VERIFICATION REPORT

- 1ST PERIODIC –

BEIJING JING FENG GAS FIRED POWER CO., LTD.

BEIJING NO.3 THERMAL POWER PLANT GAS-STEAM COMBINED CYCLE PROJECT USING NATURAL GAS

UNFCCC REF. NO. : 1373

Monitoring Period: 2008-02-15 to 2008-06-30
(incl. both days)

Report No: 8000359658 - 08/114 V01

Date: 2008-12-02

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Verification Report:	***Report No.***	***Rev. No.***	***Date of 1st issue:***	***Date of this rev.***
	8000359658 - 08/114 V01	1	2008-10-29	2008-12-02
Project:	*Title:*		*Registration date:*	*UNFCCC-No.:*
	Beijing No.3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas		2008-02-15	1373
Project Participant(s):	***Host party:***		***Other involved parties:***	
	Beijing Jing Feng Gas Fired Power Co., Ltd		RWE Power Aktiengesellschaft (RWE Power AG)	
Applied methodology/ies:	***Title:***		***No.:***	***Scope:***
	Methodology for Grid Connected Electricity Generation Plants using Natural Gas		AM0029 ver. 1	1
Monitoring:	***Monitoring period (MP):***		***No. of days:***	***MP No.***
	2008-02-15 to 2008-06-30 - both days included		137	1
Monitoring report:	***Title:***		***Draft version:***	***Final version:***
	Beijing No.3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas – CDM Monitoring Report No. 1		2008-07-04	2008-09-01 / 2008-11-27
Verification team / Technical Review and Final Approval	***Verification Team:***		***Technical review:***	***Final approval:***
	R. Winter M. Saalmann Yongjun Li Grace Chen		E. Krupp	E. Krupp
Emission reductions: [t CO_{2e}]	***Verified amount***		***As per draft MR:***	***As per PDD:***
	386,613		388,757	623,788 t /a

Summary of Verification Opinion:

RWE Power AG has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st periodic verification of the project: "Beijing No.3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas", with regard to the relevant requirements for CDM project activities. The project reduces GHG emissions due to the usage of less carbon intensive Natural Gas instead of coal. This verification covers the period from 2008-02-15 to 2008-06-30 (including both days).

In the course of the verification 7 Corrective Action Requests (CAR) and 7 Clarification Requests (CR) were raised and successfully closed. Furthermore 2 FARs are raised to improve the monitoring system in the future. The verification is based on the draft monitoring report, revised monitoring report, the monitoring plan as set out in the registered PDD, The approved request for deviation of the monitoring plan, the validation report, emission reduction calculation spreadsheet and supporting documents made available to the TÜV NORD JI/CDM CP by the project participant.

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology ,ie, AM0029 Ver.1
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

As the result of the 1st periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Emission reductions: **386,613** t CO_{2e}

Document information:	*Filename:*	*Num. of pages:*
	2008-12-02 FVerR1 Jing Feng (rev1)_with track.doc	60

Abbreviations:

CA	**Corrective Action / Clarification Action**
CAR	**Corrective Action Request**
CDM	**Clean Development Mechanism**
CER	**Certified Emission Reduction**
CO_2	**Carbon dioxide**
CO_{2eq}	**Carbon dioxide equivalent**
CR	**Clarification Request**
ER	**Emission Reduction**
FAR	**Forward Action Request**
GHG	**Greenhouse gas(es)**
MP	**Monitoring Plan**
MR	**Monitoring Report**
NCPG	**North China Power Grid**
NCV	**Net Calorific Value**
NGCC	**Natural Gas Combined Cycle**
PDD	**Project Design Document**
PP	**Project Participant**
QA/QC	**Quality Assurance / Quality Control**
UNFCCC	**United Nations Framework Convention on Climate Change**
XLS	**Emission Reduction Calculation Spread Sheet**

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1. INTRODUCTION

RWE Power AG has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the 1st periodic verification of the project

"Beijing No.3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas"

with regard to the relevant requirements for CDM project activities. The verifiers have reviewed the implementation of the monitoring plan (MP) in the registered CDM project number 1373[1].

GHG data for the monitoring period covering 2008-02-15 to 2008-06-30 was verified in detailed manner applying the set of requirements, audit practices and principles as required under the Validation and Verfication Manual /VVM/ of the UNFCCC.

This report summarizes the findings and conclusions of this 1st periodic verification. of the above mentioned UNFCCC registered project activity.

1.1. Objective

The objective of the verification is the review and ex-post determination by an independent entity of the GHG emission reductions. It includes the verification of the:

- Implementation and operation of the project activity as given in the PDD,
- compliance with applied approved methodology and the provisions of the monitoring plan,
- data given in the monitoring report by checking the monitoring records, the emissions reduction calculation and supporting evidence
- accuracy of the monitoring equipment
- quality of evidence
- significance of reporting risks and risks of material misstatements.

1.2. Scope

The verification of this registered project is based on the validated project design document /PDD/, the monitoring report /MR/, emission reduction calculation spread sheet /XLS/, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. Furthermore publicly available information was considered as far as available and required.

[1] http://cdm.unfccc.int/Projects/DB/TUEV-SUED1191500853.33/view

The verification is carried out on the basis of the following requirements, applicable for this project activity:

- Article 12 of the Kyoto Protocol /KP/,
- guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1 /MA/, and subsequent decisions made by the Executive Board and COP/MOP,
- other relevant rules, including the host country legislation,
- (draft) CDM Validation and Verification Manual /VVM/
- monitoring plan as given in the registered PDD /PDD/,
- Approved CDM Methodology AM0029 ver.1: Methodology for Grid Connected Electricity Generation Plants using Natural Gas.

2. GHG PROJECT DESCRIPTION

2.1. Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data	
Project title	Beijing No.3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas	
Project size	☒ Large Scale ☐ Small Scale	
CDM registration No.	1373	
Date of registration	2008-02-15	
Project Scope (according to UNFCCC sectoral scope numbers for CDM)	1	Energy Industries (renewable - / non-renewable sources)
Applied Methodology	AM0029 version 1: "*Methodology for Grid Connected Electricity Generation Plants using Natural Gas*"	
Crediting period	Renewable Crediting Period (7 y)	
Start of crediting period	2008-02-15	

2.2. Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	China	Beijing Jing Feng Gas Fired Power Co., Ltd
Other involved party/ies	Germany	RWE Power Aktiengesellschaft (RWE Power AG)

2.3. Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	China
Region:	Beijing
Project location address:	No. 15, Yunggang Xilu Rord, Fengtai District of Beijing
Latitude:	39°48′46.1″ N
Longitude:	116°08′33.3″ E

2.4. Technical Project Description

The Beijing No. 3 Thermal Power plant adopts the NGCC technology. It includes (1) the *Gas Cycle* to generate electricity: the high temperature gas with about 1400 °C generated by the natural gas combustion drives a coupled AC power generator in the gas turbine; (2) the *Steam Cycle*: the exhausted gas discharged from the gas turbine with about 600 °C can generate steam with 540 °C temperature and 10.67MPa pressure in a heat recovery boiler, which then expands in the steam turbine to generate electric power in the AC power generator. The rated efficiency of the combined cycle plant is about 58%. The expected life time of the project is 21 years.

The key parameters for the project are given in table 2-4:

Table 2-4: Technical data of the plant

Parameter	Unit	Value
Gross Rated Power	MW	406.83
Gross Rated Heat	kJ/kWh	6277
Manufacturer	-	MHI, Japan
Rated speed	rpm	3,000
Gas Turbine		
Mode No.		M701F
Exhaust flow (t/h)	t/h	2409.1
Exhaust temperature	°C	587
Type:		TC2F-35.4inch
Steam Turbine		

Parameter	Unit	Value		
		HP	IP	LP
Steam Pressure	MPa	10.28	3.42	0.441
Steam Temperature	°C	538.0	566.0	249.7
Main Steam Flow	kg/h	287,400	313,800	53,200

The electricity generated by the project is transmitted through the 220kV transformers to the internal electricity system of Beijing Jing Feng Gas Fired Power Co., Ltd. for internal use so as to displace the electricity that would have been imported from the North China Power Grid.

