compliance with the registered PDD	☒
Uncertainty Level:	N/A	☒

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Key Reporting Risks: N/A		
Risk Classification: N/A		
Further Remarks: N/A		
PDD	Verified Situation	Conclusion
External Data		
ID-PDD: EF _{CO₂, Coal}	Listed in the PDD	See CR1
ID-Internal: Not available	Listed in the PDD	See CR1
Description of Data / Data Refers to:	CO ₂ emission factor of coal used in heat generation	See CR1
Unit of Data (if appropriate):	tC/TJ	See CR1
Date of Data Income:	Not available.	See CR1
Source of Data:	1996 IPCC default value	See CR1
Reliability of Data Source:	Given by IPCC	See CR1
Is the Data up-to-date?	Yes	See CR1
Uncertainty Level:	Low	See CR1
Key Reporting Risks: N/A		
Risk Classification: N/A		
Further Remarks: N/A		
PDD	Verified Situation	Conclusion
External Data		
ID-PDD: D _{CH₄}	Listed in the PDD	☒
ID-Internal: D _{CH₄}	Listed in the PDD	☒
Description of Data / Data Refers to:	Density of methane under normal conditions of temperature and pressure	☒

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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: N/A Risk Classification: N/A Further Remarks: N/A		
PDD	Verified Situation	Conclusion
External Data		
ID-PDD: Eff _{ELEC}	Listed in the PDD	☒
ID-Internal: Eff _{ELEC}	Listed in the PDD	☒
Description of Data / Data Refers to:	Efficiency of methane destruction/oxidation in power generation	☒
Unit of Data (if appropriate):	%	☒
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: N/A		

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Risk Classification: N/A		
Further Remarks: N/A		
PDD	Verified Situation	Conclusion
External Data		
ID-PDD: CEF _{CH4}	Listed in the PDD	☒
ID-Internal: CEF _{CH4}	Listed in the PDD	☒
Description of Data / Data Refers to:	Carbon emission factor for combusted methane	☒
Unit of Data (if appropriate):	tCO ₂ e/tCH ₄	☒
Date of Data Income:	22 nd Dec, 2006	☒
Source of Data:	ACM0008 version3	☒
Reliability of Data Source:	UNFCCC	☒
Is the Data up-to-date?	Yes	☒
Uncertainty Level:	N/A	☒
Key Reporting Risks: N/A		
Risk Classification: N/A		
Further Remarks: N/A		
PDD	Verified Situation	Conclusion
External Data		
ID-PDD: GWP _{CH4}	Listed in the PDD	☒
ID-Internal: GWP _{CH4}	Listed in the PDD	☒
Description of Data / Data Refers to:	Global warming potential of methane	☒
Unit of Data (if appropriate):	tCO ₂ e/tCH ₄	☒

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Date of Data Income:	22 nd Dec, 2006	☒
Source of Data:	ACM0008 version3	☒
Reliability of Data Source:	UNFCCC	☒
Is the Data up-to-date?	See CAR3 in section 2.4.	See CAR3
Uncertainty Level:	N/A	☒
Key Reporting Risks: N/A Risk Classification: N/A Further Remarks: N/A		

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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.	☒
Documentation	The data management centre is supervised by the deputy director of the CMM power plant, Mr. Shi, all the evidence have been re-viewed by the audit team.	The raw data documentation procedure is considered to be complete.	☒
Responsibilities	CRM, the VER buyer made the final internal approval of the Monitoring Report		☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: No further comments.			

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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.		☒
Documentation	The default values are listed in the report and in the manual. However, see CAR3 (wrt GWP of methane value) and CR1 (wrt Table 2 of manual).		See CAR3 and CR1
Responsibilities	The operational manager of the CMM power plant will take full responsibility of the meter changing supervision.		☒
Key Reporting Risks: N/A. Risk Classification: N/A Further Remarks: No further comments.			

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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 against the internal invoices. The calculated emission reduction is reproducible based on the raw data.	The data is reproducible. However see CAR1.	☒
Key Reporting Risks: Once the request is solved, the risk is reduced. Risk Classification: Medium Further Remarks: No further comments.			

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4.4. Peculiarities: N/A

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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 data is reliable.	☒
Key Reporting Risks: N/A Risk Classification: Low Further Remarks: No further comments.			

