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Validation Report

Carbon Asset Management International AG

Yangquan Coal Mine Methane (CMM) Utilization for Power Generation Project, Shanxi Province, China

Report No. 791118
Revision 2

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TÜV SÜD Industrie Service GmbH
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Industrie Service

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Subject:	Validation of a CDM Project
Executing Operational Unit:	TÜV SÜD Industrie Service GmbH Carbon Management Service Westendstr. 199 - 80686 Munich Federal Republic of Germany
Client:	Carbon Asset Management International AG Burgstrasse 116 A-1070 Wien Österreich
Contract approved by:	Michael Rumberg
Report Title:	Validation Report Yangquan Coal Mine Methane (CMM) Utilization for Power Generation Project, Shanxi Province, China
Number of pages	20 (excluding cover page and annexes)

Summary:

The Certification Body "Climate and Energy" has been ordered by Carbon Asset Management International AG to perform a validation of the above mentioned project.

Using a risk based approach the validation of this project has been performed by document reviews and on-site inspections, audits at the locations of the project.

In summary, it is TÜV SÜD´s opinion that the project "Yangquan Coal Mine Methane (CMM) Utilization for Power Generation Project, Shanxi Province, China", as described in the revised project design document dated January 08, 2007, meets all relevant UNFCCC requirements for the CDM, set by the Kyoto Protocol, the Marrakech Accords and relevant guidance by the CDM Executive Board and that the project furthermore meets all relevant host country criteria and correctly applies the baseline and monitoring methodology ACM0008, vers.2 (inclusive ACM0002, vers.6).

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of emission reductions of 14,953,220 tons CO_{2e} over a crediting period of 7 years, resulting in a calculated annual average of 2,136,174 tons CO_{2e}, represent a conservative estimation using the assumptions given by the project documents.

Work carried out by:	• Werner Betzenbichler (Project manager, GHG lead auditor) • Cuiyun Zhang (GHG auditor) • Dr. Sven Kolmetz (GHG auditor - trainee) • Bernard Tonnelier (expert mining technologies)	Internal Quality Control by: Javier Castro

Abbreviations

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

Industrie Service

Table of Contents

Page

1 INTRODUCTION

1.1 Objective

Carbon Asset Management International AG has commissioned TÜV SÜD Industrie Service GmbH (TÜV SÜD) to validate the proposed CDM activity: "Yangquan Coal Mine Methane (CMM) Utilization for Power Generation Project, Shanxi Province, China". The validation serves as design verification and is a requirement of all CDM projects. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities as agreed in the Bonn Agreement and the Marrakech Accords.

1.2 Scope

The validation scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. TÜV SÜD has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

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

The audit team has been provided with a draft PDD in March 2006. Based on this documentation a document review and a fact finding mission in form of an on-site audit has taken place. Afterwards the client decided to revise the PDD according to the CARs and CRs indicated in the audit process. The second PDD version submitted in July 2006 served as the basis for the assessment, which was used in the context of the accreditation process of TÜV SÜD for this specific scope. Caused by the fact that accreditation was only given at the time when the applied revision of the methodology was already expired, it became necessary to update the PDD (version 3) once again, applying the latest version of ACM0008, and to repeat the public stakeholder process. As result of the validation a further revision of the PDD (version 4) was provided, which serves as the basis of the final conclusions presented herewith.

Studying the existing documentation belonging to this project, it was obvious that the competence and capability of the validation team has to cover at least the following aspects:

- Knowledge of Kyoto Protocol and the Marrakech Accords
- Environmental and Social Impact Assessment
- Skills in environmental auditing (ISO 14000, EMAS)
- Quality assurance

Industrie Service

- Coal exploration
- Gas distribution and demand aspects
- Technical aspects of CMM systems
- Monitoring concepts
- Political, economical and technical random conditions in host country

According to these requirements TÜV SÜD has composed a project team in accordance with the appointment rules of the TÜV certification body "climate and energy":

Werner Betzenbichler is physicist and head of the department "TÜV Carbon Management Service" located in the head office of TÜV Süddeutschland in Munich. Furthermore he is appointed as head of the certification body "Climate and Energy", which is accredited at UNFCCC as Designated Operational Entity. As project manager and GHG lead auditor he participated in numerous assessments of CDM and JI projects. Before entering this department he worked as expert on air quality measurements and emissions inventories as well as on environmental auditing within the environmental branch of the company.

Cuiyun Zhang is an auditor for environmental management systems (according to ISO 14001) at Jiangsu TUV Product Service Ltd. She is based in Shanghai. In her position she is responsible for the implementation of validation, verification and certifications audits for management systems. She has received training in the CDM validation process and participated already in several CDM project assessments.

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

Bernard Tonnelier is mechanical engineer and an internationally accepted expert in the coal mine industry and coal mine methane utilization technology. He worked on many CMM projects and studies in Russia, Ukraine and China. He has been hired on a freelance base to contribute to this assessment with his specific expertise.

The audit team covers the above mentioned requirements as follows:

- Knowledge of Kyoto Protocol and the Marrakech Accords (Betzenbichler / Dr. Kolmetz / Zhang)
- Environmental and Social Impact Assessment (Betzenbichler/ Dr. Kolmetz / Zhang)
- Skills in environmental auditing (Betzenbichler / Zhang / Dr. Kolmetz)
- Quality assurance (Betzenbichler / Dr.Kolmetz)
- Coal exploration (Tonnelier)
- Technical aspects of CMM systems (Tonnelier)
- Gas distribution and demand aspects (Dr. Kolmetz, Betzenbichler)
- Monitoring concepts (Betzenbichler / Zhang / Dr. Kolmetz)
- Political, economical and technical random conditions in host country (Zhang, Tonnelier)

In order to have an internal quality control of the project, a team of the following persons has been composed by the certification body “climate and energy”:

Original version:
- Michael Rumberg (deputy head certification body “climate and energy”)
- Wolfgang Felbermayer (TÜV SÜD, Austrian office, veto person covering scope 8)

This revision:
- Javier Castro (deputy head certification body “climate and energy”)

1.3 GHG Project Description

The project activity is a 90 MW coal mine methane (CMM) to power project located in the coal mining area of Yangquan Coal Industry (Group) Company Ltd. The primary objective of the project is to capture and use coal mine methane for power generation. The CMM used in the project activity is additional to the baseline as it is currently vented to atmosphere from several mining areas: mine 1, 2, 3, 5 and Xinjing. There is some baseline use for residential and small-scale industrial use in Yangquan and Pingding City and this is catered for the baseline calculations according to the approved methodology.

Project participants are the following private entities:
- Yangquan Coal Industry (Group) Company Ltd., China
- IXIS Environnement & Infrastructure, UK
- Camco International Limited, UK

The project starting date is May 01, 2006. The first crediting period starts March23, 2007.

2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual (for further information see www.vvmanual.info), an initiative of all Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

In order to ensure transparency, a validation protocol was customized for the project, according to the Validation and Verification Manual. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The validation protocol consists of three tables. The different columns in these tables are described in Figure 1.