The project commenced electricity production on 01/12/2005.

3. METHODOLOGY AND VERIFICATION SEQUENCE

3.1. Verification Steps

The verification consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the monitoring report
- A desk review of the Monitoring Report /MR/ submitted by the client and additional supporting documents with the use of customised verification protocol /CPM/ according to the Validation and Verification Manual /VVM/,
- Verification planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft verification reporting
- Resolution of corrective actions (if any)
- Final verification reporting
- Technical review
- Final approval of the verification.

The verification of this project was carried out from July to October 2008:

3.2. Contract review

To assure that

- the project falls within the scopes for which accreditation is held,
- the necessary competences to carry out the verification can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3. Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a verification team, consistent of one team leader and 3 additional team members, was appointed. Furthermore also the personnel for the technical review and the final approval was determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table (3-1) below.

Table 3-1: Involved Personnel

	Name	Company	Function [1)]	Qualification Status [2)]	Sectoral competence	Technical competence	Host country Competence	Controlling competence
☐ Mr. ☒ Ms.	Chen, Grace	TÜV NORD China, Shanghai	TM	E	x	-	x	-
☒ Mr. ☐ Ms.	Li, Yongjun	TÜV NORD China, Shanghai	TM	A	x	x	x	x
☒ Mr. ☐ Ms.	Krupp, Eric	TÜV NORD CERT, Germany	TR, FA	SA	x	x	-	x
☒ Mr. ☐ Ms.	Saalmann, Martin	TÜV NORD CERT, Germany	TM	E	x	x	-	-
☒ Mr. ☐ Ms.	Winter, Rainer	TÜV NORD CERT, Germany	TL	SA	x	x	-	x
☐ Mr. ☒ Ms.	Yu, Jean	TÜV NORD China, Shanghai	-	T	-	-	x	-

[1)] TL : Team Leader; TM : Team Member, TR: Technical review; FA: Final approval; TE: Technical Expert

[2)] GHG Auditor Status: A : Assessor; E : Expert; SA: Senior Assessor; T : Trainee

3.4. Publication of the Monitoring Report

In accordance with the CDM M&P (§ 62) the draft monitoring report, as received from the project participants, has been made publicly available on the dedicated UNFCCC CDM website prior to the verification activity commenced.

3.5. Verification Planning

In order to ensure a complete, transparent and timely execution of the verification task the team leader has planned the complete sequence of events necessary to arrive at a substantiated final verification opinion.

Various tools have been established in order to ensure an effective verification planning.

Risk analysis and detailed audit testing planning

For the identification of potential reporting risks and the necessary detailed audit testing procedures for residual risk areas table A-1 is used. The structure and content of this table is given in table 3-2 below.

Table 3-2: Table A-1; Identification of verification risk areas

Table A-1: GHG calculation procedures and management control testing / Detailed audit testing of residual risk areas and random testing				
Identification of potential reporting risk	**Identification, assessment and testing of management controls**	**Areas of residual risks**	**Additional verification testing performed**	**Conclusions and Areas Requiring Improvement (including *Forward Action Requests*)**
The following potential risks were identified and divided and structured according to the possible areas of occurance.	*The potential risks of raw data generation have been identified in the course of the monitoring system implementation.* *The following measures were taken in order to minimize the corresponding risks.* *The following measures are implemented:*	*Despite the measures implemented in order to reduce the occurrence probability the following residual risks remain and have to be addressed in the course of every verification.*	*The additional verification testing performed is described. Testing may include:* - *Sample cross checking of manual transfers of data* - *Recalculation* - *Spreadsheet 'walk throughs' to check links and equations* - *Inspection of calibration and maintenance records for key equipment* - *Check sampling analysis results* *Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.*	*Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties are highlighted.*

The completed table A-1 is enclosed in the annex (table A-1) to this report.

Project specific periodic verification checklist

In order to ensure transparency and consideration of all relevant assessment criteria, a project specific verification protocol has been developed. The protocol shows, in a transparent manner, criteria and requirements, means and results of the verification. The verification protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet for verification
- It ensures a transparent verification process where the verifying DOE documents how a particular requirement has been proved and the result of the verification.

The basic structure of this project specific verification protocol for the periodic verification is described in table 3-3.

Table 3-3: Structure of the project specific periodic verification checklist

Table A-2: Periodic Verification Checklist			
Expectations for GHG data management system/controls	***Comments***	***Draft Concl.***	***Final Concl.***
The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table.	*Description of circumstances and further commendation to the conclusion.*	*This is either acceptable based on review of MR and supporting Documents (**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 Draft Verification report. The Initial Verification has additional **Forward Action Requests (FAR)**. FAR indicates essential risks for further periodic verifications*	*CARs and CRs raised in the Draft Conclusion have to be closed or resolved. The final conclusion determines the final statement. FARs could remain in this section as they are subject in the next consecutive verification.*

The periodic verification checklist (verification protocol) is the backbone of the complete verification starting from the desk review until final assessment. Detailed assessments and findings are discussed within this checklist and not necessarily repeated in the main text of this report.

The completed verification protocol is enclosed in the annex (table A-2) to this report.

3.6. Desk review

During the desk review all documents initially provided by the client and publicly available documents relevant for the verification were reviewed. The main documents are listed below:

- the last revision of the PDD including the monitoring plan/PDD/,
- the last revision of the validation report/VAL/,
- the monitoring report, including the claimed emission reductions for the project/MR/,
- the emission reduction calculation spreadsheet/XLS/

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed.

3.7. On-site assessment

As most essential part of the verification exercise it is indispensable to carry out an inspection on site in order to verify that the project is implemented in accordance with the applicable criteria. Furthermore the on-site assessment is necessary to check the monitoring data with respect to accuracy to ensure the calculation of emission reductions. The main tasks covered during the site visit include, but are not limited to:

- The on-site assessment included an investigation of whether all relevant equipment is installed and works as anticipated.
- The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.
- Information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.
- The duly calibration of all metering equipment was checked.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data were checked completely.
- The data aggregation trails were checked via spot sample down to the level of the meter recordings.

The on-site audit was carried out on 2008-07-10 and 2008-07-11. The complete verification team attended the site visit.

Before and during the on-site visit the verification team performed interviews with the project participants to confirm selected information and to resolve issues identified in the document review.

Representatives of Beijing Jing Feng Gas Fired Power Co., Ltd and Enecore Carbon Ltd. (project consultant) including the operational staff of the plant were interviewed. The main topics of the interviews are summarised in Table 3-4.

Table 3-4: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
1. Projects & Operations Personnel, Beijing Jing Feng Gas Fired Power Co., Ltd 2. Consultant, Enecore Carbon Ltd.	- General aspects of the project - Technical equipment and operation - Changes since validation - Monitoring and measurement equipment - Remaining issues from validation - Calibration procedures - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - GHG calculation - Procedural aspects of the verification - Maintenance - Environmental aspects

3.8. Draft verification reporting

On the basis of the desk review, the on-site visit, follow-up interviews and further background investigation the verification protocol is completed. This protocol together with a general project and procedural description of the verification and a detailed list of the verification findings form the draft verification report. This report is sent to the client for resolution of raised CARs, CRs and FARs.

3.9. Resolution of CARs, CRs and FARs

Nonconformities raised during the verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CARs) are issued, if:

- there is a clear deviation concerning to the above mentioned applicable criteria (esp. the monitoring plan).
- requirements set by the monitoring plan or qualifications in the validation opinion have not been met; or
- there is a risk that the project would not be able to deliver emission reductions.

Forward Action Requests (FAR) indicate essential risks for further periodic verifications. Forward Action Requests are issued, if:

- the actual status requires a special focus on this item for the next consecutive verification, or
- an adjustment of the monitoring plan is recommended.

The verification team also uses the term Clarification Request (CR), which is be issued if:

- additional information is needed to fully clarify an issue.

For a detailed list of all CARs, CRs and FARs raised in the course of the verification pl. refer to chapter 4.