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4.6. Completeness and Correctness

Description of completeness and correctness			
	Description	Comments and Results	Concl.
Correctness	The formulae to calculate the ER is correctly applied and the input data are consistent with the raw data.	No further comments.	☒
Completeness	The monitored data are considered to be complete.	No further comments.	☒
Further Remarks: None			

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5 Additional requirements: N/A

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6 Data Reporting

Description of the Monitoring Report		
	Comments and Results	Concl.
Compliance with CCX regulations	Yes, it is.	☒
Completeness and Transparency	The MR report is complete and transparent.	☒
Correctness	The monitored data are correctly recorded and transferred into the ER calculation tool.	☒
Key Reporting Risks: N/A Risk Classification: Medium Further Remarks: N/A		

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7 Compilation and Resolutions of CARs, CRs and FARs

Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion
<u>Corrective Action Request No. 1</u> Errors occurred in both electricity consumption records and the CMM volume in the CER calculation spreadsheet, please update the figures as per the metering records.	The ER calculation spreadsheet had been updated according to the figures shown in the receipts (the receipts had been submitted to DOE).	☒ The data has been updated and it is verified to be consistent with the sales receipts.
<u>Corrective Action Request No. 2</u> Please revise the monitoring report accordingly.	The monitoring report had been modified accordingly. Please check the update MR	☒ This issue is considered to be closed.
<u>Corrective Action Request No. 3</u> The GWP of methane should be adjusted based on CCX requirements. The factor descriptions (first column) in Table 2 of the manual are not correct. Please revise.	Because the second VER is based on VCS standard, the GWP of methane need not to be adjusted to be CCX required value. The factor in table 2 had been modified as the request. Please check the manual for details.	☒ This CAR can be ignored.
<u>Corrective Action Request No. 4</u> Please calculate with all available decimal places and to round conservatively at the end of the calculation.	The ER calculation tools had been revised accordingly for conservation.	☒ This issue is considered to be closed.
Clarification Requests by audit team	Summary of project owner response	Audit team conclusion
<u>Clarification Request No. 1</u> Please indicate in figure 1 of the CDM manual to specify the location of the backup meter No.619. Please also revise the figure 2 of the manual and present a clear map of the various	The monitoring points of power, gas flux and gas concentration had been updated in the Manual (figure 2). And the additional table regarding the power consumption within the project boundary had been updated in MR (table	DOE's first response: Please keep the consistency between your figure 2 and the figure 2, 3 in the registered PDD to avoid confusion.

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Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion									
locations of the meters (i.e. where is Shihuandi Gas Station, Zhangzhuang Gas Station, Hongfang Gas Station). The map should further include a separate figure for each meter that is installed and used for the calculation of the emission reductions.	5). Please also check the Excel file "Electricity Consumption (VCS)" for detailed calculation. The data for electricity consumption are from the monthly receipts, which had been submitted to DOE for cross check. Answer to DOE's first response: The manual had been modified according comments. Please check the revised figure 2 in the manual for the details.	☒ This issue is considered to be closed, as the monitoring points have been clearly indicated in the monitoring diagram.									
Clarification Request No. 2 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.	The external data is listed in the table below, which is summarized from the final PDD of the registered project. They will be fixed during the first credit period. <table border="1"> <thead> <tr> <th>Factor</th><th>Value</th><th>Description</th></tr> </thead> <tbody> <tr> <td>CEF_{ELEC}</td><td>1.0518</td><td>Grid emissions factor calculated using ACM0002, and fixed for the first crediting period (tCO₂e/MWh)</td></tr> <tr> <td>CEF_{CH4}</td><td>2.75</td><td>CO₂ emission for combusted methane (tCO₂e/tCH₄)</td></tr> </tbody> </table>	Factor	Value	Description	CEF _{ELEC}	1.0518	Grid emissions factor calculated using ACM0002, and fixed for the first crediting period (tCO ₂ e/MWh)	CEF _{CH4}	2.75	CO ₂ emission for combusted methane (tCO ₂ e/tCH ₄)	☒ This issue is considered to be closed.
Factor	Value	Description									
CEF _{ELEC}	1.0518	Grid emissions factor calculated using ACM0002, and fixed for the first crediting period (tCO ₂ e/MWh)									
CEF _{CH4}	2.75	CO ₂ emission for combusted methane (tCO ₂ e/tCH ₄)									

