VALIDATION REPORT

Tepia Corporation Japan, CO., Ltd.

Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I), in China

~~18 January~~22 May 2008

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Japan Consulting Institute

REPORT NO. JCI-CDM-VAL-07/018
REVISION NO. ~~01~~02

CDM Validation Report for Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I)

Date of first issue: 20 September 2007	Project No.: JCI-CDM-VAL-07/018
Approved by: Akio YOSHIDA	Organisational unit: JCI CDM Center
Client: Tepia Corporation Japan, CO., Ltd.	Client ref.:

Project Name: Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I)

Country: China
Methodology: ACM0004
Version:02
GHG reducing Measure/Technology: Steam Turbine Generator
ER estimate: 90,559 ton CO2e/year

Size
☒ Large Scale
☐ Small Scale

Validation Phases:
☐ Desk Review
☐ Follow up interviews
☒Resolution of outstanding issues

Validation Status
☐ Corrective Actions Requested
☐ Clarifications Requested
☒ Full Approval and submission for registration
☐ Rejected

In summary, it is JCI's opinion that Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I) in China as described in the PDD-Ver.2.3 of "5 January 2008", meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology ACM0004-Ver.02. JCI thus requests the registration of the project as a CDM project activity.

Report No.:	Date of this revision:	Rev. No.
JCI-CDM-VAL-07/018	~~18 January~~22 May 2008	~~01~~02

Report title:
Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I), in China

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Abbreviations

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CEFelectricity	CO2 Emission intensity of the electricity displaced
CERs	Certified Emission Reductions
CLAR	Clarification
CO2	Carbon dioxide
CO2e	CO2 equivalent
DNA	Designated National Authority
EB	Executive Board
EIA	Environmental Impact Assessment
ENCPG	East North China Power Grid
FIRR	Financial Internal Rate of Return
GHG	Greenhouse Gas
GWP	Global Warming Potential
JCI	Japan Consulting Institute
MP	Monitoring Plan
N2O	Dinitrogen Monoxide (Nitrous oxide)
NCPG	North China Power Grid
ODA	Official Development Assistance
OM	Operating Margin
PDD	Project Design Document
ROI	Return on Investment
SD	Sustainable Development
UNFCCC	United Nations Framework Convention on Climate Change

TABLE OF CONTENTS

エラー! ハイパーリンクの参照に誤りがあります。
~~**Japan Consulting Institute** 1~~

1 EXECUTIVE SUMMARY – VALIDATION OPINION 5

2 INTRODUCTION 5
2.1 Objective 5
2.2 Scope 6

3 METHODOLOGY 7
3.1 Desk Review of the Project Design Documentation 7
3.2 Follow-up Interviews with Project Stakeholders 9
3.3 Resolution of Outstanding Issues 9
3.4 Internal Quality Control 11
3.5 Validation Team 11

4 VALIDATION FINDINGS 12
4.1 Participation Requirements 12
4.2 Project Design 12
4.3 Baseline Determination 12
4.4 Additionality 13
4.5 Monitoring 15
4.6 Estimate of GHG Emissions 15
4.7 Environmental Impacts 16
4.8 Comments by Local Stakeholders 16
4.9 Comments by Parties, Stakeholders and NGOs 17
5.0 Request for Review by CDM-EB 17

~~1 EXECUTIVE SUMMARY – VALIDATION OPINION ..... 4~~

~~2 INTRODUCTION ..... 4~~
~~2.1 Objective 4~~
~~2.2 Scope 5~~

~~3 METHODOLOGY ..... 6~~
~~3.1 Desk Review of the Project Design Documentation 6~~
~~3.2 Follow-up Interviews with Project Stakeholders 87~~
~~3.3 Resolution of Outstanding Issues 8~~
~~3.4 Internal Quality Control 10~~
~~3.5 Validation Team 10~~

~~4 VALIDATION FINDINGS ..... 11~~
~~4.1 Participation Requirements 11~~

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~~4.2 Project Design 11~~
~~4.3 Baseline Determination 11~~
~~4.4 Additionality 12~~
~~4.5 Monitoring 14~~
~~4.6 Estimate of GHG Emissions 14~~
~~4.7 Environmental Impacts 15~~
~~4.8 Comments by Local Stakeholders 15~~
~~4.9 Comments by Parties, Stakeholders and NGOs 16~~

Appendix A: Validation Protocol
Appendix B: Certificate of Appointment of Validation Team

1 EXECUTIVE SUMMARY – VALIDATION OPINION

Validation Opinions:

"Japan Consulting Institute (JCI) has performed a validation of Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I) in China. The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided JCI with sufficient evidence to determine the fulfilment of stated criteria.

The host country is China and the Annex I country is Japan. Both countries fulfil the participation criteria and have approved the project and authorized the project participants. The DNA from China confirmed that the project assists in achieving sustainable development.

The project correctly applies ACM0004 "Consolidated baseline/monitoring methodology for waste gas and/or heat and/or pressure for power generation", version 02.

By utilizing waste heat of Coke Production waste gas instead of passively venting it, the project generates electricity and results in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project 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.

The total emission reductions from the project are estimated to be on the average **90,559** tCO_2e per year over the selected 10 year crediting period. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

Adequate training and monitoring procedures have been implemented.

In summary, it is JCI's opinion that the Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I), as described in the PDD-Ver.2.3 of "5 January 2008", meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria and correctly applies the baseline and monitoring methodology ACM0004-Ver.02. JCI thus requests the registration of the project as a CDM project activity.

2 INTRODUCTION

The Client has commissioned JCI to perform a validation of the Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I) in China (hereafter called "the project"). This report summarises the findings of the validation of the project, performed on the basis of UNFCCC criteria for the CDM, 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 the subsequent decisions by the CDM Executive Board.

2.1 Objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant

UNFCCC and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the 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).

2.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology. The validation team has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach, 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 project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

3 METHODOLOGY

The validation consists of the following three phases:

I a desk review of the project design documents

II follow-up interviews with project stakeholders

III the resolution of outstanding issues and the issuance of the final validation report and opinion.

The following sections outline each step in more detail.