3.10. Final reporting

Upon successful closure of all raised CARs and CRs the final verification report including a positive validation opinion can be issued. In case not all essential issues could finally be resolved, a final report including a negative validation opinion is issued.

The final report summarizes the final assessments w.r.t. all applicable criteria.

3.11. Technical review

Before submission of the final verification report a technical review of the whole verification procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the verification team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the verification opinion and the topic specific assessments as prepared by the verification team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.12. Final approval

After successful technical review an overall (esp. procedural) assessment of the complete verification will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the request for issuance can be started.

4. VERIFICATION FINDINGS

In the following paragraphs the findings from the desk review of the monitoring report/MR/, the calculation spreadsheet/XLS/, PDD/PDD/, the Validation Report/VAL/ and other supporting documents, as well as from the on-site assessment and the interviews are summarised.

The summary of CAR, FAR and CR issued are shown in Table 4-1:

Table 4-1: Summary of CAR, CR and FAR

Verification topic	No. of CAR	No. of CR	No. of FAR
H - Project history	0	0	0
U - Update on Changes and Incidents	0	0	0
R - Monitoring Report – General	6	6	0
P - Monitoring Parameters	0	1	0
C - Emission Reduction Calculation	1	0	1
Q - Quality Management	0	0	1
SUM	**7**	**7**	**2**

The following tables include all raised CARs, CRs and FARs and the assessments of the same by the verification team. For an in depth evaluation of all verification items it should be referred to the verification protocols (see Annex).

Monitoring Report	**CAR R1**			
Classification	☒ CAR	☐ FAR	☐ CR	☐ None
Findings	The term VER in the monitoring report is not appropriate (s. page 3 and 17).			
Corrective Action	The term has been corrected and the new monitoring report has been submitted to the DOE for consideration.			
Additional comment	OK			

Monitoring Report	**CAR R1**
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate was action not taken ☒ The project complies with the requirements

Monitoring Report	**CAR R2**			
Classification	☒ CAR	☐ FAR	☐ CR	☐ None
Findings	In table B.4 column "Power supplied to the Grid" the given value for June 2008 is not stated correctly. Subsequently all calculations using this parameter need to be revised.			
Corrective Action	The values in table B.4 in mentioned column and subsequent relations have been corrected, emission reductions re-calculated accordingly and submitted to the DOE for consideration.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CAR R3**			
Classification	☒ CAR	☐ FAR	☐ CR	☐ None
Findings	In the monitoring plan the oxidation factor $OXID_i$ is listed. Thus the current value as per IPCC 2006 guidelines should be applied. This has to be addressed.			
Corrective Action	Since the oxidation factor $OXID_i$ is listed in the MP the current value as per IPCC 2006 guidelines has been applied and appropriately addressed.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CAR R4**			
Classification	☒ CAR	☐ FAR	☐ CR	☐ None
Findings	Though the chosen value for the parameter $EF_{CO2,\ GAS,y}$ is in line with the monitoring plan as set out in the PDD it is not in line with the requirements of AM0029. As per AM0029 this parameter has to be determined on the basis of analytical data, as this is available in this case. Thus a deviation from the monitoring plan of the registered PDD (RfD) and subsequently a revision of the monitoring plan (RfRevMP) is necessary.			
Corrective Action	The new value of $EF_{CO2,\ GAS,y}$ has been re-calculated in line with AM0029 using data provided by the gas supplier, and submitted to the DOE for consideration.			
Additional comment	The re-calculation is OK. The corresponding deviation has been approved by the UNFCCC.			
Conclusion	☐ To be checked during next periodic verification ☐ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CAR R5**			
Classification	☒ CAR	☐ FAR	☐ CR	☐ None
Findings	The factor $COEF_{coal}$ is not necessary to be monitored as this parameter is already listed in section 6.2 of the PDD. The monitoring plan should correspondingly be revised (see above). The same applies for the parameters $EF_{BM,y}$; $EF_{OM,y}$ and EF_y.			
Corrective Action	The monitoring report and the monitoring plan has been revised since the parameters $COEF_{coal}$; $EF_{BM,y}$; $EF_{OM,y}$ and EF_y are not necessary to be monitored.			
Additional comment	Appropriate action was taken. The revision of the monitoring plan is subject to UNFCCC approval.			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CAR R6**			
Classification	☒ CAR	☐ FAR	☐ CR	☐ None
Findings	All monitoring parameters as listed in the PDD should be referred to in the monitoring report.			
Corrective Action	All monitoring parameters as listed in the PDD have been included in resubmitted MR.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

ER Calculation	**CAR C1**			
Classification	☒ CAR	☐ FAR	☐ CR	☐ None
Findings	Instead of an arithmetic average, the used NCV (and $EF_{CO2,GAS,\ y}$) for NG should be calculated as weighted average.			
Corrective Action	As requested by the DOE the average of applied NCV (and $EF_{CO2,GAS,\ y}$) of NG has been re-calculated as weighted average and submitted to the DOE for consideration.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CR R1**			
Classification	☐ CAR	☐ FAR	☒ CR	☐ None
Findings	In section A.4 of the MR the length of the current monitoring period should be revised to 4.5 months.			
Corrective Action	As requested by the DOE the length of the current monitoring period has been revised to 4.5 months and re-submitted to the DOE for consideration.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☐ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CR R2**			
Classification	☐ CAR	☐ FAR	☒ CR	☐ None
Findings	The type of the installed Gas Chromatograph should be stated correctly (see p. 6)			
Corrective Action	As requested by the DOE the type of the installed gas chromatograph (i.e. EMERSON 2350) has been corrected and re-submitted to the DOE for consideration.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CR R3**			
Classification	☐ CAR	☐ FAR	☒ CR	☐ None
Findings	In section B.1.4 “Involvement of Third Parties” the Gas supplier should also be mentioned.			
Corrective Action	The supplier (i.e. Beijing Gas Group Co. Ltd.) is mentioned in revised MR version.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CR R4**			
Classification	☐ CAR	☐ FAR	☒ CR	☐ None
Findings	The information of the backup system for meters esp. the gas volume flow meter should be clearly defined in the MR.			
Corrective Action	The information about the back-up meter and system has been included. A new sketch map and technical drawing detailing on meters location has been annexed to the revised MR.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☐ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CR R5**			
Classification	☐ CAR	☐ FAR	☒ CR	☐ None
Findings	The calibration frequency of the meters #3 to #6 should be indicated in the MR.			
Corrective Action	The calibration frequency of the meters #3 to #6 has been indicated in the MR. It will be done annually.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☒ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Monitoring Report	**CR R6**			
Classification	☐ CAR	☐ FAR	☒ CR	☐ None
Findings	Various capacity values are mentioned in the project documentation (PDD, ValR, MR). For future documentation a decisive value should chosen on the basis of an appropriate justification.			
Corrective Action	To the purpose of this first Monitoring Report and for any future Monitoring Report and other documentation the capacity value of 406.83 MW is chosen. This value resulted from the performance test of the natural gas plant carried out by the technology provider and installer (i.e. Mitsubishi Heavy Industries Dongfang Gas Turbine Co., Ltd), and is considered fully reliable. The revised MR uses this value and is revised accordingly and submitted to DOE for consideration.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☐ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

Mon. Parameters	**CR P1**			
Classification	☐ CAR	☐ FAR	☒ CR	☐ None
Findings	The calibration certificates for some meters could not be provided so far.			
Corrective Action	Copy of the calibration reports of meters for the third quarter of the year and valid until 30 September 2008 are submitted to the DOE for consideration.			
Additional comment	OK			
Conclusion	☐ To be checked during next periodic verification ☒ Appropriate action was taken ☐ MR was corrected correspondingly ☐ Appropriate action was not taken ☒ The project complies with the requirements			

ER Calculation	**FAR C1**			
Classification	☐ CAR	☒ FAR	☐ CR	☐ None
Findings	At the time of the onsite visit the GC was not in operation			
Initial response	The GC was repaired afterwards.			
Additional comment				
Conclusion	☒ To be checked during next periodic verification ☐ Appropriate action was taken ☐ MR was corrected correspondingly ☐ Appropriate action was not taken ☐ The project complies with the requirements			

Quality Managment	**FAR Q1**			
Classification	☐ CAR	☒ FAR	☐ CR	☐ None
Findings	The calibration certificate for the meters 3 and 4 has ended on 2008-06-30 i.e. the last day of the current monitoring period. During the next calibration it should be checked whether the data recorded since the expiry date of the old calibration and the date of the new calibration are within a tolerable level of accuracy.			
Initial response	Copy of the calibration reports of Meter n. 3 and 4 covering the third quarter of the year and valid until 30 September 2008 are submitted to the DOE for consideration.			
Additional comment	OK			
Conclusion	☒ To be checked during next periodic verification ☐ Appropriate action was taken ☐ MR was corrected correspondingly ☐ Appropriate action was not taken ☐ The project complies with the requirements			

5. SUMMARY OF VERIFICATION ASSESSMENTS

The following paragraphs include the summary of the final verification assessments after all CARs and CRs are closed out. For details of the assessments pl. refer to the discussion of the verification findings in chapter 4 and the verification protocol (Annex 1).