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Corrective Action Requests by audit team	Summary of project owner response			Audit team conclusion
	Eff _{GAS}	98.5	Efficiency of methane destruction/oxidation through gas grid to various combustion end users (%)	
	GWP _{CH4}	21	Global warming potential of methane (tCO ₂ e / tCH ₄)	
	Density of CH ₄	0.67	Density of methane at normal temperature and pressure ¹ (kgCH ₄ /m ³)	
Clarification Request No. 3 Please use standard name in the MR, CDM manual to be consistent with the registered PDD, for those internal names, please indicate it refers to which one appeared in the PDD.	The name of parameter used in the MR and CDM manual had been modified to be consistent with the registered PDD. Please check the modified MR and manual.			☒ This issue is considered to be closed.
Clarification Request No. 4 Please provide the graphical analysis about the gas flux and concentration variation.	Taking a typical month (Nov. 2006) as the example, the graphical analysis about the daily gas flux and concentration variation had been shown in the file "VCS Daily Data.xls". We can draw the conclusion that, the daily gas flux of the gas stations is quite stable and the concen-			☒ This issue is considered to be closed. Please refer to IRL 59.

¹ 20°C and 1 atm.

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Corrective Action Requests by audit team	Summary of project owner response	Audit team conclusion
	tration varied from 41 – 43%. The assumption of 41% as estimated CMM concentration in calculation tool is conservative.	
Forward Action Requests by audit team	Summary of project owner response	Audit team conclusion
<u>Forward Action Request No. 1</u> We propose to include the signature of the CDM project manager into the CDM manual to ensure the responsibility. The version number of the manual should also be added for future updated and revised manuals.	CDM project manager had signed his name into the CDM manual (Please check the attached file “signature page.jpg” for details). And the version of the manual had been added for further updated and revision.	☒ This issue is considered to be closed. Please refer to IRL 9.

Annex 2:
TÜV SÜD's Information Reference List

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		Information Reference List		

Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
1	17/05/2008	PDD "Tiefa Coal Industry Group CMM Utilization Project", Version 3.1 (registered 06/12/2008).	Climate Experts Ltd.; China Coal Information Institute; Mitsui & Co. Ltd.	
2	30/11/2007	Approved consolidated baseline and monitoring methodology ACM0008 "Consolidated methodology for coal bed methane and coal mine methane capture and use for power (electrical and motive) and heat and/or destruction by flaring", ACM0008 – Version 03	UNFCCC	
3		Tool for the demonstration and assessment of additionality, Version 05	UNFCCC	
4	30/11/2007	"Consolidated methodology for grid-connected electricity generation from renewable sources" (ACM0002) --- Version 6	UNFCCC	
5	05/08/2008	Participant list of on-site interviews	TÜV SÜD	
6	25/02/2009	On-site interviews conducted by TÜV SÜD: Verification Team: Xiaoying Chen Jiangsu TÜV Product Service, Beijing Branch Interviewed Persons: Xuewen Shi Tiefa Coal Industry Group Junpu Liu Tiefa Coal Industry Group Hongwei Liu Tiefa Coal Industry Group Huajun Zhang Tiefa Coal Industry Group Qi Zhang Tiefa Coal Industry Group Wanjiu Mu Tiefa Coal Industry Group Na Wang Tiefa Coal Industry Group Cuiqing Sun Carbon Resource Management	TÜV SÜD	
7	01/02/2009	Monitoring report of "Tiefa Coal Industry Group CMM Utilization Project" version 1.0	Tiefa Coal Industry Group (TCIG)	
8	2006	Tiefa coalmine gas supply system diagram	Tiefa coal industry Co.,	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
			Ltd.	
9	23/03/2009	CDM monitoring & quality control manual; Tiefa Coal Industry Group CMM Utilization Project, Version 2.0.	Tiefa Mining Industry (Group) Co. Ltd.	
10	02/12/2005	Calibration record of Ammeter DS862-4, installed at Zhuangzhuang 60#, serial number: 206839.		
11	May 2008	Tiefa Coal Industry Group CMM Utilization Project for City Gas, project introduction	Tiefa coal industry Co., Ltd.	
12	01/01/2007-31/12/2007	Electricity consumption confirmation sheet of Xiaoqing, Shihuangdi (3 meters in total), Zhangzhuang high voltage, Zhangzhuang low voltage and Daxing high voltage(2 meters), Daming low voltage(2 meters), Hongfang low voltage	Tiefa coal industry Co., Ltd.	Electricity consumption confirmation
13	01/01/2008-05/12/2008	Electricity consumption confirmation sheet of Xiaoqing, Shihuangdi (3 meters in total), Zhangzhuang high voltage, Zhangzhuang low voltage and Daxing high voltage(2 meters), Daming low voltage(2 meters), Hongfang low voltage	Tiefa coal industry Co., Ltd.	Electricity consumption confirmation
14	18/10/1999	Business license of Tiefa coal industry Co., Ltd.	Diaobingshan City industrial and commercial administration	
15	01/04/2006-05/12/2008	Daily records (manually) of gas supply to Tieling and Aode gas supply companies.	Tiefa coal industry Co., Ltd	Daily CMM supply records
16	01/04/2006-05/12/2008	CMM purchasing invoice of Tieling baijiang gas supply company	Tieling baijiang gas supply company	Cross-check evidence for CMM supply
17	01/04/2006-05/12/2008	CMM purchasing invoice of Aode gas supply company	Aode gas supply company	Cross-check evidence for CMM supply
18	12/09/2007	Testing result of NMHC concentration of the Gas flux	National metallurgy industry coal product quality supervision	NMHC testing result less than 1%