3.1 Desk Review of the Project Design Documentation

The following table outlines the documentation reviewed during the validation:

/1/ PDD-Version 1.0, 29 June 2007, PDD-Version 1.1, 16 July 2007

/2/ PDD-Version 2.0, 11 October 2007, PDD-Version 2.1, 3 December 2007

/3/ PDD-Version 2.3, 5 January 2008

/4/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF): *Validation and Verification Manual*. http://www.vvmanual.info

/5/ ACM0004 Version 02 "Consolidated baseline/monitoring methodology for waste gas and/or heat and/or pressure for power generation"

/6/ ACM0002 Version 06 "Consolidated baseline methodology for grid-connected electricity generation from renewable source"

/7/ "Tool for the demonstration and assessment of additionality" Version 03

/8/ Letter of Approval by China DNA issued on 27 November 2007

/9/ Letter of Approval by Japan DNA issued on 16 November 2007

/10/ FSR (Feasibility Study Report) prepared on October 2006, and approved by the Shandong Provincial Economic and Trade Committee on Mar. 2007

/11/ Project economic assessment and key parameters (version 3) (2006 joint issued by NDRC and Ministry of Construction)

/12/ China electric power yearbook 2002-2006

/13/ China energy statistical yearbook 2004, 2005, 2006

/14/ Monitoring plan issued on 27 June 2007

/15/ Training plan issued on 19 July 2007

/16/ EIA report approved by Shandong Environmental Protection Bureau in December, 2006

/17/ Summary of the comments from stakeholders

/18/ 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Volume 2

/19/ Small thermal power plant construction management(Ministry of electricity, 1997)

/20/ Description of differences between new vertical type coke oven and traditional horizontal type coke oven

/21/ Municipal government of Weishan prefecture "Minutes of proceedings on the policy

for Weishan Lake Mines Co. Ltd about preferential treatment"

/22/ Agreement on the Rizhao Coke Project between municipal government of Rizhao City and Rizhao Zhenxing coke Chemistry Co. Ltd about subsidy

/23/ Explanation on the organizations who made FSR and EIA respectively

/24/ Explanation on the certification of heat supply

/25/ Explanation on the certification of Investment unit cost of Weishan's LRJ-2000 waste heat recovery project

/26/ Explanation on the certification of Investment unit cost of Rizhao's QRD-2000 waste heat recovery project

/27/ Letter of Approval by Shandong Economic and Trade Committee on the proposed project FSR on 27 March 2007

/28/ Installation and Calibration of Measuring Meters, and O&M

/29/ The decision and minutes of Board Meeting held on 19 September 2006

/30/ The approval of the Project activity implementation by Shandong Provincial Economic and Trade Committee on 27 March 2007

/31/ Application of loan (28 March 2007)

/32/ The approval of loan on 10 April 2007

/33/ The letter of approval to feasibility study report for the "Project of 1,000,000 tones/year Clean Coke Production Plant" of Zaozhuang Lianfeng Coke Electricity Co., Ltd.

/34/ Receipt Leaf

Main changes between the version published for the 30 days stakeholder commenting period and the final version submitted for registration:

	PDD-Ver.1.0 (published)	PDD-Ver.2.3 (final)
Expected annual emission reductions	88,135 tCO2e	90,559 tCO2e
Project boundary	Not included the grid and sources of waste gas	Included the grid (NCPG & ENCPG) and sources of waste gas
FIRR	Without CER: 7.93% With CER: 17.32% Not attached FIRR calculation sheet	Without CER: 5.81% With CER: 16.68% Attached FIRR calculation sheet
Data source for OM, BM calculation	China electricity power yearbook 2001-2005 China energy statistical yearbook 2003-2005 DNA data source 15/12/2006	China electricity power yearbook 2002-2006 China energy statistical yearbook 2004-2006 DNA data source 09/08/2007
Baseline emission factor	0.98255 tCO2/MWh	1.03025 tCO2/MWh
Starting date of the project	01/11/2006	27/03/2007
Starting date of crediting period	01/01/2008	01/08/2008

3.2 Follow-up Interviews with Project Stakeholders

	Date	Name	Organization	Topic
/51/	2007/8/6	Sun Jing Jun Vice Division Chief	Technology Reform Department of Shandong Provincial economic Commission	● Economic activity and overview of the current situation of energy consumption ● Major policy on the energy conservation ● Approval history of the project
/52/	2007/8/6	Huo Taiying Vice Director	Shandong Environmental Protection Bureau	● Criteria and regulation of EIA ● Any concerns or anticipation for the project
/53/	2007/8/7	Zhao Kun Vice Director	Zaozhuang Power Supply Company, State Grid Corporation	● Policy/regulation for purchase power from renewable energy ● Overview of the grid structure and operation
/54/	2007/8/7, 8	Wang Jin Liang, Vice Director Huang Xue Zheng, Manager Pan Ying Jie, Manager Kong Fan Jin, Manager	Zaozhuang Lianfeng Coke Electricity Co. Ltd.	● Coke production process scheme, process flow diagram ● Benchmark IRR ● Power purchase agreement ● Management structure ● Other PDD contents ● FS report

3.3 Resolution of Outstanding Issues

The objective of this phase of the validation is to resolve any outstanding issues which need be clarified prior to JCI's positive conclusion on the project design. In order to ensure transparency a validation protocol is customised for the project. The protocol shows in transparent manner criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

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

The validation protocol consists of three tables. The different columns in these tables are described in the figure below. The completed validation protocol for the Shandong Zaozhuang 15MW waste heat recovery for electricity generation project (I) is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of CDM criteria or where a risk to the fulfilment of project objectives is identified. Corrective action requests (CAR) are issued, where:

i) mistakes have been made with a direct influence on project results;
ii) CDM and/or methodology specific requirements have not been met; or
iii) there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be certified.

A request for clarification (CLAR) may be used where additional information is needed to fully clarify an issue.

Validation Protocol Table 1: Mandatory Requirements for CDM Project Activities		
Requirement	***Reference***	***Conclusion***
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**), a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements or a request for **Clarification (CLAR)** where further clarifications are needed.*

Validation Protocol Table 2: Requirement checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 2 are linked to checklist questions the project should meet. The checklist is organised in different sections, following the logic of the large-scale PDD template, version 03 - in effect as of: 28 July 2006. Each section is then further sub-divided.	*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.*	*This is either acceptable based on evidence provided (**OK**), or a c**orrective action request (CAR)** due to non-compliance with the checklist question (See below). A request for clarification (**CLAR**) 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 table1& 2***	***Summary of project owner response***	***Validation conclusion***
If the conclusions from the draft Validation are either a CAR or a CLAR, these should be listed in this section.	*Reference to the checklist question number in Table1& 2 where the CAR or CLAR is explained.*	*The responses given by the 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

3.4 Internal Quality Control

The draft validation report including the initial validation findings underwent a technical review before being submitted to the project participants. The final validation report underwent another technical review before requesting registration of the project activity. The technical review was performed by a technical reviewer qualified in accordance with JCI's qualification scheme for CDM validation and verification.