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

Validation Protocol Table 1: Mandatory Requirements			
Requirement	***Reference***	***Conclusion***	***Cross reference***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Validation report.*	*Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.*

Validation Protocol Table 2: Requirement checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further subdivided. The lowest level constitutes a checklist question.	*Gives reference to documents where the answer to the checklist question or item is found.*	*Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.*	*The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.*	*This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question (See below). **Clarification** is used when the validation team has identified a need for further clarification.*

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	***Ref. to checklist question in table 2***	***Summary of project owner response***	***Validation conclusion***
If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.*	*The responses given by the Client or other project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

Figure 1 Validation Protocol Tables

2.1 Review of Documents

The project design document submitted by the Client and additional background documents related to the project design and baseline were reviewed. A complete list of all documents reviewed is attached as annex 2 to this report.

2.2 Follow-up Interviews

In the period of March 21 – 24, 2006, TÜV SÜD performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Yangquan Coal Industry were interviewed. The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Yangquan Coal Industry	➢ Project design ➢ Technical equipment ➢ Sustainable development issues ➢ Existing situation ➢ Baseline users ➢ Additionality ➢ Feasibility Studies ➢ Technical planning ➢ Monitoring plan ➢ Management system ➢ Environmental impacts ➢ Stakeholder process ➢ Approval by the host country
Camco	➢ PDD ➢ Additionality ➢ Grid emission factor ➢ Crediting period ➢ Monitoring plan ➢ Management system ➢ Stakeholder process ➢ Approval by the host and annex-I country
ClearWorld Energy	➢ PDD ➢ Additionality ➢ Grid emission factor ➢ Monitoring plan
China Coal Information Institute	➢ PDD ➢ Additionality ➢ Regional and national policies ➢ Common practice

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation was to resolve the requests for corrective actions and clarification and any other outstanding issues which needed to be clarified for TÜV SÜD`s positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by TÜV SÜD were resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process, the concerns raised and responses that have been given are summarized in chapter 3 below and documented in more detail in the validation protocol in annex 1. As the mentioned changes in the applied revision of the methodology did not address any essential part of the project design the protocol relates to findings of the first PDD, i.e. the base of the on-site activity, and the final conclusion made after receipt of the last PDD version.

3 VALIDATION FINDINGS

In the following sections the findings of the validation are stated. The validation findings for each validation subject are presented as follows:

1) The findings from the desk review of the final project design document and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Validation Protocol in annex 1.
2) Where TÜV SÜD had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in annex 1. The validation of the project resulted in five Corrective Action Requests and nine Clarification Requests.
3) Where Clarification or Corrective Action Requests have been issued, the exchanges between the Client and TÜV SÜD to resolve these Clarification or Corrective Action Requests are summarized.
4) The final conclusions for validation subject are presented.

The validation findings relate to the project design as documented and described in the final project design documentation.

3.1 Project Design

3.1.1 Discussion

The submitted project design document applies PDD version 2.0 as provided by the EB which is still acceptable, although a new version has been issued recently. The technical design is based on advanced coal mine methane capture end electricity generation technology. The PDD delivers in principle a complete and transparent overview of the project activity. All information on technical details has been verified and is in compliance with the actual situation.

Project participants are the following private entities:
- Yangquan Coal Industry (Group) Company Ltd., China
- IXIS Environnement & Infrastructure, UK
- Camco International Limited, UK

China as the host Party and UK as the Annex I Party, meet all relevant participation requirements. Letters of Approval of both countries are not yet available.

The project starting date is May 01, 2006. The first crediting period starts March 23, 2007. The renewable crediting period is with 7 years clearly defined

The applied methodology ACM0008, version 2 is deemed being the most fitting one for this specific project. (meanwhile there is already a version 3 available, but version 2 should remain valid until the date when requesting registration).

The objective of the project is to reduce GHG emissions by installing several power plants in order to produce electricity and to substitute fossil fueled electricity by coal mine methane based electricity. The design engineering does reflect current good practices. The design has been professionally developed and laid out in project feasibility studies. Subsequently the project got approval by the relevant authorities. The feasibility studies have been submitted to the validation team. Concerning the existing use of CMM for different purposes, the PDD provides accumulated data derived from many sources, that has been verified on-site.

The project equipment can be expected to run for the whole project period and it can not be expected that it will be replaced by more efficient technologies.

The project is in line with relevant legislation and plans of the P.R. of China. The project can currently be seen as being in line with the host country specific requirements for CDM.

The funding for the project does not lead to a diversion of official development assistance as according to the information obtained by the audit team ODA does not contribute to the financing of the project.

The description of the project's physical location is not sufficient in the first PDD version as the unique identification of the project activity is deemed to be questionable.

3.1.2 Findings

Open Issue:

Letters of Approval issued by the host country and investor country have to be submitted to the DOE prior to the request for registration.

Response:

Meanwhile - when issuing this revised validation report - all letters of approval have been available.

Clarification Request 1:

More precise maps should be provided clearly showing the exploration area and details of the mining sectors.

Response:

The revised PDD provides additional maps which show the different mining areas and their precise identification.

Clarification Request 2:

At Xinjing mine where a local manufactured gas engine shall be used additional information on this technology should be delivered.

Response:

The revised PDD now only refers to imported gas engines that will be acquired by a bidding process.

Clarification Request 3:

The project requires extensive training regarding operation and maintenance of used equipment. For that reason the project owner is requested to make more detailed provisions how the training and maintenance needs will be met.

Response:

The revised PDD does include the most relevant aspects of the “CDM Monitoring & Quality Manual” developed for this project activity.

Corrective Action Request 2:

It is necessary to clearly indicate a starting date of the crediting period.

Response:

The revised PDD fixes a starting of the crediting period.

3.1.3 Conclusion

The project complies with the requirements. The description in the final PDD clearly demonstrates the intended implementation of all technologies and reduction measures to be used by this proposed project activity.

3.2 Baseline

3.2.1 Discussion

This Project Activity uses the approved baseline methodology ACM0008 titled “Consolidated baseline methodology for coal bed methane and coal mine methane capture and use of power (electrical or motive) and heat and or destruction by flaring - version 2” in conjunction with ACM0002 titled ” Consolidated baseline methodology for grid-connected electricity generation from renewable resources – version 6”. The baseline methodology is applicable for this project and is well justified. All applicability criteria as specified by the methodology are met. The indications as provided by the PDD have been verified onsite. No CBM is used by the project activity.

The application of the methodology and the discussion and determination of the chosen baseline is transparent. The baseline users of the CMM are clearly identified. Their historic and actual consumption is metered and these values were validated on site by taking spot checks comprising two months in 2002 and 2005. The forecast of the future baseline is conservative and comprehensible.

The calculations are based on conservative assumptions. For example the official planning data of the coal production of the Yangquan Coal Industry are about 5% higher than the accumulated data of the single mines reported internally. The internal data were used for the baseline assumptions to guarantee a conservative approach.

National and/or sectoral policies, macro-economic trends and political aspirations have been taken into account in particular the National Coalmine Safety Regulation (11/2005) and Coalmine Methane Treatment and Utilization Macro Plan published by the NDRC in June 2005.

The provided baseline data complies with the recent situation on-site. The following information has been assessed in detail:

- coal production and forecast
- gas volumes from CMM capture
- gas composition
- gas demand from existing users
- expansion plans for the gas supply system
- determination of DK_max factor
- emission factor of the electricity grid

All data are traceable and are coming from reliable (as far as possible external) sources having no own interests in the CDM activity.

The provided feasibility study demonstrates that the baseline represents the most likely scenario among other possibilities. The local electricity production is mainly from very cheap waste coal; hence no alternative electricity production (like the project activity) could be considered as a competitive realistic baseline scenario.