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			centre	
19	21/06/2008	Testing result of NMHC concentration of the Gas flux	National metallurgy industry coal product quality supervision centre	NMHC testing result less than 1%
20	August 2008	Monitoring equipment list	Tiefa coal industry Co., Ltd	
21	25/07/2007	Calibration record of flow meter LWQZ-III300C I 2, series number 0527	Zhejiang Cangnan instrument factory	Expire date: 24/07/2009
22	25/07/2005	Calibration record of flow meter LWQZ-III300C I 2, series number 0527	Shenyang city CMM instrument station	
23	09/02/2007	Calibration record of flow meter LWQZ-III300C I 2, series number 0528	Zhejiang Cangnan instrument factory	Expire date: 08/02/2009
24	09/02/2005	Calibration record of flow meter LWQZ-III300C I 2, series number 0528	Liaoning provincial institute of mesurement	
25	21/11/2008	Calibration record of flow meter LUXZ-200, series number 1432	Zhejiang Cangnan instrument factory	Expire date: 20/11/2009
26	21/11/2006	Calibration record of flow meter LUXZ-200, series number 1432	Shenyang city CMM instrument station	Expire date: 20/11/2008
27	18/06/2008	Calibration record of concentration meter GWJ-2, installed at Xiaoqing gas station, serial number: 05012.	Tiefa coalmine supervision metering station	
28	18/06/2008	Calibration record of concentration meter GWJ-2, installed at Shihuangdi gas station, serial number: 054206.	Tiefa coalmine supervision metering station	
29	18/06/2008	Calibration record of concentration meter GWJ-2, installed at Tieling origin	Tiefa coalmine	

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		gas station, serial number: 048818	supervision metering station	
30	11/10/2008	Calibration record of ammeter DSSD331, installed at Shihuangdi 25# gas staion. serial number: 20080766030055	Tiefa coalmine electricity supply metering station	Expire date: 10/10/2013
31	11/10/2008	Calibration record of ammeter DSSD331, installed at Shihuangdi south 24#. serial number: 20080766030056.	Tiefa coalmine electricity supply metering station	Expire date: 10/10/2013
32	17/05/2005	Calibration record of Ammeter DS864-2, installed at Zhuangzhuang, serial number: 012008.	Tiefa coalmine electricity supply metering station	
33	17/05/2005	Calibration record of Ammeter DS864-4, installed at Xiaoqing, serial number: 000673.	Tiefa coalmine electricity supply metering station	
34	17/05/2005	Calibration record of Ammeter DS864-4, installed at Hongfang, serial number; 005248.	Tiefa coalmine electricity supply metering station	
35	12/10/2008	Calibration record of Ammeter DTSD341, installed at Shihuangdi north, serial number: 20080766040141.	Tiefa coalmine electricity supply metering station	
36	25/06/2005	Calibration record of concentration meter GWJ-2, installed at Xiaoqing gas station, serial number: 05012.	Tiefa coal industry (group) supervision and inspection center	
37	22/06/2006	Calibration record of concentration meter GWJ-2, installed at Xiaoqing gas station, serial number: 05012.	Tiefa coal industry (group) supervision and inspection center	
38	20/06/2007	Calibration record of concentration meter GWJ-2, installed at Xiaoqing gas station, serial number: 05012.	Tiefa coal industry (group) supervision	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
			and inspection center	
39	25/06/2005	Calibration record of concentration meter GWJ-2, installed at Shihuangdi gas station, serial number: 054206.	Tiefa coal industry (group) supervision and inspection center	
40	22/06/2006	Calibration record of concentration meter GWJ-2, installed at Shihuangdi gas station, serial number: 054206.	Tiefa coal industry (group) supervision and inspection center	
41	20/06/2007	Calibration record of concentration meter GWJ-2, installed at Shihuangdi gas station, serial number: 054206.	Tiefa coal industry (group) supervision and inspection center	
42	25/06/2005	Calibration record of concentration meter GWJ-2, installed at Tieling origin gas station, serial number: 048818	Tiefa coal industry (group) supervision and inspection center	
43	22/06/2006	Calibration record of concentration meter GWJ-2, installed at Tieling origin gas station, serial number: 048818	Tiefa coal industry (group) supervision and inspection center	
44	20/06/2007	Calibration record of concentration meter GWJ-2, installed at Tieling origin gas station, serial number: 048818	Tiefa coal industry (group) supervision and inspection center	
45	April 2006 – December 2008	Electricity purchasing invoice, including the consumption of the 11 wattmeter.	Tiefa coalmine group	Cross-check evidence for the electricity consumption
46	10/04/2008	Calibration record of Ammeter DS862-4, installed at Zhuangzhuang 60#, serial number: 206839.	Tiefa coal industry (group) supervision and inspection center	
47	16/05/2008	Calibration record of Ammeter DS864-2, installed at Zhuangzhuang, serial number: 012008.	Tiefa coalmine electricity supply metering station	