3.5 Validation Team

Role/Qualification	Last Name	First Name	Country
Validation Team Leader Auditor	SATO	Hideyuki	Japan
Validation Team Member Auditor	KITAGAWA	Toru	Japan

The certificate of appointment of validation team member is attached in Appendix B to this report.

4 VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.
The final validation findings relate to the project design as documented and described in the revised and resubmitted project design document.

4.1 Participation Requirements

As the written approval of voluntary participation by the DNA of each party was not provided, **CAR-1** was addressed.

The DNA of China has issued a Letter of Approval on 27 November 2007 authorizing Zaozhuang Lianfeng Coke Electricity Co., Ltd. in China as a project participant confirming that the project assists the host country in achieving sustainable development and that it is voluntary participation. The DNA of Japan has issued a Letter of Approval on 16 November 2007 authorizing Tepia Corporation Japan in Japan as a project participant.
Therefore, **CAR-1** was resolved.

4.2 Project Design

The further information regarding the technology used and training was requested, and CLAR-5 and CLAR-6 were addressed.

The detail explanation regarding the technology used and training was described appropriately in the PDD-Ver.2.3 with evidences and CLAR-5 and CLAR-6 were resolved.

Moreover, the project duration and crediting time were confirmed as appropriateness.

The CLARs addressed and resolved in this Section have been mentioned in detail in Appendix A.

4.3 Baseline Determination

It was confirmed that the proposed project activity fully satisfies the applicability of ACM0004 Version 02

According to ACM0004 Version 02, the possible alternative scenarios in the absence of the CDM project activity would be as follows:

(a) The proposed project activity not undertaken as a CDM project activity;
(b) Import of electricity from the grid;
(c) Existing or new captive power generation on-site, using other energy sources than waste heat and/or gas, such as coal, diesel, natural gas, hydro, wind, etc;
(d) A mix of options (b) and (c), in which case the mix of grid and captive power should be specified;
(e) Other uses of the waste heat and waste gas.

Based on the appropriate demonstration with evidences and discussion of all alternative scenarios, scenario (b) was chosen as the baseline./19/

The system boundaries are presented in the below table.

	GHGs involved	Description
Baseline emissions	CO2	Grid (NCPG) electricity Generation: Main emission source
Project emissions	No project emissions	No auxiliary fossil fuels are needed.
Leakage	No leakage	According to ACM0004 Version 02

The CLARs addressed and resolved in this Section have been mentioned in detail in Appendix A.

4.4 Additionality

The additionality of the project has been established using the procedure of the step by step in the "Tool for the demonstration and assessment of additionality" version 03.

Step 1: Possible alternative scenarios were defined as described in Section 4.3 of this report. Scenario (a), (b), (c), (d) and (e) were appropriately identified as realistic and credible scenarios to the project activity.

Step 2: Investment Analysis:

- For the project, benchmark analysis was selected appropriately for the following reasons:

  1) certain economic benefit is generated from reduction of electricity purchased therefore simple cost analysis is not applicable;

  2) purchase of electricity is not an investment project, investment comparison analysis is not applicable.

The benchmark 12% before tax is justified according to the "Project economic assessment and key parameters(version 3) (2006, joint issued by NDRC and Ministry of Construction) for sector./11 /

- Main parameters needed for calculation of financial indicator, such as total investment, O&M cost, electricity price, waste gas price and so on, were justified according to the feasibility study report and documented evidences./10 /
- The calculation result of FIRR before tax is as follows;

Without CERs	5.81 %
With CERs	16.68 %

- Sensitivity Analysis

  Three critical parameters, total investment cost, O&M cost and delivered electricity were appropriately selected. The result of sensitivity analysis is as follows;

Range / Parameter	-10%	-5%	0%	5%	10%
Total	7.41	6.58	5.81	5.10	4.43

investment					
O&M cost	9.75	7.85	5.81	3.58	1.10
Delivered Electricity	1.01	3.51	5.81	7.97	10.03

The change of delivered electricity is the most important factor affecting the financial attractiveness of the project. Due to the waste heat quantity and quality, it is estimated that only 82% of the power plant capacity can run. It was demonstrated and reviewed that +10% increase of delivered electricity is impossible. Even though the delivered electricity increases +10%, FIRR before tax is 10.03% less than benchmark 12% as shown in the above table. Therefore, the project is unlikely to be financially attractive.

Step 3: As Step 2 was applied in the project activity, Step 3 was bypassed.

Step 4: Common Practice Analysis:

Three similar existing projects (Rizhao, Weishan and Jinshunda projects) in Shandong Province are listed up in sub-step 4a of the PDD-Ver.1.0, and it was demonstrated appropriately as below with evidences that the project is not common practice in the PDD-Ver.2.3.

It was reviewed by the evidences provided by the project owner that the two similar projects (Rizhao and Weishan projects) has got political support on tax deduction and privilege from local government/21/,/22/, and unit investment cost is each 4,120Yuan/KW/26/ and 4,215Yuan/KW/25/ but that of the project is 4,667Yuan/KW which is increasing 5,660Yuan/KW at present due to inflation.

As another one project (Jinshunda project) is not likely similar because of the different waste gas quality from coke production (Jinshunda includes combustible gases, in case of the project not included combustible gases), and was deleted from the Table 3 in Sub-step 4a of Section B.5. of the PDD-Ver.2.3. JCI judged this is appropriate.

As for the starting date of the project:

As the project started before validation start date, the clarification of the starting date of the project was requested with evidences. CLAR-12 was addressed, but the approval letter for permission of construction by Shandong Economic and Trade Committee was reviewed and confirmed the starting date of the project was on 27 March 2007, and CLAR-12 was resolved./27/

The CLARs addressed and resolved in this Section have been mentioned in detail in Appendix A.

It is sufficiently demonstrated in the PDD-Ver.2.3 that the project is not a likely baseline scenario and that emission reductions by the project can hence be deemed additional.
JCI has assessed the reliability and credibility of all discussion for the demonstration of the additionality, verifying all data, assumptions, justifications and documentation provided by the project participants and confirmed that those discussions are appropriate and credible.

JCI, therefore, judges that the project is additional.

4.5 Monitoring

4.5.1 Parameters determined ex-ante

As the calculation procedure of Operating Margin (OM) and Build Margin (BM) based on the latest data which are parameters determined the ex-ante were not mentioned and attached, **CLAR-13** was addressed.

The calculation procedure of them was attached in Annex 3 of the PDD-Ver.2.3. After review of them, it was confirmed that these were appropriately corrected and demonstrated. Therefore, **CLAR-13** was resolved.

The CLARs addressed and resolved in this Section have been mentioned in detail in Appendix A.