The steps given by ACM0008 providing an approach for identifying the baseline scenario have been correctly applied. All figures provided by chapter B.2 of the PDD have been verified onsite. The application of all identified barriers to the various scenarios is done in a consistent and suitable manner.

Concerning the determination the emission reduction by the generation of electricity data has been provided in a separate Excel-sheet. The North China Power Grid has been identified as the most appropriate one following the guidance by the EB.

The project applies the l“tool for the demonstration and assessment of additionality”. The PDD uses step 2 (investment analysis) as well as step 3 although only one option would have been necessary. The figures used for the investment analysis have been proofed by the feasibility study used in the decision process of the project activity. The recognition of the CDM by the investment decision is proofed by the protocol of a Board meeting.

3.2.2 Findings

Clarification Request 4:

There is a discrepancy concerning the inclusion of activities in the discussion of the applicability criteria in sections B.1.1 and D.2 of the PDD. While in B.1.1 it is stated that CMM from ventilation is used by the project, the later paragraph states the opposite. Onsite it is has been confirmed that no CMM from ventilation is used for the project.

Response:

A revised PDD has been submitted correcting the information in B.1.1.

Corrective Action Request 1:

The given calculations (relative figures) concerning the shares of methane to be vented and to be collected by the capture system are incorrect. This has no impact on the total amount of methane to be collected.

Response:

The figures are corrected in the revised PDD.

3.2.3 Conclusion

The given information is sufficient. The raised issues are considered being resolved. The discussion provided by the PDD on the electricity grid factor has been improved compare dto the original version. The factor could be substantiated by the reference to other CDM projects applying ACM0002 in that regional grid. The project complies with the requirements.

3.3 Monitoring Plan

3.3.1 Discussion

This Project Activity uses the approved monitoring methodology ACM0008 titled “Consolidated monitoring methodology for coal bed methane and coal mine methane capture and use of power (electrical or motive) and heat and or destruction by flaring - version 2” in conjunction with ACM0002 titled ” Consolidated monitoring methodology for grid-connected electricity generation from renewable resources – version 6”. The baseline methodology is applicable for this project and is well justified. All applicability criteria as specified by the methodology are met. The indications as provided by the PDD have been verified onsite.

The methodology requires the on-line determination of methane captured and methane destroyed. Concerning the replacement of electricity the grid factor will be fixed ex-ante.

While the methodologies itself reflects current good practise the first PDD version misses to specify all details of the monitoring approach as it should be applied during the project activity. Also the monitoring plan provided as annex 4 of this first PDD is only indicating potential courses of action and missed determining the required details.

All parameter, key factors and formulas required for the determination of the emission reductions by the project are included in the provided tables of chapter D.

For the determination of the grid factor for the North China Power grid due to ACM0002 the provided Excel-sheet (basis of calculation) in the first version showed different figures as provided by the PDD.

According to approved methodology, leakages are not expected. The validation team confirms that aspect for this specific project activity. There is a priority statement of the coal mining company according to which the baseline users with supplied preferentially to other users (CDM power plants or further future users).

At the time of onsite assessment appropriate quality management procedures for the baseline emissions were identified, for the project emissions they have been under development.

3.3.2 Findings

Corrective Action Request 3:

The project developer has been asked for providing more detailed information on the monitoring plan as well as specifying information in the tables presented by chapter D. It is not sufficient only copying more or less the tables given by the methodologies.

Response:

A revised PDD has been submitted.

Corrective Action Request 4:

Quality assurance procedures for all parameter will have to be described in more details. Especially the use of Third Parties for the calibration of the meters or laboratory analysis should be mentioned. The indicated CDM Manual should be drafted and submitted as part of the monitoring plan.

The EB decided in its 23rd meeting (para 24 of the report) that the monitoring plan as well as the monitoring report must contain statements regarding the following items:

- uncertainty levels
- accuracy levels
- calibration procedures

Statements regarding the mentioned parameter should be added to the monitoring report in a quantified manner.

Response:

A revised PDD has been submitted addressing these issues.

Clarification Request 6:

It is necessary to explain the discrepancies for the figures presenting the electricity grid factor for the ex-ante determination.

Response:

The revised PDD presents new data on the ex-ante grid factor being consistent with ACM0002.

Clarification Request 7:

It is not clear if and how flare efficiency will be monitored.

Response:

The project composition has been changed and there will be no flares installed anymore.

3.3.3 Conclusion

The raised issues are considered resolved. The project complies with the requirements.

3.4 Estimation of GHG Emission Reductions

3.4.1 Discussion

The project spatial boundaries are clearly described following the approved methodology. An exact and correct description of the project boundaries is included in chapter B.4 of the PDD.

The projects components are clearly defined and described in the PDD. During the visit on site the given information has been confirmed.

Details of direct and indirect emissions are discussed in the PDD in an appropriate manner.

The calculations resulting in the final numbers have been submitted. The formulae used are correctly applied.

According to the applied methodology leakage emissions can be ignored. The estimations use the similar approach/formulae as by the monitoring methodology.

In the context of emission reduction by the generation of electricity the source of the plant efficiency figures for calculating the build margin have not been available for the first PDD version. The data for the grid factor have been based on the year 2003 which is not considered as the most recent data available.

3.4.2 Findings

Clarification Request 8

> The source of the plant efficiency figures for calculating the build margin is not available. The data for the grid factor are based on the year 2003. They should be updated to the year 2004 or evidence should be provided that no more recent data is available.

Response:

> The source of the plant efficiency figures has been provided. The update was submitted by the revised excel calculation and is reflected by the revised PDD.

3.4.3 Conclusion

The project complies with the requirements.
A Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of emission reductions of 14,953,220 tons CO_{2e} over a crediting period of 7 years, resulting in a calculated annual average of 2,136,174 tons CO_{2e}, represent a conservative estimation using the assumptions given by the project documents.

3.5 Environmental Impacts

3.5.1 Discussion

The environmental impacts can be seen as being low. These low impacts have been sufficiently described in the PDD. Noise emissions by the power plants will be monitored due to the environmental legislation. As there is no need by the methodology these parameter are not reflected in the monitoring plan.

The legislation required an environmental impact assessment in the context of the approval procedure. This requirement has been fulfilled.

Significant negative environmental effects are not expected to be created by the project. Given the nature of the project design this seems to be reasonable.

Transboundary effects are not expected as the project site is far from the national boundary.

As no significant environmental impacts are expected, such impacts have not influenced the project design.

3.5.2 Findings

Corrective Action Request 5

> The figures for noise emissions thresholds have to be adjusted according to national legal requirements.

Response:

> The revised PDD provides the required information for noise thresholds (at fence) and projections which will be relevant once the plants will be in operation.

3.5.3 Conclusion

The discussion about environmental impacts is complete. The project complies with the requirements.

3.6 Comments by Local Stakeholders

3.6.1 Discussion

A formal consultation process with local stakeholders has taken place and corresponding information has been submitted to the audit team. The stakeholders consulted included people from the local community and also the representatives of the local and regional government. In addition neighbours to the site have been invited to an open public meeting. The comments to the project design have been recorded and provided. As all comments have been positive, the project design has not been changed due to stakeholder comments.

3.6.2 Findings

Clarification Request 9:

It is not clear whether the indicated meeting was a requirement of the licensing procedure or whether it was hold explicitly in the context of the CDM aspect.

Response:

The revised PDD states that the meeting was held as part of the CDM project activity in addition to the former meetings held as part of the EIA process.