5.1. Implementation of the project

During the verification a site visit was carried out. On the basis of this site visit and the reviewed project documentation it can be confirmed that w.r.t. the realized technology, the project equipments, as well as the monitoring and metering equipment, the project has been implemented and operated as described in the registered PDD.

5.2. Project history

During the validation the validating DOE might have raised issues that could not be closed or resolved during the validation stage. For this purpose FARs might have been raised. No such issues were identified for this project.

Furthermore as this is the 1st periodic verification no issues from former verifications had to be considered.

5.3. Special events

No special events with effect on the monitoring of the project have been observed during the monitoring period.

5.4. Compliance with the monitoring plan

The monitoring system and all applied procedures are completely in compliance to the registered monitoring plan.

5.5. Compliance with the monitoring methodology

The monitoring system is not completely in compliance to the applied monitoring methodology (AM0029 version 1) w.r.t. the parameters $EF_{CO2,GAS,y}$ and $NCV_{f,y}$.

Thus on 2008-07-18 a corresponding request for deviation was submitted to the UNFCCC which was approved. Nevertheless before any further requests for issuance a request for revision of monitoring plan to reflect the approved deviations shall be submitted.

All other requirements of the applied methodology are met. Furthermore it can be confirmed that information from other sources (IPCC; DNA, etc.) has been applied correctly.

5.6. Monitoring parameters

During the verification all relevant monitoring parameters (as listed in chapter 7.1 of the PDD) have been verified with regard to the appropriateness of the applied measurement / determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. The results as well as the verification procedure are described parameter-wise in the project specific verification checklist.

After appropriate corrections were carried out by the project participant it can be confirmed that all monitoring parameters have been measured / determined without material misstatements and in line with all applicable standards and relevant requirements.

5.7. Monitoring report

A draft monitoring report was submitted to the verification team by the project participants. The team has made this report publicly available prior to the start of the verification activities. No comments were received.

During the verification mistakes and needs for clarification were identified. The PP has carried out the requested corrections so that it can be confirmed that the Monitoring report is complete and transparent and in accordance with the registered PDD and other relevant requirements.

5.8. ER Calculation

During the verification mistakes in the ER calculation were identified. Corresponding CARs were raised. A revised ER calculation was prepared by the PP and presented

to the verification team. All raised issues were addressed appropriately so that all corresponding CARs could be closed out. Thus it is confirmed that the ER calculation is overall correct.

5.9. Quality Management

Quality Management procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel in the framework of this CDM project activity have been defined. The procedures defined can be assessed as appropriate for the purpose. No significant deviations thereof have been observed during the verification.

5.10. Overall Aspects of the Verification

All necessary and requested documentation was provided by the project participants so that a complete verification of all relevant issues could be carried out.

Access was granted to all installations of the plant which are relevant for the project performance and the monitoring activities.

No issues have been identified indicating that the implementation of the project activity and the steps to claim emission reductions are not compliant with the UNFCCC criteria and relevant guidance provided by the COP/CMP and the CDM EB (clarifications and/or guidance).

5.11. Hints for next periodic Verification

In the course of this 1st periodic verification a deviation from the approved methodology has been requested from the board. This request has been approved stipulating that prior to further requests for issuance, a request for revision of monitoring plan to reflect the approved deviations shall be submitted.

Furthermore 2 FARs have been raised.

6. VERIFICATION OPINION

RWE Power AG has commissioned the TÜV NORD JI/CDM Certification Program to carry out the 1st periodic verification of the project: "Beijing No.3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas", with regard to the relevant requirements for CDM project activities. The project reduces GHG emissions due to the usage of less carbon intensive Natural Gas instead of coal. This verification covers the period from 2008-02-15 to 2008-06-30 (including both days).

In the course of the verification 7 Corrective Action Requests (CAR) and 7 Clarification Requests (CR) were raised and successfully closed. Furthermore 2 FARs are raised to improve the monitoring system in the future.

The verification is based on the draft monitoring report, revised monitoring report, the monitoring plan as set out in the registered PDD, The approved request for deviation of the monitoring plan, the validation report, emission reduction calculation spreadsheet and supporting documents made available to the TÜV NORD JI/CDM CP by the project participant.

As a result of this verification, the verifier confirms that:

- all operations of the project are implemented and installed as planned and described in the validated project design document.
- the monitoring plan is in accordance with the applied approved CDM methodology ,i.e., AM0029 Ver.1
- the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately.
- the monitoring system is in place and functional. The project has generated GHG emission reductions.

As the result of the 1st periodic verification, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. TÜV NORD JI/CDM CP herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Baseline emissions:	749,604	t CO_{2e}
Project emissions:	326,963	t CO_{2e}
Leakage emissions	36,028	t CO_{2e}
Emission reductions:	**386,613**	**t CO_{2e}**

Essen, 2008-12-02

Rainer Winter

TÜV NORD JI/CDM Certification Program

Verification Team Leader

Essen, 2008-12-02

Eric Krupp

TÜV NORD JI/CDM Certification Program

Senior Assessor

7. REFERENCES

Table 7-1: Documents provided by the project participant(s)

Reference	Document
/ADS/	Aggregated data summary – recorded data vs. invoice data
/CAL/	Calibration related documents: 1. Technical service contract dated April 2008 2. DL/T 448-2000 Technical administration code of electricity energy metering 3. verification regulation of velocity flow meter GB JJG198-1994 4. calibration certificates of M1 – M6 (pending) 5. PT and CT annual test reports (pending) 6. calibration certificates for velocity flow meters 04-500003 & 04-500004 (both valid from 24/06/2007 to 23/06/2009) 7. Meter calibration Plan 8. calibration certificates for temperature transmitter (valid from 27/07/2007 to 26/07/2008) and pressure transmitter (valid from 29/07/2007 and 28/07/2008)
/EMT/	Energy meters test report dated March 2008
/EOP/	Environmental Operation Permission
/EPA/	Electricity Purchase Agreement
/FSR/	Feasibility Study Report
/GC/	Gas Composition
/GCA/	Grid Connection Agreement
/GPA/	Gas Purchase Agreement
/HGA/	Host Government Approval issued by China DNA dated 10/09/2007
/IDE/	Invoice data summary for electricity
/IDG/	Invoice data summary for gas
/IEE/	Invoice Export Electricity

Reference	Document
/IG/	Invoices Gas
/II3/	Invoice Import Electricity #3
/LOA/	Letter of Approval issued by German DNA dated 25/09/2007
/ML/	Meter Locations
/MM/	CDM Monitoring Manual
/MR/	Draft and Final Monitoring report named "Beijing No.3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas" dated 01/07/2008 and 01/09/2008
/PTP/	Performance test procedure, issued by Mitsubishi Heavy Industries, on 12th April 2004
/REG/	Recorded values for electricity and gas
/RFDEV/	Request for deviation as of 2008-07-18 incl. EB approval
/SER/	Safety evaluation report for grid connection
/TID/	Technical information of key devices
/WD/	Wiring Diagram
/XLS/	Excel Calculation Sheet