4.5.2 Parameters monitored ex-post

As the parameters sufficient for calculating emission reductions was not clearly mentioned in the PDD-Ver. 1.0, especially amount of electricity consumed by the project activity (EG_{AUX}), **CALR-2** was addressed. EG_{AUX} was clearly defined in the PDD-Ver.2.3. Therefore, **CLAR-2** was resolved.

The CLARs addressed and resolved in this Section have been mentioned in detail in Appendix A.

4.5.3 Management system and quality assurance

The authority and responsibility of project management, quality control and quality assurance were clearly mentioned in the PDD-Ver. 1.0.
However, CLAR-6, CLAR-15 and CLAR-16 were addressed for confirmation of training procedure, measurement method and so on. As the training procedure and measurement method was clearly mentioned in the PDD-Ver.2.3, these CLARs were resolved.

The CLARs addressed and resolved in this Section have been mentioned in detail in Appendix A.

4.6 Estimate of GHG Emissions

CLAR-13 and CLAR-14 were addressed as follows;

CLAR-13;

(1) Data handling of the import electricity

(2) Methodological choices on baseline emission factor

(3) The definition of GENjy and GENmy

(4) The eligible data vintage for baseline emission factor calculation

(5) The low-cost/must-run data for recent five (5) years

As for (1): The import electricity from ENCPG is less than 5% of the total NCPG in recent years and the average emission grid factor of ENCPG is adopted. CLAR-13 (1) was resolved.

As for (2) and (3): These are appropriately described in the PDD-Ver.2.3. CLAR-13 (2), (3) was resolved.

As for (4): Emission factor calculation (OM, BM) process using the latest (2006) version of official data is attached appropriately in Annex 3 of the PDD-Ver.2.3. CLAR-13-(4) was resolved.

As for (5): Low-cost/must-run data for recent five (5) years and average are described appropriately in Section B.6.1. of the PDD-Ver.2.3 and attached in detail in Annex 3. CLAR-13 (5) was resolved.

CLAR-14;

Justification of the efficiency level of the best technology commercially available in the province/regional or national grid of China

Project owner response;
For the super critical, it is very few and the detail data is not available. According to DNA publication, in 2005, the newly total install capacity of 600MW only accounts for 17% of total newly built coal fired generation. Therefore, the efficiency of 600MW can represent the best efficiency.

Firstly, the Ultra-supercritical Coal-fired Power Project is not a full commercially activity, it is also seek for CDM application through methodology development.
Secondly, although the Chinese government carried out the efforts toward the improvement of energy efficiency, but in 2006, due to the operation time of coal-fired power plant is decreased, the energy efficiency seem to worse than that of the 2005, this is the fact and issued by China DNA.

JCI judged that these response was appropriate, and CLAR-14 was resolved.

These have been mentioned in detail in Appendix A.

4.7 Environmental Impacts

EIA report was provided in the PDD-Ver.1.

It was confirmed by the EIA report that the EIA was conducted regarding waste gas, waste water, solid wastes and noise, and the report of the result was approved by Shandong Environmental Protection Bureau in December 2006./16/

4.8 Comments by Local Stakeholders

Questionnaire content are shown as following:

1. Will the project help to improve the local quality of the environment (air, water, noise)?
2. Will the project facilitate to the local economic development?
3. Will the project increase employment opportunities?
4. The construction of the project is feasible?
5. Other suggestions or comments?

Answers summarized are shown as following:

- 92% of the participants think it would the project help to improve the local quality of the environment (air, water, noise).
- 96% of the participants think it would the project facilitate to the local economic development.
- 98% of the participants think it would the project increase employment opportunities.
- 94% of the participants think that the construction of the project is feasible.
- No other suggestions or comments.

In conclusion, the public will support the proposed project very much.

As the project is located within the present coke production factory, it is helpful to improve air quality by generating electricity from waste heat of high temperature smoke gas produced in coke production line, which is a basically beneficial project for energy saving and environmental protection. If the project owner operates the project according to the related laws and regulation, the proposed project will get the largest support from the local public of the proposed project.

4.9 Comments by Parties, Stakeholders and NGOs

The PDD-Ver.1.0 of "29 June 2007" was made publicly available on JCI's website and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during a 30 days period from "30 June 2007" to "29 July 2007".

No comment was received.

5.0 Request for Review by CDM-EB

(1) Request 1 for review

The DOE should validate the evidence of the CDM consideration and confirm that the expected additional income from the CDM was essential for the decision to go ahead with the implementation of the project activity.

JCI's Response

JCI confirmed and validated the following four (4) evidences of CDM consideration;

1) The decision and minutes of Board Meeting held on 19 September 2006 /29/
The application of CDM project for the project activity was seriously considered and decided at this meeting.

2) The approval of the Project activity implementation by Shandong Provincial Economic and Trade Committee on 27 March 2007/30 /
Based on the condition of application of CDM, the Project participant (PP) applied the project activity implementation to the above local government and was approved on 27 March 2007.

3) Application of loan (28 March 2007) /31/
The PP applied the loan to Zaozhuang City Central Rural Credit Union for implementation of the project activity as CDM project.

4) The approval of loan on 10 April 2007/32/
Zaozhuang City Central Rural Credit Union approved the loan, provided that the project activity would be ratified by CHINA DNA and registered as CDM project by UNFCCC CDM-EB.

As the result of the validation of the above evidences and the financial analysis described in the Section B.5 of the PDD, in which IRR 5.81% without CDM is shown lower than the benchmark (12%) and IRR 16.68% with CDM is shown higher than the benchmark, JCI confirmed that the expected additional income from the CDM was essential for the decision to go ahead with the implementation of the project activity.

書式変更: フォント : 14 pt, 太字

書式変更: 段落番号 + レベル : 1 + 番号のスタイル : 1, 2, 3, … + 開始 : 1 + 配置 : 左 + 整列 : 0 pt + インデント : 21 pt

書式変更: 標準、インデント : 左 : 21 pt, 1 行の文字数を指定時に右のインデント幅を自動調整しない, 日本語と英字の間隔を自動調整しない, 日本語と数字の間隔を自動調整しない

書式変更: 標準、1 行の文字数を指定時に右のインデント幅を自動調整しない, 日本語と英字の間隔を自動調整しない, 日本語と数字の間隔を自動調整しない

書式変更: フォント : 太字, 斜体 (なし)

(2) Request 2 for review

Further clarification is required on how the DOE has validated the baseline determination, in particular that the continuation of grid electricity imports is a more economically attractive alternative than the project activity undertaken without CDM.