3.6.3 Conclusion

Given information proves the summary of the PDD. The project complies with the requirements.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

TÜV SÜD published the PDD from **April 7, 2006 to May 6, 2006** at

http://www.netinform.net/KE/Wegweiser/Guide2.aspx?ID=1471&Ebene1_ID=26&Ebene2_ID=391&mode=1

and invited Parties, stakeholders and non-governmental organisations for comments within 30 days.

One comment has been received by a person neither belonging to an accredited observer organisation nor identifying himself as an affected stakeholder of this project activity. No further comments were received.

As consequence of the expiration of the originally used version 1 of ACM0008 before submitting the project for registration, the PDD was updated once again, applying version 2 of the same methodology. TÜV SÜD re-published this PDD from **Nov 10, 2006 to Dec 9, 2006** and invited stakeholder for comments by installing the following webpage:

http://www.netinform.de/KE/Wegweiser/Guide2.aspx?ID=2298&Ebene1_ID=26&Ebene2_ID=679&mode=1

TÜV SÜD received one comment from Ms. Long Yan from Huanneng Environmental Protection Center by email on Dec 05, 2006, which is displayed at:

http://www.netinform.de/KE/Wegweiser/Guide2.aspx?ID=2383&Ebene1_ID=26&Ebene2_ID=679&mode=1

The following concerns were raised:

The barrier analysis for the baseline secenario selection is not enough. For example, the PDD doesn't fully prove there is financial barrier. In China < 135MW coal fired power station is not allowed to be built. Therefore, the project activity shouldn't be compared with coal fired captive power station. It should be compared with the scenario of getting

Industrie Service

electricity from Huabei grid. Meanwhile, CMM power generation is a mature technology not just in the world but also in China. So technology barrier is not convincing.

Yangquan started thermal energy usage since 90's. While, the PDD doesn't provide any thermal energy demand analysis follow the methodology. This analysis should be transparently disclosed in the PDD. Such analysis is required using Real Measured Data from 5 years before the starting date of the proposed project activity. Only a statement from project owner indicating "residential and other thermal loads are preferred loads" is not enough.

Also, why the PDD still use template ver 02 as of 2006/11/10 published for global comments?

The project participants responded to these valid arguments by providing additional explanations to these items (see annex 3 of this validation report). TÜV SÜD follows the argumentation of the project participants on items that have already been included in the validation process. On the third issue it should also be mentioned that validation started with PDD version 2, and finally as result of EB-28 (see report of EB-28) it would even not have been necessary repeating the stakeholder process because of changing the version of the methodology.

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5 VALIDATION OPINION

TÜV SÜD has performed a validation of the proposed CDM activity: "Yangquan Coal Mine Methane (CMM) Utilization for Power Generation Project, Shanxi Province, China". The validation was performed on the basis of UNFCCC criteria and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures and subsequent decisions by the CDM Executive Board.

The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project does meet all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project will hence be recommended by TÜV SÜD for registration with the UNFCCC.

By collecting CMM otherwise vented and use it for the generation of electricity the project results in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change. An analysis of the additionality test demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of emission reductions.

Additionally the assessment team reviewed the estimation of the projected emission reductions. We can confirm that the indicated amount of emission reductions of 14,710,644 tons CO_{2e} over a crediting period of 7 years, resulting in a calculated annual average of 2,101,521 tons CO_{2e}, represent a conservative estimation using the assumptions given by the project documents.

The validation is based on the information made available to us and the engagement conditions detailed in this report. The validation has been performed using a risk based approach as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, TÜV SÜD can not be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

Munich, March 30, 2007

Javier Castro

Deputy Head of certification body "climate and energy"

Munich, March 30, 2007

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Annex 1: Validation Protocol

Table 1 Mandatory Requirements for Clean Development Mechanism (CDM) Project Activities

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3	Kyoto Protocol Art.12.2	☑	Table 2, Section E.4.1
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof	Kyoto Protocol Art. 12.2, Marrakesh Accords, CDM Modalities §40a	☑	Table 2, Section A.3
3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC	Kyoto Protocol Art.12.2.	☑	Table 2, Section E.4.1
4. The project shall have the written approval of voluntary participation from the designated national authorities of each party involved	Kyoto Protocol Art. 12.5a, Marrakesh Accords, CDM Modalities §40a	☑	Letters of Approval have been submitted.
5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change	Kyoto Protocol Art. 12.5b	☑	Table 2, Section E
6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project ac-	Kyoto Protocol Art. 12.5c, Marrakesh Accords, CDM Modalities §43	☑	Table 2, Section B.2

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
tivity			
7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance	Marrakech Accords	☑	According to the information obtained by the audit team ODA does not contribute to the financing of the project.
8. Parties participating in the CDM shall designate a national authority for the CDM	Marrakech Accords, CDM Modalities §29	☑	Involved parties have designated national authorities for the CDM
9. The host country shall be a Party to the Kyoto Protocol	Marrakech Accords, CDM Modalities §30	☑	P. R. China and United Kingdom (investor country) have approved the Kyoto Protocol.
10. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received	Marrakech Accords, CDM Modalities §37b	☑	Table 2, Section G
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	Marrakech Accords, CDM Modalities §37c	☑	Table 2, Section F
12. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel	Marrakech Accords, CDM Modalities §37e	☑	Table 2, Section B.1.1 and D.1.1
13. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Ac-	Marrakech Accords, CDM	☑	Table 2, Section D

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference / Comment
cords and relevant decisions of the COP/MOP	Modalities §37f		
14. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	☑	The PDD was open for comments from April 7, 2006 to May 6, 2006 on the UNFCCC website. One comment has been received by a person neither belonging to an accredited observer organisation nor being an affected stakeholder of this project activity.
15. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, CDM Modalities, §45c,d	☑	Table 2, Section B.2
16. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, CDM Modalities, §47	☑	Table 2, Section B.2
17. The project design document shall be in conformance with the UNFCCC CDM-PDD format	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	☑	The PDD is in conformance with the CDM Project Design Document (version 02) which is in effect as of July 1, 2004.