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Ref. No.	Issuance and/or submission date (dd/mm/yyyy)	Title/Type of Document	Author/Editor/ Issuer	Additional Information (Relevance in CDM Context)
48	12/10/2008	Calibration record of Ammeter DS864-4, installed at Xiaoqing, serial number:20080766040137	Tiefa coalmine electricity supply metering station	
49	14/10/2008	Calibration record of Ammeter DTSD341, installed at Hongfang, serial number; 20080766040133.	Tiefa coalmine electricity supply metering station	
50	05/01/2007	Calibration record of Ammeter DS862-4, installed at Daxing 23#, serial number: 10373439	Tiefa coalmine electricity supply metering station	
51	11/10/2008	Calibration record of Ammeter DSSD331, installed at Daxing 23#, serial number: 20080766030057	Tiefa coalmine electricity supply metering station	
52	01/04/2006-31/12/2006	Electricity consumption confirmation sheet of Xiaoqing, Shihuangdi (3 meters in total), Zhangzhuang high voltage, Zhangzhuang low voltage and Daxing high voltage(2 meters), Daming low voltage(2 meters), Hongfang low voltage	Tiefa coal industry Co., Ltd.	
53	05/01/2007	Calibration record of Ammeter DS862-4, installed at Daxing 28#, serial number not indicated	Tiefa coalmine electricity supply metering station	
54	26/08/2007	Calibration record of Ammeter DSSD159A1, installed at Daxing 28#, serial number: 00075122	Tiefa coalmine electricity supply metering station	
55	04/07/2007	Calibration record of Ammeter DS862-4, installed at Daming 7#, serial number: 2007-06-10387917	Tiefa coalmine electricity supply metering station	
56	13/10/2008	Calibration record of Ammeter DSSD341, installed at Daming 7#, serial number: 20080766040123	Tiefa coalmine electricity supply metering station	

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57	04/07/2007	Calibration record of Ammeter DS862-4, installed at Daming 15#, serial number: 2007-05-10379497	Tiefa coalmine electricity supply metering station	
58	13/10/2008	Calibration record of Ammeter DSSD341, installed at Daming 15#, serial number: 20080766040125	Tiefa coalmine electricity supply metering station	
59	11/2006	Gas flux daily data analysis. Sample taken from November 2006.	Tiefa coalmine group	
60	1994	Verification regulation of velocity flow meter JJG198-1994	CMA	
61	1994	Verification regulation of electrical energy meters with electronics	CMA	
62	21/03/2006	Testing result of NMHC concentration of the Gas flux	National metallurgy industry coal product quality supervision centre	NMHC testing result less than 1%
63	16/06/2009	Confirmation by project participants on double counting	Carbon Resource Management and Tiefa Coal Industry (Group) Ltd.	
64	23/04/2009	Monitoring Report (VCS): Tiefa Coal Industry Group CMM Utilization Project; Version 2.0.	Carbon Resource Management	