書式変更: 標準、1 行の文字数を指定時に右のインデント幅を自動調整しない，日本語と英字の間隔を自動調整しない，日本語と数字の間隔を自動調整しない

JCI's Response

JCI has validated the baseline determination as follows;

書式変更: 標準、1 行の文字数を指定時に右のインデント幅を自動調整しない，日本語と英字の間隔を自動調整しない，日本語と数字の間隔を自動調整しない

According to ACM 0004 Version 2, the possible alternative baseline scenario in absence of the CDM project activity would be as follows;

(a) The proposed project activity not undertaken as a CDM project activity;

(b) Import the same amount of electricity from NCPG, and the waste heat emitted into atmosphere directly;

(c) New captive(on grid or off grid) power generation on-site, using other energy sources than waste gas, such as coal, diesel, natural gas, hydro, wind, etc;

(d) A mix of options (b) and (c), in which case the mix of grid and captive power should be specified;

(e) Other uses of the waste heat.

As described in the PDD, baseline determination has been carried out as follows;

At first,

Scenario (c), (d) and (e) were excluded from baseline scenario, the reason and evidences are summarized in the below Table 1 based on described in the PDD.

Table 1 Result of Consideration of Alternative Scenario (c), (d) and (e)

Scenario	Result of consideration	Evidence
(c) New captive power generation	According to the regulations[1)], construction of fossil (coal, oil, natural gas) power plants (including captive plant)with a unit capacity of less than 100 MW is restricted construction and a unit capacity of less than 25MW is forbidden. For renewable energy generation, due to the technology development status and the high cost for power generation, solar PV, geothermal wind farm and biomass are alternatives far from being attractive investment in the grid in China. For example, the biomass project (*Shandong Shanxian 1*25MW Biomass Power Plant Project*) and the wind farm project *(Laizhou Diaolongzui Wind Farm*) have already been registered as a CDM project due to the high cost[2)]. Furthermore there is no hydro power resource in this area to provide a comparable output or the same services as the proposed project. As for the water resources investigation[3)], only a few water resources can be developed in Shandong Province, the commercially exploitable installed capacity is 50.8MW, of which, 34.9MW has been developed. In a word, due to the limitation of renewable resource or high cost at the project site, the generation from the small hydro, biomass, wind and other renewable energy generation methods are excluded.	1): Small thermal power plant construction management (Ministry of electricity, 1997) 2): http://cdm.unfccc.int/Projects/registered.html 3): http://www.checc.cn/shuigis/province/provincedetail.jsp?provinceID=12

(d) Mix of (b) and (c)	Not baseline scenario. Because, scenario (c) is not the alternative scenario.	
(e) Other uses of the waste heat	A small amount of waste heat (only about 80 million cubic meters of the total 1.43 billion cubic meters of waste gas) has recovered for heat supply; all the rest waste heat are emitted into atmosphere directly through chimney without any other use. According to the local government letter approval, due to the limited heat demand nearby, the expected maximal heat demand is only 150TJ, that is to say, even after the proposed project activity put into operation, the rest waste gas will still emit into the air directly. Therefore, the waste heat of smoke gas for electricity will continue to be emitted into the air directly in absence of the proposed project, no other uses exists.	

Secondary,
Alternative scenario (a) and (b) are consistent with China current laws and regulations.
According to ACM 0004, the scenario that does not face any prohibitive barrier and is the most economically attractive should be considered as baseline scenario.
The result of consideration is shown in the Table 2 as follows;

Table 2 Result of Consideration of Alternative Scenario (a) and (b)

Scenario	Cost of Electricity	Result of Consideration
(a) The project activity without CDM	Around 300 Yuan/MWh	Electricity generation cost is lower, but higher investment cost. In Step 2 of B.5 of the PDD that the financial internal return rate (FIRR) of alternative scenario (a) is verified only 5.81%, which is worse than that of the benchmark (12%).
(b) Import of Electricity	Actual Electoricity cost purchased during 2005-2007 688 Yuan/MWh	No investment cost required. Electricity purchase cost is high, but this is the common practice. The Letter of Approval to the "Project of 1,000,000 ~~millions~~ tones/year Clean Coke Production Plant" was issued on Dec.9, 2003 by the local government/33/ and the project owner constructed and started the operation of the first phase of the Plant (300,000 tones/year Coke Production) on Jan.1, 2005. Nevertheless, no any implementation of waste heat recovery for electricity generation project had been realized since then and this made the project owner kept buying the electricity from the Grid for the coke production of the first phase Plant/34/.

As the result of consideration of the Table 2, the buying the electricity from the Grid is a more economically attractive alternative than newly constructing and operating a waste heat recovery for electricity generation plant.

Therefore, JCI has validated that the alternative scenario (b) is the most likely baseline scenario, which is the currently continues and no barriers for implementation and is less investment cost intensive.

書式変更： フォント：11 pt，太字，ノルウェー語、ブークモール（ノルウェー）

書式変更： 標準、1 行の文字数を指定時に右のインデント幅を自動調整しない，日本語と英字の間隔を自動調整しない，日本語と数字の間隔を自動調整しない

APPENDIX A

CDM VALIDATION PROTOCOL

Shandong Zaozhung 15MW waste heat recovery for electricity generation project (I)

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

Requirement	Reference	Conclusion	Cross Reference/Comments
About Parties			
(M. 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	**OK**	
(M. 2) The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC.	Kyoto Protocol Art.12.2.	**OK**	
(M. 3) The project shall have the written approval of voluntary participation from the designated national authority of each Party involved.	Kyoto Protocol Art. 12.5a, CDM Modalities and Procedures §40a	~~**CAR-1**~~ **OK**	The written approval of voluntary participation by the DNA of each party shall be provided.
(M. 4) 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, CDM Modalities and Procedures §40a	~~**CAR-1**~~ **OK**	Same comments as Item M.3.
(M. 5) In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of these Parties.	Decision 17/CP.7, CDM Modalities and Procedures Appendix B, § 2	**OK**	The project will not receive any public funding from Annex 1 party.
(M. 6) Parties participating in the CDM shall designate a national authority for the CDM.	CDM Modalities and Procedures §29	**OK**	National Development and Reform Commission (NDRC) is the designated national authority for the CDM of China. The liaison Committee for the Utilization of the Kyoto Mechanism is the designated authority for CDM of Japan.