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of Project Activity *The project design is assessed.*					
A.1. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project.*					
A.1.1. Are the project's spatial (geographical) boundaries clearly defined?	1, 31 32	DR, I	The geographical boundaries are clearly defined and correct. There were some questions about the precise location of the mines involved in the project that have been clarified on site. Clarification Request 1: More precise maps should be provided by the PDD clearly showing the exploration area and details of the mining sectors.	CR1	☑
A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?	1, 31 32	DR, I	The system boundaries are clearly defined.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.2. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.*					
A.2.1. Does the project design engineering reflect current good practices?	1, 31 32	DR	According to the onsite visit, own judgement and referring to other independent Chinese engineers the envisioned project design engineering reflects current good practices.	☑	☑
A.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 31 32, 27, 2, 3	DR I	The use of state of the art technology for the gas engines to be installed can be confirmed as reputed manufacturers have been short-listed by the tender process (Jenbacher, Caterpillar, Deutz). <u>Clarification Request 2:</u> At Xinjing mine where a local manufactured gas engine shall be used additional information should be delivered.	CR 2	☑
A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 31 32, 27, 2, 3	DR I	Open due to pending issue of CR 2.	See CR 2	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1, 31 32, 30	DR I	Clarification Request 3: The project requires extensive training regarding operation and maintenance of used equipment. For that reason the project owner is requested to make more detailed provisions how the training and maintenance needs will be met.	CR 3	☑
A.2.5. Does the project make provisions for meeting training and maintenance needs?	1, 31 32, 30	DR I	see above A.2.4.	See CR 3	☑
A.3. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*					
A.3.1. Is the project in line with relevant legislation and plans in the host country?	1, 31 32, 2	DR	According to given statements of involved authorities the project seems to be in line with relevant legislation and plans in the host country.	☑	☑
A.3.2. Is the project in line with host-country specific CDM requirements?	1, 31 32, 2	DR I	The DNA of China has already expressed that project in the coal mine methane sector are in line with the national CDM policy.	☑	☑
A.3.3. Is the project in line with sustainable development policies of the host country?	1, 31 32, 2	DR	See A.3.2.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.3.4. Will the project create other environmental or social benefits than GHG emission reductions?	1	I	Less pollution from coal fired electricity production / working opportunities at the new power plants will occur by the implementation of the project activity.	☑	☑
B. Project Baseline *The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.*					
B.1. Baseline Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	33, 35	DR	Yes, the applied baseline methodology is approved by the CDM Methodology Panel.	☑	☑
B.1.2. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?	31 32 33	DR	Yes, the baseline methodology is applicable for this project and is justified. All applicability criteria as specified by the methodology are met. The indications as provided by the PDD have been verified onsite. No CBM is used by the project activity. Clarification Request 4: There is a discrepancy concerning the inclusion of activities in the discussion of the applicability criteria in sections B.1.1 and	CR 4	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			D.2 of the PDD. While in B1.1 it is stated that CMM from ventilation is used by the project, the later paragraph states the opposite. Onsite it is has been confirmed that no CMM from ventilation is used for the project.		
B.2. Baseline Determination *The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.*					
B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?	31 32 33 1	DR I	The application of the methodology and the discussion and determination of the chosen baseline is transparent. The baseline users of the CMM are identified. Their consumption is metered and the metered values were validated on site by taking spot checks comprising two months in 2002 and 2005. The forecast of the future baseline is conservative and comprehensible. The project further applies the most recent version of ACM0002 for determining the emission reduction by the generation of electricity. Data has been provided in a separate Excel-sheet. The North China Power Grid has been identified as the most	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			appropriate one following the guidance by the EB.		
B.2.2. Has the baseline been determined using conservative assumptions where possible?	31 32 33 1	DR I	The calculation is based on conservative assumptions. For example the official planning data of the coal production of the Yangquan Coal Industry were about 5% higher than the accumulated data of the single mines reported internally. The internal data were used for the baseline assumptions to guarantee a conservative approach. Also ACM0002 has been applied in a conservative manner.	☑	☑
B.2.3. Has the baseline been established on a project-specific basis?	31 32 33 1	DR I	Yes, the baseline is established on project specific basis since the baseline users are determined correctly. <u>Corrective Action Request 1</u> The given calculations (relative figures) concerning the shares of methane to be vented and to be collected by the capture system are incorrect. This has no impact on the total amount of methane to be collected.	CAR1	☑
B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	31 32 33 1 2	DR	Yes, see also National Coalmine Safety Regulation (11/2005) and Coalmine Methane Treatment and Utilization Macro Plan published by the NDRC in June 2005.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			The North China Power Grid has been identified as the most appropriate one.		
B.2.5. Is the baseline determination compatible with the available data?	20 - 24; 28 29 31 32 33 1	DR I	Yes, this has been proofed on site. The following information has been assessed in detail: - coal production and forecast - gas volumes - gas composition - gas demand from existing users - expansion plans for the gas supply system - determination of DK_max factor - emission factor of the electricity grid All data are traceable and are coming from reliable (as far as possible external) sources having no own interests in the CDM activity.	☑	☑
B.2.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	31 32 33 1	DR I	Yes, the feasibility study demonstrates that the baseline represents the most likely scenario among other possibilities. The local electricity production is mainly from very cheap waste coal; hence no alternative electricity production (like the project activity) could be considered as a competitive realistic baseline scenario. The steps given by ACM0008 providing an approach for identifying the baseline scenario have been correctly applied. All fig-	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			ures provided by chapter B.2 of the PDD have been verified onsite. The application of all identified barriers to the various scenarios is done in a consistent and suitable manner.		
B.2.7. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario (e.g. through (a) a flow-chart or series of questions that lead to a narrowing of potential baseline options, (b) a qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely, (c) a qualitative or quantitative assessment of one or more barriers facing the proposed project activity or (d) an indication that the project type is not common practice in the proposed area of implementation, and not required by a Party's legislation/regulations)?	31 32 33 34	DR	The project applies the latest version of the "tool for the demonstration and assessment of additionality". The PDD uses step 2 (investment analysis) as well as step 3 although only one option would have been necessary. The figures used for the investment analysis have been proofed by the feasibility study used in the decision process of the project activity. The recognition of the CDM by the investment decision is proofed by the protocol of a Board meeting. <u>Clarification Request 5:</u> The choice of factors used in the sensitivity analysis should be justified in more detail.	CR5	☑
B.2.8. Have the major risks to the baseline been identified?	31 32 1	DR,I	Yes	☑	☑
B.2.9. Is all literature and sources clearly referenced?	31 32	DR	Yes, the original sources and literature has been validated together with a local auditor of TUV SÜD.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	31 32	DR	Yes	☑	☑
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)?	31 32	DR	No, the PDD indicates an envisioned starting date of the crediting period not clearly fixing it as required. <u>Corrective Action Request 2:</u> It is necessary to clearly indicate a starting date of the crediting period.	CAR2	☑
C.1.3. Is it assured that in case the start of the crediting period is before the registration of the project that the project activities starting date falls in the period between 1 January 2000 and the registration of the first clean development mechanism project?	31 32	DR	Not relevant.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D. Monitoring Plan *The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed.*					
D.1. Monitoring Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
D.1.1. Is the monitoring methodology previously approved by the CDM Methodology Panel?	31 32 33	DR	Yes	☑	☑
D.1.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?	31 32 33 30	DR	Yes, the baseline methodology is applicable for this project and is justified. All applicability criteria as specified by the methodology are met. See CR4	See CR4	☑
D.1.3. Does the monitoring methodology reflect good monitoring and reporting practices?	31 32 33 30 1	DR,I	While the methodologies itself reflects current good practise the PDD misses to specify all details of the monitoring approach as it should be applied during the project activity. Also the monitoring plan provided as annex 4 of the PDD is only indicating potential course of action and missed determining the required details.	CAR3 CAR4	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			<u>Corrective Action Request 3:</u> The project developer has been asked for providing more detailed information on the monitoring plan as well as specifying information in the tables presented by chapter D. It is not sufficient only copying more or less the tables given by the methodologies. <u>Corrective Action Request 4:</u> Quality assurance procedures for all parameter will have to be described in more details. Especially the use of Third Parties for the calibration of the meters or laboratory analysis should be mentioned. The indicated CDM Manual should be drafted and submitted as part of the monitoring plan. The EB decided in its 23rd meeting (para 24 of the report) that the monitoring plan as well as the monitoring report must contains statements regarding the following items: o uncertainty levels o accuracy levels o calibration procedures Statements regarding the mentioned pa-		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			rameter should be added to the monitoring report in a quantified manner.		