Table 7-2: Background investigation and assessment documents

Reference	Document
/AM0029/	Approved CDM Methodology AM0029, version 01: "Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas" and the approved monitoring methodology AM0029, Version 01:"Grid Connected Electricity Generation Plants using Non-Renewable and less GHG intensive Fuel"
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/IPPC/	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book

Reference	Document
	2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords)
/PDD/	Final Project Design Document for CDM project: "*Beijing No. 3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas*" version 4, dated 13/12/2007
/VAL/	Validation Report for CDM project *"Beijing No. 3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas*" dated 14/12/2007
/VVM/	UNFCCC Validation and Verification Manual (draft version as per EB 39)

Table 7-3: Websites used

Reference	Link	Organisation
/dna/	www.cdm.ccchina.gov.cn	DNA of China
/unfccc/	http://cdm.unfccc.int	UNFCCC
/ipcc/	www.ipcc-nggip.iges.or.jp	IPCC publications

Table 7-4: Interviewed Persons

Reference		Name	Organisation / Function
/IM01/	☒ Mr. ☐ Ms.	CHEN Sen Sen	Beijing Jing Feng Gas Fired Power Co., Ltd. / Engineer
/IM01/	☐ Mr. ☒ Ms.	HUANG Qun	Beijing Hua Jin Hao Environment protection Science and Technology Co. Ltd / Manager

Reference		Name	Organisation / Function
/IM01/	☒ Mr. ☐ Ms.	LI Xiao Bin	Beijing Jing Feng Gas Fired Power Co., Ltd. / Vice Director of Production Department
/IM01/	☒ Mr. ☐ Ms	ZHOU Fu Sheng	Jingfeng Gas Fired Power Co. Ltd. / Assistant of General Manager
/IM01/	☒ Mr. ☐ Ms	TIAN Jian Min	Beijing Jing Feng Gas Fired Power Co., Ltd. / Vice General Manager
/IM01/	☒ Mr. ☐ Ms	ZHAO Hong	Beijing Jing Feng Gas Fired Power Co., Ltd. / Vice Director of Financial Department
/IM01/	☒ Mr. ☐ Ms	YIN Hao	Beijing Jing Feng Gas Fired Power Co., Ltd. / Specialist of Financial Department
/IM01/	☐ Mr. ☒ Ms	ZHANG Yan Qin	Beijing Jing Feng Gas Fired Power Co., Ltd. / Specialist of Maintenance Department
/IM02/	☒ Mr. ☐ Ms	WU Fu Gui	Enecore Carbon Ltd./ Project Manager
/IM02/	☒ Mr. ☐ Ms	Andrea Camponogara	Enecore Carbon Ltd../ Head CDM Project Management Department
/IM03/	☒ Mr. ☐ Ms	Philipp Weiss	RWE Power AG / CDM Project Manager

ANNEX

Verification Protocol

ANNEX: VERIFICATION PROTOCOL

Table A-1: GHG calculation procedures and management control testing / detailed audit testing of residual risk areas and random testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including *Forward Action Requests*)
Raw data generation				
• Installation of measuring equipment • Dysfunction of installed equipment • Maloperation by operational personnel • Downtimes of equipment • Exchange of equipment • Change of measurement equipment characteristic • Insufficient accuracy • Change of	• Installation of modern and state of the art equipment • Process control automation. • Internal data review • Regular visual inspect-ions of installed equip-ment • Only skilled and trained personnel operates the relevant equipment • Daily raw data checks • Immediate exchange of dysfunctional equipment • Stand-by duty is	• Inadequate installation / operation of the monitoring equipment. • Inadequate exchange of equipment. • Change of personnel • Undetected measurement errors • Inappropriateness of Management system procedures w.r.t. monitoring plan requirements (e.g. substitute value strategies) • Non-application of management system procedures • Insufficient accuracy	• Site – visit (maintenance dept., gas supplier) • Check of equipment • Check of technical data sheets • Check of suppliers information / guarantees. • Check of calibration records, if applicable • Check of maintenance records • Export and countercheck of raw data in EXCEL. • Counter-check of raw data and commercial	• **See Table A-2**

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including *Forward Action Requests*)
technology • Accuracy of values supplied by Third Parties	organized • Training • Internal audit procedures • Internal check of QA/QC measures of involved Third Parties	• Inappropriate QA/QC measures of Third Parties	data • Check of CDM management system • Check of CDM related procedures • Application of CDM management system procedures • Check of trainings • Check of responsibilities • Check of QA/QC documentation / evidences of involved Third Parties	
Raw data collection and data aggregation				
• Wrong data transfer from raw data to daily and monthly aggregated reporting forms • IT Systems • Spread sheet	• Cross-check of data • Plausibility checks of various parameters. • Appropriate archiving system • Clear allocation of responsibilities	• Unintended usage of old data that has been revised • Incomplete documentation • Ex-post corrections of records • Ambiguous sources of information	• Check of data aggregation steps • Counter-calculation • Data integrity checks by means of graphical data analysis and calculation of specific performance	• **See Table A-2**

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including *Forward Action Requests*)
programming • Manual data transmission • Data protection • Responsibilities	• Application of CDM Management system procedures • Usage of standard software solutions (Spreadsheets) • Limited access to IT systems • Data protection procedures	• Non-application of management system procedures • Manual data transfer mistakes • Unintended change of spread sheet programming or data base entries • Problems caused by updating/upgrading or change of applied software	figures • Check of management system certification • Check of data archiving system • Check of application of Management system procedures	
Other calculation parameters				
• Emission factors, oxidation factors, coefficients	• The values and data sources applied are defined in the PDD and monitoring plan.	• Unintended or intended Modification of calculation parameters. • Wrong application of values • Misinterpretations of the applied methodology and/ or the PDD • Missing update of applicable regulatory framework (e.g. IPCC	• Update-check of regulatory framework • Countercheck of the applied MP in the MR against the methodology and the PDD.	• **See Table A-2**

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including *Forward Action Requests*)
		values).		
Calculation Methods				
• Applied formulae • Miscalculation • Mistakes in spread-sheet calculation	• Advanced calculation and reporting tools • A CDM coordinator is in charge of the CDM related calculations • Usage of tested / counterchecked Excel spreadsheets • Involvement of external consultants	• The danger of miscal-culation can only be minimized.	• Countercheck on the basis of own calculation. • Spread sheet walk-trough. • Plausibility checks • Check of plots	• **See Table A-2**
Monitoring reporting				
• Data transfer to the author of the monitoring report • Data transfer to the monitoring report • Unintended use of	• An experienced CDM consultant is responsible for monitoring reporting. • CDM QMS procedures are defined	• The danger of data transfer mistakes can only be minimized • Inappropriate application of QMS procedures	• Counter check with evidences provided. • Audit of procedure application	• **See Table A-2**

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks	Additional verification testing	Conclusions and Areas Requiring Improvement (including *Forward Action Requests*)
outdated versions				