Requirement	Reference	Conclusion	Cross Reference/Comments
(M. 7) The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol.	CDM Modalities and Procedures §30/31a	**OK**	
(M. 8) The participating Annex I Party's assigned amount shall have been calculated and recorded.	CDM Modalities and Procedures §31b	**OK**	
(M. 9) The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7.	CDM Modalities and Procedures §31b	**OK**	
About additionality			
(M.10) Reduction in GHG emissions shall be additional to any that would occur in the 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 activity.	Kyoto Protocol Art. 12.5c, CDM Modalities and Procedures §43	**OK**	"Tool for the demonstration and assessment of additionality" Version 03 is applied according to ACM0004 Version 02.
About forecast emission reductions and environmental impacts			
(M.11)The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.	Kyoto Protocol Art. 12.5b	**OK**	
For large-scale projects only			
(M.12) Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if	CDM Modalities and Procedures §37c	**OK**	EIA report was approved by Shandong Environmental Protection Bureau in December 2006.

Requirement	Reference	Conclusion	Cross Reference/Comments
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.			
About stakeholder involvement			
(M.13) Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received.	CDM Modalities and Procedures §37b	~~**CLAR-1**~~ **OK**	The questionnaires and answers summary shall be reviewed at the on-site assessment. It is requested to clarify on due account.
(M.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.	CDM Modalities and Procedures §40	**OK**	The PDD-Ver.1 has been made publicly available on JCI CDM Centre web site which is linked to the UNFCCC CDM web site from June 30, 2007 through July 29, 2007 for the invitation of the comments by Parties, stakeholders and UNFCCC accredited NGOs. No comment was received.
Other			
(M.15) The baseline and monitoring methodology shall be previously approved by the CDM Executive Board.	CDM Modalities and Procedures §37e	**OK**	"Approved consolidated baseline methodology for waste gas and/or heat and/or pressure for power generation ACM0004" ver. 02 and "consolidated monitoring methodology for waste gas and/or heat and/or pressure for power generation ACM0004" ver. 02 are applied to the project with the justification of their applicability.

Requirement	Reference	Conclusion	Cross Reference/Comments
(M.16) 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.	CDM Modalities and Procedures §45c,d	**OK**	
(M.17) The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure.	CDM Modalities and Procedures §47	**OK**	
(M.18) The project design document shall be in conformance with the UNFCCC CDM-PDD format.	CDM Modalities and Procedures Appendix B, EB Decision	**OK**	PROJECT DESIGN DOCUMENT FORM (CDM PDD) – Version 03.1.is used appropriately for the PDD of the project.
(M.19) Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP.	CDM Modalities and Procedures §37f	~~**CLAR 2**~~ **OK**	Further information shall be given for the installation location of the monitoring instruments together with the provisions prepared for monitoring, verification and reporting. They shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP

Table 2 Requirements Checklist

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity *The project design is assessed.*					
Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project.*					
(A. 1) Are the project's spatial boundaries (geographical) clearly defined?	PDD B.3.	DR	It is requested to clarify if project spatial boundary is consistent to one provided in the figure since explicit explanation on the issue is not provided.	~~**CLAR-3**~~	**OK**
(A. 2) Are the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	PDD B.3.	DR	It is requested to clarify the project-, and connected-, electricity system that shall be included in the system boundary of the project.	~~**CLAR-4**~~	**OK**
Participation Requirements *Referring to Part A, Annex 1 and 2 of the PDD as well as the CDM glossary with respect to the terms Party, Letter of Approval, Authorization and Project Participant.*					
(A. 3) Which Parties and project participants are participating in the project?	PDD A.3.	DR	Stated in the PDD-A.3.	**OK**	**OK**
(A. 4) Have all involved Parties provided a valid and complete letter of approval and have all private/public project participants been authorized by an involved Party?	PDD A.3. /8/,/9/	DR	The written approval of voluntary participation by the DNA of each party shall be provided.	~~**CAR-1**~~	**OK**
(A. 5) Do all participating Parties fulfil the participation requirements as follows:	PDD A.3.	DR	Yes	**OK**	**OK**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
- Ratification of the Kyoto Protocol - Voluntary participation - Designated a National Authority					
(A. 6) Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance.	PDD A.4.5	DR	No public funding is involved in the project activity.	**OK**	**OK**
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. 7) Does the project design engineering reflect current good practices?	PDD A.4.3	DR	(1) Technical description of the source process, “clean-coke (LRJ-2000)”, of the waste heat is requested to improve the transparency of the project. (2)The description about the technology employed for the project is not sufficient. Further information for the project design and installations shall be given. (3) Overview of the energy utilization in the project, waste heat, steam, and electricity under both current situation and the project situation shall be quantitatively provided possibly in a table in this section. It shall be noted that the power generation from only part of waste heat stream that is not utilized under the current situation may be eligible for CDM project with ACM0004-Ver.02.	**~~CLAR 5~~**	**OK**
(A. 8) Does the project use state of the art	PDD	DR	Same comments as Item A.7	**~~CLAR 5~~**	**OK**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	A.4.3 B.5.				
(A. 9) Does the project make provisions for meeting training and maintenance needs?	PDD A.4.3 B.3. B.5. B.7.2 /15/	DR	It is requested to explain on how training of operation including maintenance of the equipment would be provided.	~~**CLAR-6**~~	**OK**
Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*					
(A. 10) Has the host country confirmed that the project assists it in achieving sustainable development?	PDD A.2. A.4.3 B.5. /8/,/9/	DR	The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof.	~~**CAR-2**~~	**OK**
(A. 11) Will the project create other environmental or social benefits than GHG emission reductions?	PDD A.2. D.2.	DR	The local environmental pollution (SO2, TSP) resulted from burning coal will be reduced.	**OK**	**OK**
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.*					
Baseline Methodology					

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
It is assessed whether the project applies an appropriate baseline methodology.					
(B. 1) Does the project apply an approved methodology and the correct version thereof?	PDD B.1. B.2.	DR	Yes. The project applies the approved methodologies "Consolidated baseline methodology for waste gas and/or heat and/or pressure for power generation" ACM0004 ver. 02 and with reference to "Consolidated baseline methodology for grid connected electricity generation from renewable sources" ACM0002 ver. 06 for the calculation of the emission factors with the proper justification of the choice.	**OK**	**OK**
(B. 2) Are the applicability criteria in the baseline methodology all fulfilled?	PDD B.1. B.2.	DR	Yes.	**OK**	**OK**
Baseline Scenario Determination *The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.*					
(B. 3) What is the baseline scenario?	PDD B.4. B.5.	DR	Baseline scenario identified is "Provide electricity by North China Power Grid" (continuation of current situation)	**OK**	**OK**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
(B. 4) What other alternative scenarios have been considered and why is the selected scenario the most likely one?	PDD B.4. B.5. /19/	DR	It is requested to specify the plausible alternative scenarios identified for the proposed project activity other than representation of the examples provided in the baseline methodology. It shall be noted that all the documents employed for justification of the baseline scenario identification shall be appropriately cited to enable PDD readers to access, and reviewed by DOE for validation of the project.	~~CLAR-7~~	OK
(B. 5) Has the baseline scenario been determined according to the methodology?	PDD B.4. B.5.	DR	It is requested that the baseline scenario identification process shall be further organized according to the baseline methodology.	~~CLAR-8~~	OK
(B. 6) Has the baseline scenario been determined using conservative assumptions where possible?	PDD B.4. B.5.	DR	Same comment as Item B.4.	~~CLAR-7~~	OK
(B. 7) Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	PDD B.4. B.5.	DR	Yes.	OK	OK
(B. 8) Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	PDD B.4. B.5. /10/	DR I	It is requested to provide relevant references or documentations to identification of baseline scenario, such as FSR (project feasibility study report).	~~CLAR-9~~	OK
(B. 9) Have the major risks to the baseline been identified?	PDD B.4. B.5.	DR	No. None of the major risks are likely associated.	OK	OK