D.1.4. Is the discussion and selection of the monitoring methodology transparent?	31 32 33 30	DR	Yes, all parameter, key factors and formulas required for the determination of the emission reductions by the project are included in the provided tables.	☑	☑
D.2. Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	31 32 33 30 1	DR I	In principle yes, but for the determination of the grid factor for the North China Power grid due to ACM0002 the provided Excelsheet shows different figures as in the PDD. Clarification Request 6: It is necessary to explain the discrepancies for the figures presenting the electricity grid factor for the ex-ante determination. Clarification Request 7: It is not clear if and how flare efficiency will be monitored.	CR6 CR7	☑
D.2.2. Are the choices of project GHG indicators reasonable?	31 32 33	DR	Yes	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	30				
D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?	31 32 33 30 1	DR	Yes	☑	☑
D.2.4. Will the indicators give opportunity for real measurements of achieved emission reductions?	31 32 33 30 1	DR	Yes, especially as the methodologies requires the on-line determination of methane captured and methane destroyed.	☑	☑
D.2.5. Will the indicators enable comparison of project data and performance over time?	31 32 33 30 1	DR I	Yes	☑	☑
D.3. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	31 32 33 30 1	DR I	According to approved methodology, leakages are not expected. The validation team confirms that aspect in this specific project activity. There is a priority statement of the coal mining company according to which the baseline users will be delivered preferen-	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			tially to other users.		
D.3.2. Have relevant indicators for GHG leakage been included?	31 32		Not relevant	☑	☑
D.3.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	31 32		Not relevant	☑	☑
D.3.4. Will it be possible to monitor the specified GHG leakage indicators?	31 32		Not relevant	☑	☑
D.4. Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	31 32 33 30 1	DR I	See CR6	See CR6	☑
D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?	31 32 33 30 1	DR I	Yes	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.4.3. Will it be possible to monitor the specified baseline indicators?	31 32 33 30 1	DR I	Yes, especially as the methodology requires the on-line determination of methane captured and methane destroyed. Concerning the replacement of electricity the grid factor will be fixed ex-ante.	☑	☑
D.5. Monitoring of Sustainable Development Indicators/ Environmental Impacts *It is checked that choices of indicators are reasonable and complete to monitor sustainable performance over time.*					
D.5.1. Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?	31 32 33 30 1	DR I	No, but according to the approved methodology there is no need for that. Furthermore, the validation team can not identify controversial environmental, social and economic impacts that should be monitored.	☑	☑
D.5.2. Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?	31 32		Not relevant	☑	☑
D.5.3. Will it be possible to monitor the specified sustainable development indicators?	31 32		Not relevant	☑	☑
D.5.4. Are the sustainable development indicators in line with stated national priorities in the Host Country?	31 32		Not relevant	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.6. Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
D.6.1. Is the authority and responsibility of project management clearly described?	31 32 33 30, 1	DR I	Yes.	☑	☑
D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	31 32 33 30 1	DR I	The required correction as requested by CAR4 should also reflect in more detail the responsibilities for the monitoring issues.	See CAR4	☑
D.6.3. Are procedures identified for training of monitoring personnel?	31 32 33 30 1	DR I	At the time of onsite assessment appropriate procedures for the baseline emissions were identified, for the project emissions they were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑
D.6.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	31 32 33 30 1	DR I	At the time of onsite assessment appropriate procedures for the baseline emissions were identified, for the project emissions they were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.6.5. Are procedures identified for calibration of monitoring equipment?	31 32 33 30 1	DR I	At the time of onsite assessment appropriate procedures for the baseline emissions were identified, for the project emissions they were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑
D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?	31 32 33 30 1	DR I	At the time of onsite assessment appropriate procedures for the baseline emissions were identified, for the project emissions they were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑
D.6.7. Are procedures identified for monitoring, measurements and reporting?	31 32 33 30 1	DR I	At the time of onsite assessment appropriate procedures for the baseline emissions were identified, for the project emissions they were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑
D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	31 32 33 30 1	DR I	At the time of onsite assessment appropriate procedures for the baseline emissions were identified, for the project emissions they were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑
D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertain-	31 32	DR I	At the time of onsite assessment appropriate procedures for the baseline emissions	See CAR4	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
ties?	33 30 1		were identified, for the project emissions they were in phase of elaboration. These aspects are also required being discussed by the amendments.		
D.6.10. Are procedures identified for review of reported results/data?	31 32 33 30 1	DR I	At the time of onsite assessment procedures were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑
D.6.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	31 32 33 30 1	DR I	At the time of onsite assessment procedures were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑
D.6.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	31 32 33 30 1	DR I	At the time of onsite assessment procedures were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑
D.6.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	31 32 33 30 1	DR I	At the time of onsite assessment procedures were in phase of elaboration. These aspects are also required being discussed by the amendments.	See CAR4	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E. Calculation of GHG Emissions by Source *It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.*					
E.1. Predicted Project GHG Emissions *The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.*					
E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?	31 32 1	DR I	Yes	☑	☑
E.1.2. Are the GHG calculations documented in a complete and transparent manner?	28 29 31 32	DR	Yes	☑	☑
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	28 29 31 32	DR	Yes, see, B.2.2	☑	☑
E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	28 29 31 32	DR	Yes	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?	28 29 31 32	DR	Yes	☑	☑
E.2. Leakage *It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.*					
E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?	31 32 1	DR I	Leakages are not expected, see D.3.	☑	☑
E.2.2. Have these leakage effects been properly accounted for in calculations?	31 32		Not relevant	☑	☑
E.2.3. Does the methodology for calculating leakage comply with existing good practice?	31 32		Not relevant	☑	☑
E.2.4. Are the calculations documented in a complete and transparent manner?	31 32		Not relevant	☑	☑
E.2.5. Have conservative assumptions been used when calculating leakage?	31 32		Not relevant	☑	☑
E.2.6. Are uncertainties in the leakage estimates properly addressed?	31 32		Not relevant	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.3. Baseline Emissions *The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.*					
E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?	31 32 10 1	DR I	Yes, according to the methodologies ACM0008 and ACM0002.	☑	☑
E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?	28 29 31 32 10 1	DR I	Yes, according to the methodologies ACM0008 and ACM0002.	☑	☑
E.3.3. Are the GHG calculations documented in a complete and transparent manner?	28 29 31 32 10 1	DR I	Yes, according to the methodologies ACM0008 and ACM0002.	☑	☑
E.3.4. Have conservative assumptions been used when calculating baseline emissions?	28 29 31 32 10	DR I	Yes, according to the methodologies ACM0008 and ACM0002.	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	1				
E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?	28 29 31 32 1	DR I	Yes, according to the methodologies ACM0008 and ACM0002.	☑	☑
E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions?	28 29 31 32 10 1	DR I	Clarification Request 8 The source of the plant efficiency figures for calculating the build margin is not available. The data for the grid factor are based on the year 2003. They should be updated to the year 2004 or evidence should be provided that no more recent data is available.	CR8	☑
E.4. Emission Reductions Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.					
E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?	28 29 31 32 10 1	DR I	Yes, but the provided calculation may undergo a revision after resolving CR6 and CR8. All further data used for input for the estimations of the emissions reductions has been verified on-site. The Excel-files used for this purpose have been checked during the validation process. The correctness of its application can be confirmed.	See CR6 and CR8	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
F. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					
F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	31 32 1, 8 9	DR I	An EIA has been conducted due to the national legislation. It has been presented to the validation team together with the received environmental license. Corrective Action Request 5 The figures for noise emissions thresholds have to be adjusted according to national legal requirements.	CAR5	
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	31 32 1, 8 9	DR I	All legal requirements referring to environmental issues are fulfilled.	☑	☑
F.1.3. Will the project create any adverse environmental effects?	31 32 1, 8 9	DR I	No	☑	☑
F.1.4. Are transboundary environmental impacts considered in the analysis?	31 32	DR I	No, transboundary effects are not expected.	☑	☑
F.1.5. Have identified environmental impacts been addressed in the project design?	31 32	DR I	Yes, the PDD provide a summary of the EIA	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
	1, 8 9				
F.1.6. Does the project comply with environmental legislation in the host country?	31 32 1, 8 9	DR I	All legal requirements referring to environmental issues are fulfilled.	☑	☑
G. Stakeholder Comments *The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.*					
G.1.1. Have relevant stakeholders been consulted?	31 32 1	DR I	Yes, a local stakeholder meeting was arranged. <u>Clarification Request 9:</u> It is not clear whether the indicated meeting was a requirement of the licensing procedure or whether it was hold explicitly in the context of the CDM aspect.	CR9	☑
G.1.2. Have appropriate media been used to invite comments by local stakeholders?	31 32 1	DR I	The representatives in the neighbourhood of the power plants were invited directly, additionally the stakeholders were informed by proclamation of a meeting on the black board of the community	☑	☑