Table A-2: (Project specific) Periodic Verfication Checklist

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
1. Project history				
Open issues from validation *Check (esp. in case of 1st periodic verification) whether there are any open issues indicated in the validation report (e.g. FAR)?*	/VAL/	The validation report was checked. No FARs have been raised in the validation.		OK
Open issues from previous verification *Check in case of further periodic verifications whether there are any open issues indicated in previous verification (FAR)?*		n.a.		n.a.
Requests for Deviations / Revisions of MP *Check if there have been any requests for deviations from the registered monitoring plan or requests for revisions of the monitoring plan. If any, make sure that they are considered during verification?*	/unfccc/	The published project related documentation was checked. No RfDev or RfrevMP have been published before the start of the verification.		OK
Initial verification *In case an initial verification has been carried out, check if all FARs, recommendations etc. have been addressed appropriately.*	/IM01/	No initial verification has been carried out.		-
Initial project implementation *In case of first periodic verification: Assess whether the project has been implemented and operated as per the registered PDD and are all physical features*	/IM01/ /PDD/	By means of document review and the on-site visit it was verified, that the project has been implemented as described in the PDD.		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
of the project in place? *In case of further periodic verifications: Go to next chapter.*				
2. Update on Changes and Incidents (during the Monitoring Period)				
Technical equipment *Check if relevant technical equipment of the project activity has been exchanged or modified during the monitoring period.* *Consider e.g. interviews with operational personnel, QMS records, maintenance records, instrument specifications.* *In case of changes, check whether the project is still in line with the registered PDD and assure that these changes have been considered in the monitoring report and the emission reduction calculation.*	/IM01/	By means of instrument specifications and during the audit it was evidenced, that no relevant equipment was exchanged within the monitoring period.		OK
Operation modes *Check if relevant operation modes of the project activity have been exchanged or modified during the monitoring period.* *Consider e.g. interviews with operational personnel, operation log sheets, data management system records.* *In case of changes, check whether the project is still in line with the registered PDD and assure that these*	/IM01/	By means of interviews with the operational personnel it was evidenced, that no relevant operation modes were exchanged within the monitoring period. Nevertheless it has to be mentioned, that due to the upcoming Olympic Games the plant load was increased. This has led to higher emission reductions than estimated in the PDD - assuming an equal load distribution during the year. In this context it has to be mentioned, that the plant was not operated during the first 6 weeks of the year.		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
changes have been considered in the monitoring report and the emission reduction calculation.				
Incidents *Identify if there have been any significant incidents, deviant operation modes and / or downtimes of the equipment?* *Consider e.g. interviews with operational personnel, operational log sheets, analysis of performance data.*	/IM01/	It was verified during the site visit that no significant incidents have occurred during the monitoring period. This was also backed up by the data integrity check.		OK
Personnel *Find out, if relevant personnel w.r.t. monitoring has been exchanged?* *In case of changes, assure that the implemented monitoring procedures have not been affected.*	/IM01/	By means of interviews with employees it was verified that the responsible persons have not been exchanged during the monitoring period.		OK
Legislation Find out whether relevant legislation with effect on the project activity in the host country has been changed.	/IM01/	Relevant legislation was considered, No relevant changes since the validation were identified.		OK
3. Monitoring Report – General				
Monitoring period *Check if the monitoring period is in line with a) the crediting period and/or b) previous monitoring periods?*	/unfccc/	The monitoring period lasts from 2008-02-15 to 2008-06-30. Both days are included. The fist day of the monitoring period is the date of registration which is in this case the start of the crediting period.		OK
Publication of the Monitoring Report *Check if the monitoring report has been made publicly available on the UNFCCC website before the*	/unfccc/	The draft monitoring report, as received from the project participants, has been made publicly available prior to the start of the verification activities.		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
verification commenced.		No comments have been received.		
References *Check if the monitoring report provides the correct references, in detail: project title, UNFCCC registration No., applied methodology/ies, meth tools.*	/MR/	All references are given in the monitoring report. All references are correct.		OK
Completeness *Assess if the monitoring report is complete, i.e. have all relevant issues been addressed?*	/MR/	Yes all relevant issues are covered.		OK
Transparency *Assess if the monitoring report is transparent, i.e. clear and unequivocal in all respect?*	/MR/	The monitoring report can be assessed to be transparent. No ambiguous statements have been identified.		OK
		The following issues have been identified: • The term VER in the monitoring report is not appropriate s. page 3 and 17	~~CAR R1~~	OK
		• In table B.4 column “Power supplied to the Grid” the given value for June 2008 is not stated correctly. Subsequently all calculations using this parameter need to be revised.	~~CAR R2~~	OK
		• In the monitoring plan the oxidation factor $OXID_i$ is listed. Thus the current value as per IPCC 2006 guidelines should be applied. This has to be addressed.	~~CAR R3~~	OK
		• All monitoring parameters as listed in the PDD should be referred to in the monitoring report.	~~CAR R6~~	OK
		• In section A.4 of the MR the length of the current monitoring period should be revised to 4.5 months.	~~CR R1~~	OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
		• The type of the installed Gas Chromatograph should be stated correctly (see p. 6)	~~CR R2~~	OK
		• In section B.1.4 “Involvement of Third Parties” the Gas supplier should also be mentioned.	~~CR R3~~	OK
		• The information of the backup system for meters esp. the gas volume flow meter should be clearly defined in the MR.	~~CR R4~~	OK
		• The calibration frequency of the meters #3 to #6 should be indicated in the MR.	~~CR R5~~	OK
		• Various capacity values are mentioned in the project documentation (PDD, ValR, MR). For future documentation a decisive value should chosen on the basis of an appropriate justification.	~~CR R6~~	OK
Deviations from the validated monitoring plan *Assess whether the MR in line with the validated monitoring plan?* *In case of intended changes: Have they been approved by the UNFCCC?*	/MR/ /PDD/	No deviations from the validated monitoring plan have been identified.		OK
Deviations from the approved methodology *Assess whether the MR in line with the applied monitoring methodology?*	/MR/ /AM29/	The monitoring plan as described in the monitoring report was assessed against the requirements of the approved methodology AM0029. The following deviations from this methodology were identified: (1) The parameter $EF_{CO2,GAS,y}$ should be derived from analytical data as far as available for this project activity. During on-site visit it was found out that a detailed analysis of the delivered gas is provided by the gas supplier. Thus the carbon emission factor of the gas should be derived from this available data. A	~~CAR R4~~	OK

Checklist Item (incl. guidance for the verification team)	Refe-rence	Verifiers Comments (Means and results of assessment)	Draft Concl.	Final Concl.
		corresponding CAR was raised. (2) The parameter $COEF_{coal}$ is listed in section B.6.2 as well as in B.7.1. of the PDD. As it is a fixed value, chapter B.7.1 shall be revised accordingly. A corresponding CAR was raised. The same applies for the parameters $EF_{BM,y}$; $EF_{OM,y}$ and EF_y	~~CAR R5~~	
4. Monitoring Parameters *(List all parameters of the PDD chapter B.7.1; pl. copy the 6 lines below for each parameter)*				
4.1. $FC_{NG,y}$		**Description:** Annual quantity of natural gas consumed in project activity		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/IM01/ /PDD/ /AM29/ /ML/	Two ultrasonic flow meters (FE 2501 and FE2502) are installed. The flow (standard conditions) is calculated on a flow computer of Daniel S 6000 type. The measurement is performed on a continuous basis under the purview of the gas supplier. The results are reported on a monthly basis as part of the raised invoice. Measured values can be counterchecked by a flow meter instrument owned by the operator. As this meter does not meet the applicable accuracy standards the measured values of the gas supplier are considered decisive. This is in line with the monitoring plan of registered PDD where it is indicated that flow meters of project operator will be used for cross-checks. The monitoring report is referencing different values for $FC_{NG,y}$ according to invoicing and measuring. This is due to the case that invoice is covering a longer period. Please refer to the corresponding section in MR. The explanation given was checked by the verification team and is appropriate.		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
		No failures / downtimes of the standard equipment were observed during the monitoring period, thus no deviant measurement / determination methods were applied. As for this parameter no deviations from the registered PDD as well as from the approved methodology were observed.		
Correctness *Determine whether the value given in the monitoring report is correct.* *In case of mistakes pl. provide details and descriptions of the CARs raised.*	/MR/	☒ Correct ☐ Not correct Comment: The values given in the monitoring report and the corresponding Excel sheets are correct.		OK
QA/QC Procedure *Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.*	/CAL/ /MM/	The QA/QC procedure described in the registered monitoring plan was followed correctly. The calibration certificates of both meters are valid from 2007-06-24 to 2009-06-23. Furthermore the temperature and the pressure transmitters have been calibrated (certificates valid till 2008-08-28). Calibrations were carried out by duly approved personnel / organisations.		OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	/CAL/ /MM/	No significant inaccuracies have been identified for this parameter.		OK
Verification *Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility*	/IM01/ /TID/ /MM/ /REG/	During the on-site visit the operation of installed meters have been observed. For purpose of plausibility check meter readings and photos of the installed equipment have been taken. The flow computer in the premises of the gas supplier has been		-