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
Additionality Determination *The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.*					
(B.10) Is the project additionality assessed according to the methodology?	PDD B.5. /10/	DR I	"Tool for the demonstration and assessment of additionality –version 03 "was employed as per baseline methodology. However, it is requested to provide additional information specified below to identify its appropriateness, 1) explanation of critical parameters employed for FIRR calculation, such as total investment cost, O&M cost, electricity tariff and heat tariff, moreover, FIRR calculation sheet shall be attached in Annex 3 or any Appendix, 2) justification of benchmark IRR employed, 3) justification of the range of variation of critical assumptions in the sensitivity analysis,	~~**CAR-3**~~	**OK**
(B.11) Are all assumptions stated in a transparent and conservative manner?	PDD B.5.	DR	Same comments as Item B.10	~~**CAR-3**~~	**OK**
(B.12) Is sufficient evidence provided to support the relevance of the arguments made?	PDD B.5. /20/,/21/, /22/,/25/, /26/	DR I	Additional supporting information for developing common practice analysis (PDD B.5.Step 4) shall be given to help validator to compare the project activity against the other existing 3 projects.t is requested to provide references on the discussion on the common practice analysis.	~~**CLAR-11**~~	**OK**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
(B.13) If the starting date of the project activity is before the date of validation, has sufficient evidence been provided that the incentive from the CDM was seriously considered in the decision to proceed with the project activity?	PDD B.5. /27/	DR I	It is requested to specify in Section B.5 of the PDD what the starting date of the project according to some evidences is.	~~**CLAR-12**~~	**OK**
Calculation of GHG Emission Reductions – Project emissions *It is assessed whether the project emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
(B.14) Are the calculations documented according to the approved methodology and in a complete and transparent manner?	PDD B.6.1	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.15) Have conservative assumptions been used when calculating the project emissions?	PDD B.6.1	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.16) Are uncertainties in the project emission estimates properly addressed?	PDD B.6.1	DR	Not relevant to the proposed project.	**NA**	**NA**
Calculation of GHG Emission Reductions – Baseline emissions *It is assessed whether the baseline emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
(B.17) Are the calculations documented according to the approved methodology and in a complete and transparent manner?	PDD B.6.1 /12/,/13/	DR	It is requested to clarify the following points on this issue, 1) scheme of data handling of the import of electricity, 2) explicit explanation on the methodological choices on baseline emission factor, 3) definition GENj,y and GENm,y, 4) eligible data vintage for baseline emission factor calculation, as the latest (2006) version of official data, China Electric Power Year Book/12/, and China Energy Statistical Yearbook/13/ were already published, 5) handling of data provided in Annex 3 in conjunction with the explanation in the PDD text. It is requested to cite data provided for low-cost/must-run resources in Table A3-1 in Annex 3 to support the description of the PDD text.	~~CLAR-13~~	OK
(B.18) Have conservative assumptions been used when calculating the baseline emissions?	PDD B.6.1	DR	It is requested to justify "the efficiency level of the best technology commercially available in the provincial/regional or national grid of China" for the BM calculation.	~~CLAR-14~~	OK
(B.19) Are uncertainties in the baseline emission estimates properly addressed?	PDD B.6.1	DR	Same comments as Item B.17.	~~CLAR-14~~	OK
Calculation of GHG Emission Reductions – Leakage *It is assessed whether leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable –*					

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
is justified.					
(B.20) Are the leakage calculations documented according to the approved methodology and in a complete and transparent manner?	PDD B.6.1	DR	There is no leakage.	**OK**	**OK**
(B.21) Have conservative assumptions been used when calculating the leakage emissions?	PDD B.6.1	DR	There is no leakage.	**OK**	**OK**
(B.22) Are uncertainties in the leakage emission estimates properly addressed?	PDD B.6.1	DR	There is no leakage.	**OK**	**OK**
Emission Reductions *The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.*					
(B.23) Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change.	PDD A.2. A.4.4 B.3. B.7.1	DR	Yes. The emission reductions are real, measurable and give long-term benefits related to the mitigation of climate change according to ACM0004 Ver.02.	**OK**	**OK**
Monitoring Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
(B.24) Is the monitoring plan documented according to the approved methodology and in a complete and transparent manner?	PDD B.7.2 /14/	DR	Yes. The monitoring plan/14/ is documented.	**OK**	**OK**
(B.25) Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance	PDD B.7.1	DR	Yes.	**OK**	**OK**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
of CERs, for this project activity, whichever occurs later?					
Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
(B.26) 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?	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.27) Are the choices of project GHG indicators reasonable and conservative?	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.28) Is the measurement *method* clearly stated for each GHG value to be monitored and deemed appropriate?	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.29) Is the measurement *equipment* described and deemed appropriate?	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.30) Is the measurement *accuracy* addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.31) Is the measurement *interval* identified and deemed appropriate?	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.32) Is the *registration, monitoring, measurement* and *reporting* procedure defined?	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
(B.33) Are procedures identified for *maintenance* of monitoring equipment and installations? Are the calibration intervals being observed?	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**
(B.34) Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to project performance documentation)	PDD B.7.2	DR	Not relevant to the proposed project.	**NA**	**NA**
Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete baseline emission data over time.*					
(B.35) Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	PDD B.7.2 /14/	DR	Yes.	**OK**	**OK**
(B.36) Are the choices of baseline GHG indicators reasonable and conservative?	PDD B.7.2	DR	Yes	**OK**	**OK**
(B.37) Is the measurement *method* clearly stated for each baseline indicator to be monitored and also deemed appropriate?	PDD B.7.2	DR I	It is requested to provide explanation on the measurement method in an explicit and consistent manner.	~~**CLAR-15**~~	**OK**
(B.38) Is the measurement *equipment* described and deemed appropriate?	PDD B.7.2	DR I	It is requested to clarify the following points, 1) how auxiliary meter would support in case main meter is in failure, 2) consistency between explanation in the text of PDD and figure provided for monitoring system, 3) implement of project performance review.	~~**CLAR-16**~~	**OK**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
(B.39) Is the measurement *accuracy* addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	PDD B.7.2	DR I	Same comments as Item B.38.	~~CLAR-16~~	**OK**
(B.40) Is the measurement *interval* for baseline data identified and deemed appropriate?	PDD B.7.2	DR	Yes.	**OK**	**OK**
(B.41) Is the *registration, monitoring, measurement* and *reporting* procedure defined?	PDD B.7.2	DR	Yes.	**OK**	**OK**
(B.42) Are procedures identified for *maintenance* of monitoring equipment and installations? Are the calibration intervals being observed?	PDD B.7.2	DR	Yes.	**OK**	**OK**
(B.43) Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to project performance documentation)	PDD B.7.2	DR	Yes.	**OK**	**OK**
Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
(B.44) Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	PDD B.7.2	DR	There is no leakage.	**OK**	**OK**
(B.45) Are the choices of project leakage indicators reasonable and conservative?	PDD B.7.2	DR	There is no leakage.	**OK**	**OK**
(B.46) Is the measurement *method* clearly stated for each leakage value to be monitored and deemed appropriate?	PDD B.7.2	DR	There is no leakage.	**OK**	**OK**
Monitoring of Sustainable Development Indicators/ Environmental Impacts					