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	31 32 1	DR I	Yes	☑	☑
G.1.4. Is a summary of the stakeholder comments received provided?	31 32 1	DR I	Yes, in the PDD.	☑	☑
G.1.5. Has due account been taken of any stakeholder comments received?	31 32 1	DR I	Yes, but there were no negative comments on the projects.	☑	☑

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
Clarification Request 1: More precise maps should be provided clearly showing the exploration area and details of the mining sectors.	Table 2 A.1.1.	The revised PDD provides additional maps which show the different mining areas and their precise identification.	The issue is considered as being resolved. ☑
Clarification Request 2: At Xinjing mine where a local manufactured gas engine shall be used additional information should be delivered.	Table 2 A.2.2.	The revised PDD now only refers to imported gas engines that will be acquired by a bidding process.	☑
Clarification Request 3: The project requires extensive training regarding operation and maintenance of used equipment. For that reason the project owner is requested to make more detailed provisions how the training and maintenance needs will be met.	Table 2 A.2.4.	A revised PDD and an attached “draft CDM Monitoring & Quality Manual” have been submitted.	The revised PDD provides sufficient information on training and maintenance efforts. ☑
Clarification Request 4: There is a discrepancy concerning the inclusion of activities in the discussion of the ap-	Table 2 B.1.2.	A revised PDD has been submitted correcting the information in B.1.1.	The exclusion of CMM from ventilation is in compliance with the situation/planning as verified on-site.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
plicability criteria in sections B.1.1 and D.2 of the PDD. While in B.1.1 it is stated that CMM from ventilation is used by the project, the later paragraph states the opposite. Onsite is has been confirmed that no CMM from ventilation is used for the project.			☑
Corrective Action Request 1: The given calculations (relative figures) concerning the shares of methane to be vented and to be collected by the capture system are incorrect. This has no impact on the total amount of methane to be collected.	Table 2 B.2.3.	The figures are corrected in the revised PDD.	The issue is considered as being resolved. ☑
Clarification Request 5: The choice of factors used in the sensitivity analysis should be justified in more detail.	Table 2 B.2.7.	The revised PDD includes a discussion on this topic.	The issue is considered as being resolved. ☑
Corrective Action Request 2: It is necessary to clearly indicate a starting date of the crediting period.	Table 2 C.1.2.	The revised PDD fixes a starting of the crediting period.	☑

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
Corrective Action Request 3: The project developer has been asked for providing more detailed information on the monitoring plan as well as specifying information in the tables presented by chapter D. It is not sufficient only copying more or less the tables given by the methodologies.	Table 2 D.1.3.	A revised PDD and an attached "draft CDM Monitoring & Quality Manual" have been submitted.	The revised PDD provides the information required in a sufficient manner. ☑
Corrective Action Request 4: Quality assurance procedures for all parameter will have to be described in more details. Especially the use of Third Parties for the calibration of the meters or laboratory analysis should be mentioned. The indicated CDM Manual should be drafted and submitted as part of the monitoring plan. The EB decided in its 23rd meeting (para 24 of the report) that the monitoring plan as well as the monitoring report must contains statements regarding the following items: o uncertainty levels o accuracy levels o calibration procedures	Table 2 D.1.3.	A revised PDD and an attached "draft CDM Monitoring & Quality Manual" have been submitted.	The revised PDD and the attached "draft CDM Monitoring & Quality Manual" provide information on uncertainty levels and calibration procedures in a sufficient manner. ☑

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
Statements regarding the mentioned parameter should be added to the monitoring report in a quantified manner.			
Clarification Request 6: It is necessary to explain the discrepancies for the figures presenting the electricity grid factor for the ex-ante determination.	Table 2 D.2.1.	The revised PDD presents new data on the ex-ante grid factor being consistent with ACM0002.	The issue is considered as being resolved. ☑
Clarification Request 7: It is not clear if and how flare efficiency will be monitored.	Table 2 D.2.1.	The project composition has been changed and there will be no flares installed anymore.	The issue is considered as being resolved. ☑
Clarification Request 8 The source of the plant efficiency figures for calculating the build margin is not available. The data for the grid factor are based on the year 2003. They should be updated to the year 2004 or evidence should be provided that no more recent data is available.	Table 2 E.3.6.	The source of the plant efficiency figures has been provided. The update was submitted by the revised excel calculation and is reflected by the revised PDD.	The issue is considered as being resolved. ☑
Corrective Action Request 5 The figures for noise emissions thresholds have to be adjusted according to national le-	Table 2 F.1.1.	The revised PDD provides the required information for noise thresholds (at fence) and projections which will be relevant once the plants will be in operation.	The issue is considered as being resolved. ☑

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1 and 2	Summary of project owner response	Validation team conclusion
gal requirements.			
Clarification Request 9: It is not clear whether the indicated meeting was a requirement of the licensing procedure or whether it was hold explicitly in the context of the CDM aspect.	Table 2 G.1.1.	The revised PDD states that the meeting was held as part of the CDM project activity in addition to the former meetings held as part of the EIA process.	The issue is considered as being resolved. ☑

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Annex 2: Information Reference List

Reference No.	Document or Type of Information
1.	On-site interviews at the offices and the project site of the "Yangquan CMM to power project, China" in Yangquan, Shanxi Province, China by auditing team of TÜV SÜD, performed from March 21 to March 24, 2006: **Validation team on site**: Werner Betzenbichler — TÜV SÜD Industrie Service GmbH Dr. Sven Kolmetz — TÜV SÜD Industrie Service GmbH Ms Zhang Cuiyun — TÜV SÜD Product Service Ltd. Shanghai Branch **Interviewed persons:** James Graham — General Manager, CAMCO Co. Alex Westlake — Managing Director, Clear World Energy Gerald Dunkel — KWI Vienna Li Bao Yu — Chief Engineer of Yangquan Coal Industry Group Gao Yunlong — Business Development Director, Clear World Energy Li Zhengguo — Manager of Technical Dept., Power Co. Li Meisheng — Manager of Environment Protection Dept., Yangquan Coal Industry Group Li Zhuanghe — Deputy Manager of Power Co. Xue Bifen — Deputy Manager of Developing and Planning Dept., Yangquan Coal Industry Group He Suli — Deputy director of Gas Co., Yangquan Coal Industry Group Li Meiliang — Engineering Dept., Yangquan Coal Industry Group Wang Zhiqiang — Ventilation Dept., Yangquan Coal Industry Group