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
checks as far as possible. Check if the applied value could be backed up by corresponding evidences.	/CAL/	visited and checked. The invoices of the gas supplier were counter-checked against manual readings and flow values measured with the meter owned by the operator. Measured values are counterchecked on the basis of electricity production figures and heat rate / efficiency estimations. The (standard) accuracies of the installed equipment has been checked on the basis of technical documentation as provided by the manufacturer of the equipment. The calibration certificates were checked. Results and applied standards are in line with the National Chinese regulations.		
4.2. $NCV_{NG,y}$		**Description:** Net Calorific Value of the NG		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/IM01/ /PDD/ /AM29/ /ML/	The NCV of the natural gas is determined from the results of a gas chromatograph (GC) located on site in the premises of the gas supplier. The GC is manufactured by Emerson, Type 2350 A. This GC is operated on a continuous basis. Nevertheless the measured values are reported along with the monthly invoices of the gas supplier. During the onsite visit it was observed that the installed GC was not in operation. During this downtime period the NCV – values are derived from other GC measurement devices located upstream of the plant and also owned by the Gas supplier. Though the (continuous) measurement itself is considered to be in line with both, the requirements of the PDD and AM0029, NCV values are not available on a fortnightly basis. A corresponding CAR was raised.	~~CAR C1~~	OK
Correctness	/MR/	☒ Correct ☐ Not correct	~~see CAR~~	OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
Determine whether the value given in the monitoring report is correct. *In case of mistakes pl. provide details and descriptions of the CARs raised.*		Comment: The values given in the monitoring report and the corresponding Excel sheet are correct on a monthly basis. Nevertheless a weighted average for the whole monitoring period has to be calculated instead of an arithmetic average. A corresponding CAR was raised.	~~above~~	
QA/QC Procedure *Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.*	/MM/	The GC is subjected to regular technical inspections. The QA/QC procedure is in line with the requirements of the PDD and AM0029.		OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	/MR/	No significant inaccuracies have been identified for this parameter.		OK
Verification *Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.*	/IM01/ /TID/ /MM/ /REG/	The verification team has visited the premises of the gas supplier, where the GC is located. It was observed that the GC is currently not in operation. The gas supplier has explained the alternative method to determine the GC. Though this alternative method was assessed to be acceptable, a corresponding FAR was raised. The values considered for monitoring were derived from the monthly invoices. All original invoices were checked. Based on available analytical data some NCVs were counter-calculated. All listed NCVs were measured within the range of expectations.		FAR C1

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
4.3. $OXID_i$		**Description:** Oxidation factor for the fuel i		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/PDD/ /AM29/	The oxidation factor has to be derived from the latest IPPC values.		OK
Correctness *Determine whether the value given in the monitoring report is correct.* *In case of mistakes pl. provide details and descriptions of the CARs raised.*	/MR/ /AM29/ /ipcc/	☐ Correct ☒ Not correct Comment: The 1996 values for $OXID_i$ have been used instead of the latest 2006 values. Thus $OXID_i$ has to be revised to 1.0. A corresponding CAR was raised.	~~CAR R3~~	OK
QA/QC Procedure *Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.*	-	N/A		OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been*	-	N/A		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
considered for ER calculation.				
Verification *Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.*	/ipcc/	The most recent 2006 IPCC standard values for oxidation factors have been checked.		-
4.4. $EF_{CO2,GAS,y}$		**Description:** Emission factor for NG consumed in the project activity		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/PDD/ /AM29/ /GC/	As per AM0029 the parameter $EF_{CO2,GAS,y}$ has to be derived from supplier provided data, as in this case analytical data for the gas supplied is available. On the basis of the gas composition data the emission factor has to be calculated.		OK
Correctness *Determine whether the value given in the monitoring report is correct.* *In case of mistakes pl. provide details and descriptions of the CARs raised.*	/MR/ /AM29/ /ipcc/	☐ Correct ☒ Not correct Comment: In the monitoring report the IPCC standard value was used. This is not in line with the requirements of AM0029. A corresponding CAR was raised.	~~CAR R4~~	OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
QA/QC Procedure *Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.*	-	As gas composition data are provided by the gas supplier, the same procedures as for the measurement of the NCV are applicable. Pl. refer to the corresponding section. Nevertheless QA/QC procedures have not been addressed in the MR and the PDD so far as a fixed IPCC standard value was applied. A corresponding CAR was raised.	~~see CAR above~~	OK
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	-	T.b.v. on the basis of pending information.	~~see CAR above~~	OK
Verification *Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.*	/MR/ /AM29/	The MR was checked against the requirements of AM029. Further verification of the EF calculation have to be done on the basis of a revised MR.		-
4.5. $COEF_{Coal}$		**Description:** Emission coefficient of coal as fuel per unit of coal equivalent		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.*	/MR/ /PDD/ /AM29/	As per AM0029 this parameter is not to be monitored. As per the PDD this parameter is listed in chapter 7.1 as well as in chapter 6.2. Thus this parameter is not considered to be monitored. A corresponding CAR was raised.	~~CAR R5~~	OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.				
Correctness *Determine whether the value given in the monitoring report is correct.* *In case of mistakes pl. provide details and descriptions of the CARs raised.*	/MR/ /AM29/ /PDD/	☐ Correct ☒ Not correct Comment: This parameter is not to be monitored (see above)	~~see CAR above~~	OK
QA/QC Procedure *Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.*	-	N/A		-
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	-	N/A		-
Verification *Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.*	-	N/A		-

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
4.6. $COEF_{NG}$		**Description:** Emission coefficient of natural gas as fuel per unit of volume		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/MR/ /PDD/ /AM29/	This value is calculated as per $COEF_{NG,y} = NCV_{NG,y} \times EF_{CO2,NG,y} \times OXID_{NG}$. As described above, the values of all 3 parameters need corrections.	~~see CARs above~~	OK
Correctness *Determine whether the value given in the monitoring report is correct.* *In case of mistakes pl. provide details and descriptions of the CARs raised.*	/MR/ /AM29/ /PDD/	☐ Correct ☒ Not correct Comment: This parameter has to be recalculated (see above)	~~see CARs above~~	OK
QA/QC Procedure *Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.*	-	N/A		-
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case,*	-	N/A		-

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
make sure that appropriate discounts have been considered for ER calculation.				
Verification *Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.*	-	N/A		-
4.7. $EG_{pj,y}$		**Description:** Electricity delivered to the grid by the project in y year		
Measurement / Determination method *Describe how the monitoring parameter was measured / determined.* *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*	/IM01/ /PDD/ /AM29/ /ML/	6 electricity meters are involved in metering of the electricity exported to the grid and imported from the grid. All meters are listed in the MR section B.1.2. The meters #1 and #2 (located at switch 2201) are the main meters. While meter #1 is decisive #2 is a redundant meter located at the same line. Also the meters #3 and #4 are located at the same line (switch 100 B). #3 delivers decisive values, # 4 is considered to be a backup meter. The meters #5 and #6 are used for internal purposes and are only used for countercheck of the metered values from the other meters. All meters involved are able to measure real and reactive power as well as exported and imported quantities of electricity. While the meters #1/#2 are primarily measuring the amount of exported electricity the meters #3/#4 measure electricity imported from the grid. To arrive at the net amount of electricity exported to the grid, for all measured values the CT PT factors have to be considered.		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
		All meters show the aggregated amount of ex- or imported electricity. Nevertheless regular manual readings are taken. They are the basis for the invoice which is raised on a monthly basis to the grid company. No failures / downtimes of the standard equipment were observed during the monitoring period, thus no deviant measurement / determination methods were applied. As for this parameter no deviations from the registered PDD as well as from the approved methodology were observed.		
Correctness *Determine whether the value given in the monitoring report is correct.* *In case of mistakes pl. provide details and descriptions of the CARs raised.*	/MR/	☐ Correct ☒ Not correct Comment: The values given in the monitoring report and the corresponding Excel sheet are not completely correct. Some minor deviations were identified between values considered for monitoring and original meter readings.	~~see CARs above~~	OK
QA/QC Procedure *Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.*	/CAL/ /MM/	The QA/QC procedure described in the registered monitoring plan was followed correctly. Nevertheless the calibration certificates for some meters could not be provided so far. A corresponding CR was raised. The evidenced calibrations were carried out by duly approved personnel / organisations. Furthermore it was noted that the last day of the monitoring period is also the last day of validity of the calibration certificates – as indicated on the measuring devices itself. Therefore a corresponding FAR was raised.	~~CR P1~~	FAR Q1
Accuracy	/MR/ /CAL/	No significant inaccuracies have been identified for this parameter.		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.	/MM/ /CAL-2/			
Verification *Describe how the value was verified. Consider the measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.*	/IM01/ /TID/ /MM/ /REG/ /WD/ /ML/ /CAL-2/	During the on-site visit the operation of installed meters have been observed. For purpose of plausibility check meter readings and photos of the installed equipment have been taken. Wiring diagrams have been checked in order to verify that all relevant electricity exports and imports have been considered. The data of the installed CTs and PTs were counterchecked. As far as available the calibration certificates were examined. Furthermore the data aggregation trails, the original meter readings and the invoices were checked in depth. By means of OEM documents the accuracies of the installed equipment has been checked and found to be a) in line with the data as provided in the MR and b) in line with the national Chinese standard for electricity metering (DL/T 448-2000).		-
4.8. $EF_{OM,y}$ $EF_{BM,y}$ EF_y		**Description:** **$EF_{OM,V}$:** Operating margin emission factor of the grid in the project operation period **$EF_{BM,V}$:** Build margin emission factor of the grid in the project operation period. **EF_V:** Combined margin emission factor of the grid in the project period.		
Measurement / Determination method *Describe how the monitoring parameter was*	/MR/ /PDD/ /AM29/	These parameters have been determined ex-ante. As per the description given in section “Description of measurement methods and procedures to be applied” for the parameter $EF_{OM,y}$		

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
measured / determined. *Check if relevant equipment has been exchanged and if in cases of failures / downtimes of standard equipment other measurement / determination methods have been used.* *Assess whether the measurement / determination method is in line with the registered monitoring plan of the PDD and the applied methodology.*		all 3 parameters have to be monitored on an annual basis for the 2nd crediting period. Furthermore all parameters are given in chapter 6.2 and 7.1	~~see CAR R5 above~~	OK
Correctness *Determine whether the value given in the monitoring report is correct.* *In case of mistakes pl. provide details and descriptions of the CARs raised.*	/MR/ /AM29/ /PDD/	☒ Correct ☐ Not correct Comment: This parameter is not to be monitored (see above). The fixed ex-ante value is applied correctly.		OK
QA/QC Procedure *Describe whether all applicable QA/QC procedures are met. Assess further if the calibration and maintenance of the monitoring equipment has been carried out by competent personnel.*	-	N/A		-
Accuracy *In case of measured (or estimated) values, check whether significant inaccuracies occur; in this case, make sure that appropriate discounts have been considered for ER calculation.*	. /MM/	N/A		-
Verification *Describe how the value was verified. Consider the*	-	N/A		-

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
measurement / determination procedure, accuracies, QA/QC procedures. Consider as well plausibility checks as far as possible. Check if the applied value could be backed up by corresponding evidences.				
5. ER Calculation				
Traceability *Assess if the calculation is fully traceable. In case of complex calculations an Excel calculation spread-sheet shall be used. All applied formulae must be visible.*	/XLS/	An Excel calculation sheet was used. The calculation is completely traceable. All applied formulae are visible. No information gaps have been identified.		OK
Parameter consistency *Assess whether all internal and external parameters and data used for calculation are applied consistently in the monitoring report and the calculation spreadsheet?* *Consider only the correct data exchange between the monitoring report and the calculation spreadsheet (if any). The evaluation of the correctness of the parameter values itself should be discussed in the chapter "Monitoring Parameters".*	/XLS/	The Excel – calculation sheet is completely in line with the MR. No deviant parameter values have been used in the calculation sheet. Nevertheless the corrections required and addressed in chapter "Monitoring Parameters" have also to be reflected in the Excel calculation sheet.	~~see CARs above~~	OK
Applied formulae *Check if the applied formulae are in accordance with the monitoring plan and / or the approved methodology.*	/XLS/	All applied formulae are in accordance with the monitoring plan and the approved methodology as well. Nevertheless the way the average $NCV_{NG,y}$ was calculated is not correct. A weighted average has to be calculated. The corresponding CAR has been raised.	~~see CAR above~~	OK

Checklist Item (incl. guidance for the verification team)	Refe-rence	Verifiers Comments (Means and results of assessment)	Draft Concl.	Final Concl.
Completeness of calculation *Assess whether the provided calculations are complete and reflect all requirements of the monitoring plan.* *Check especially that no standard or old values have been used for calculation where calculations based on up-to-date data is required.*	/XLS/ /MR/ /PDD/	The calculation is completely traceable. No information/calculation gaps have been identified.		OK
6. Quality Management; defined organisational structure, responsibilities and competencies Internal QA/QC and document control				
Management System *Check if the GHG data monitoring system is embedded in a (certified) company quality management system, if so, check if all CDM monitoring procedures been fully integrated in the project participant's quality management system. If not how the GHG management system has been implemented.*	/MM/	The GHG data monitoring system is not yet integrated in a QMS applicable for the whole company. Nevertheless all applicable procedures within the GHG monitoring system have been summarized in a CDM Monitoring Manual. This CDM Monitoring Manual addresses procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel, The manual has been checked. No significant deviations thereof have been identified during the on-site assessment. The manual is in line with the QA/QC requirements of the PDD.		OK
Roles and Positions *Check if all roles and positions of each person in the GHG data management process are clearly defined*	/IM01/ /MM/	The CDM Monitoring Manual addresses also the relevant roles and positions applicable for the CDM project activity monitoring. Responsibilities for measurements, collection and compilation of		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
and implemented, from raw data generation to submission of the final data. *Check further if only duly qualified personnel is involved in the monitoring procedures.*		data, data storage and archiving, calibration, maintenance and training of personnel have been introduced. All appointed persons involved are duly qualified for the task assigned. Furthermore an experienced consultancy company has been contracted by the project participants in order to enable a high quality monitoring process.		
Trainings *Check if initial trainings have been carried out, in case deemed necessary.*	/IM01/	The applied methodology does not require additional measuring of parameters which would not have been monitored without CDM. Therefore additional trainings are not considered to be essential.		OK
Troubleshooting procedures *Assess whether troubleshooting procedures have been implemented.*	/MM/	Troubleshooting procedures for CDM purposes are in this case considered as essential part of ordinary plant operations. Therefore no special troubleshooting procedures are required.		OK
Maintenance procedures Are appropriate maintenance procedures in place?	/IM01/	As well as for the NG as the electricity measurements calibrated equipment is used. Therefore no special maintenance procedures for this equipment are deemed to be necessary.		OK
Internal QA/QC *Assess whether there are any procedures in place on when, where and how checks and reviews are to be carried out, and what evidence needs to be documented? (This might include spot checks by a second person not performing the calculations over manual data transfers, changes in assumptions and the overall reliability of the calculation processes.)*	/IM01/ /MM/	The CDM Monitoring Manual provides corresponding procedures for internal QA/QC measures. Furthermore an experienced consultant was involved in the drafting of the monitoring report. As part of this all internal monitoring results were critically counterchecked before results have been submitted to the DOE.		OK
Data archive Check whether all records of monitoring parameters	/IM01/	All relevant monitoring data was available and procedures are in place so that relevant monitoring data will be retained at least till		OK

Checklist Item (incl. guidance for the verification team)	**Refe-rence**	**Verifiers Comments** (Means and results of assessment)	**Draft Concl.**	**Final Concl.**
are archived according to the monitoring plan.		2 years after the end of the current crediting period.		
Data protection Assess whether appropriate measures have been take in order to avoid unintended or intended manipulation of the measured data.	/IM01/ /MM/	The danger of unintended or intended data manipulation can be considered as low, as all relevant measuring equipment used for the CDM is also essential for the operation of the plant itself and therefore recorded and counterchecked almost continuously.		OK