Reference No.	Document or Type of Information
	Liu Zhenggang Deputy Chief Engineer of Gas Co., Yangquan Coal Industry Group Zhao Huqun Manager of CMM utilization Dept., Yangquan Coal Industry Group Dou Xiaodong China Coal Information Institute Sun Qinggang China Coal Information Institute Liu Wenge China Coal Information Institute
2.	Generation plan for the coming 5 years for No. 1, 2, 3, 5 Mines and Xinijing Mine (2006-2010)
3.	Feasibility reports of Guishigou (6X1800KW), Gas Company (3X1800KW), Shengtangzui(6X1800KW) in Aug., 2005
4.	Summarization feasibility report of total 3 projects date in Aug., 2005
5.	Memo of directorate meeting of Yangquan Coal Industry Group (without the CDM CERs revenue, the projects would not be approved by the director board) date on Sept. 10th, 2005
6.	Approval of feasibility report of 27MW power project released by Shanxi Development and Reform Committee date on Feb. 7th, 2006 file no.: (2006) 65
7.	Supplementation approval of feasibility report of 27MW power project released by Shanxi Development and Reform Committee date on Mar. 24th, 2006 (totally capacity would be 90 MW) file no.: (2006) 16
8.	Approval of EIA by Shanxi Environment Protection Bureau date on Nov. 24th, 2005 file no.: (2005) 430
9.	EIAs of Guishigou, Gas Company, Shengtangzui in Nov., 2005
10.	Yangquan Survey Report of CMM Drainage and Utilisation (2001~2005 No. 1, 2, 3, 5, xinjing Coal Mines) date on Jan.17th, 2006
11.	National Coalmine Safety Regulation effect on Jan. 1st, 2005

Reference No.	Document or Type of Information
12.	Sector Review and Project Information of the Priority Areas for CDM projects in China (for CDM conference meeting in Beijing on Oct. 20-21, 2005)
13.	“Methane to Market Partnership” Regional Workshop in China date on 2nd Dec., 2005
14.	Testing report by Beijing AP Beifen Gases Industry Co., Ltd. Date on Dec. 15th, 2005
15.	application report of CMM power station project by Coal Industry Hefei Design Institute date in Sept., 2005
16.	approval of EIA by National Environment Protection Bureau file no. (2005) 675 date on Aug. 11th, 2005
17.	NDRC CMM utilization general Plan 2005 date in June, 2005
18.	Monitoring records of drainage station in mine no. 5 date on Mar. 23rd, 2006
19.	Calibration certificate of CH4 measuring instrument by Shanxi Kelin Mining Inspection Technology Co. Ltd. (certificate no. C5 156, issued on Sept. 27th, 2005, valid till Sept. 26th, 2006)
20.	operation records of Vacuum Pumps in Mine Xinjin drainage station date on Mar. 23, 2006
21.	payment data and CMM consumption table in Sept., 2005 (including household use and commercial use)
22.	payment data and CMM consumption table in Sept., 2002 (including household use and commercial use)
23.	payment and consumption list in Sept., 2005 (including Yangquan City consumption)
24.	payment and consumption list in Sept., 2002 (including Yangquan City consumption)
25.	Certificate for Examination of Measurement Standard issued by Shanxi Bureau of Quality and Technical Supervision (CH4 verification instrument) The validation period: Sept. 22, 2004 ~ Nov. 17th, 2006

Reference No.	Document or Type of Information
26.	JJG 577-94 National Calibration Regulation of Household Gas Meter
27.	Production licence of measurement instrument issued by General Administration of Quality Supervision, Inspection and Quarantine of P.R. China (Beijing AP Beifen Gases Industry Co., Ltd.)
28.	ACM0002 Data Tables Yangquan 150506a.xls (Calculation files for ACM0002 component used for PDD)
29.	YCG Power ACM0008-060516.xls (Calculation files for ACM0008 component used for PDD)
30.	"CDM Monitoring and Quality Control Manual", draft version 1.2, June 27, 2006
31.	PDD: "Yangquan Coal Mine Methane (CMM) to Power Generation Project, Shanxi Province, China" dated March 13, 2006
32.	PDD: "Yangquan Coal Mine Methane (CMM) to Power Generation Project, Shanxi Province, China, Version 3" dated July 21, 2006
33.	Approved Consolidated Baseline and Monitoring Methodology ACM0008, version 01, UNFCCC 28/11/2005
34.	Tool for demonstration and assessment of additionality, version 02, UNFCCC 2005
35.	UNFCCC homepage http://www.unfccc.int
36.	PDD: "Yangquan Coal Mine Methane (CMM) to Power Generation Project, Shanxi Province, China, Version 4" dated January 8, 2007
37.	YCG Power ACM0008-060810.xls (revised calculation files for ACM0008 component used for PDD)

Annex 3: Response by PP on GSP comment

Camco Response to Public Comment dated 05/12/2006 re. Proposed CDM Project Activity *Yangquan Coal Mine Methane (CMM) Utilization for Power Generation Project, Shanxi Province, China*

We believe the barrier analysis presented in section B.2., which is also backed up by the investment analysis (Step 2) in section B.3. of the CDM PDD, clearly establish the baseline and show that the project is neither financially attractive nor part of common practice in the context of its implementation (i.e. additional). Since the design of the process for determination of the baseline in ACM0008 and of the Tool for Demonstration of Additionality are very similar, we considered carefully how to present these two sections avoiding unnecessary repetitions and cross references, which we believed may have caused confusion for the reader. In particular we refer the reader to the investment analysis in section B3.

The author of the comment is correct in stating the national policy does not allow for the building of coal power plant of <135MW, which is why this option has not been considered as part of the baseline scenario option assessment. An additional statement to this effect and the official reference to the national policy concerned have now been added to the PDD in order to clarify and to fully justify this omission. [Note: the baseline emissions from power generation have indeed been calculated based on the displacement of grid power on the local grid using an OM & BM determination approach taken from ACM0002 and not based on the captive power plant alternative].

It is the case that there is some existing utilisation of CMM at Yangquan and this is acknowledged in the PDD. The PDD follows ACM0008 by using 5 years of historic data to calculate dk_max and hence to determine future baseline emissions. The detailed historic information is contained and analysed within the *Survey Report on CMM Supply and Demand*, which is repeatedly referenced in the PDD and which has been submitted to the validating DOE for review. Records and evidence substantiating the data in the survey report have been made available to and checked by the validating DOE. Historic data are presented in the PDD in Section A.4.3, Table 4, and in Section B2 Figure 8. A further breakdown of the information has been added to the PDD in Annex 3, Table A1 in response to the comment.

The gas distribution system is operated by the Yangquan Coal Mine Methane Gas Company. Operation of the system is regulated by the Yangquan Coal Industry (Group) Company. Clear prioritization of load demands is provided by the regulator to the operator and has been evidenced to the DOE.

Finally, CDM PDD Template Version 2 is used as the project is to be submitted for registration by 28th January 2007, up to which time this version is still accepted by the CDM EB.

James Graham
Head of Qualification

08/01/2007