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
It is assessed whether choices of indicators are reasonable and complete to monitor sustainable performance over time.					
(B.47) Is the monitoring of sustainable development indicators/ environmental impacts warranted by legislation in the host country?	PDD A.2. D.1. D.2.	DR	Not relevant to the proposed project.	**OK**	**OK**
(B.48) Does the monitoring plan provide for the collection and archiving of relevant data concerning environmental, social and economic impacts?	PDD A.2. D.1. D.2.	DR	Not relevant to the proposed project.	**OK**	**OK**
(B.49) Are the sustainable development indicators in line with stated national priorities in the Host Country?	PDD A.2. D.1. D.2.	DR	Not relevant to the proposed project.	**OK**	**OK**
Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
(B.50) Is the authority and responsibility of overall project management clearly described?	PDD B.7.2	DR I	Yes.	**OK**	**OK**
(B.51) Are procedures identified for training of monitoring personnel?	PDD B.7.2 /15/	DR I	Same comments as Item A.9.	~~**CLAR 6**~~	**OK**
(B.52) Are procedures identified for emergency preparedness for cases where emergencies can	PDD	DR	Not relevant to the proposed project.	**OK**	**OK**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
cause unintended emissions?	B.7.2				
(B.53) Are procedures identified for review of reported results/data?	PDD B.7.2	DR I	Same comments as Item B.38.	~~CLAR-16~~	OK
(B.54) Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	PDD B.7.2	DR I	Same comments as Item B.37.	~~CLAR-15~~	OK
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					
(C. 1) Are the project's starting date and operational lifetime clearly defined and evidenced?	PDD A.4.4 /27/	DR	Same comments as Item B.13.	~~CLAR-12~~	OK
(C. 2) Is the start of the crediting period clearly defined and reasonable?	PDD A.4.4	DR	Yes.	OK	OK
D. 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.*					
(D. 1) Has an analysis of the environmental impacts of the project activity been sufficiently described?	PDD D.1.	DR I	Yes.	OK	OK
(D. 2) Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PDD D.1. /16/	DR I	Yes. The proposed project has been approved by Shandong Environmental Protection Bureau in December, 2006./16/	OK	OK
(D. 3) Will the project create any adverse environmental effects?	PDD A.2. D.1.	DR I	No.	OK	OK

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	D.2.				
(D. 4) Are transboundary environmental impacts considered in the analysis?	PDD D.2.	DR	Not relevant to the proposed project.	**OK**	**OK**
(D. 5) Have identified environmental impacts been addressed in the project design?	PDD D.2.	DR I	Yes.	**OK**	**OK**
(D. 6) Does the project comply with environmental legislation in the host country?	PDD D.1. D.2. /16/	DR I	Yes. The proposed project has been approved by Shandong Environmental Protection Bureau in December, 2006./16/	**OK**	**OK**
E. Stakeholder Comments *The validator should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.*					
(E. 1) Have relevant stakeholders been consulted?	PDD E.1. E.3.	DR I	Yes. This was conducted under the supervision of Shandong Environmental Protection Bureau.	**OK**	**OK**
(E. 2) Have appropriate media been used to invite comments by local stakeholders?	PDD E.1. E.2.	DR I	Ditto.	**OK**	**OK**
(E. 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?	PDD E.1. E.2.	DR I	Yes.	**OK**	**OK**
(E. 4) Is a summary of the stakeholder comments received provided?	PDD E.2. /17/	DR I	Yes.	**OK**	**OK**

CHECKLIST QUESTION * MoV = Means of Verification, DR= Document Review, I= Interview	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
(E. 5) Has due account been taken of any stakeholder comments received?	PDD E.3. /17/	DR I	The questionnaires and answers summary shall be reviewed at the on-site assessment. It is requested to clarify on due account.	~~CLAR-1~~	OK

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&2	Summary of project owner response	Validation team conclusion
CAR-1 The written approval of voluntary participation by the DNA of each party shall be provided.	Table-1 M.3 M.4. Table-2 A.4.	The written approval of voluntary participation by the DNA of each party has been provided./8/,/9/	**OK** China:issued on 27/11/2007/8/ Japan:issued on 16/11/2007/9/ **CAR-1 was resolved.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
CAR-2 The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof.	Table-2 A.10.	Same response as CAR-1	**OK** It was confirmed that the project should assist China in achieving sustainable development./8/ **CAR-2 was resolved.**
CAR-3 "Tool for the demonstration and assessment of additionality –version 03 "was employed as per baseline methodology. However, it is requested to provide additional information specified below to identify its appropriateness, 1) explanation of critical parameters employed for FIRR calculation, such as total investment cost, O&M cost, electricity tariff and heat tariff , moreover, FIRR calculation sheet shall be attached in Annex 3 or any Appendix, 2) justification of benchmark IRR employed, 3) justification of the range of variation of critical assumptions in the sensitivity analysis,	Table-2 B.10. B.11.	1)All critical parameters are from FSR (feasibility study report)/10/, which was prepared by Shanxi Guoyang investment consult Ltd. (qualification A) on Oct, 2006 and got approved by the Shandong Provincial Economic and Trade Committee on Mar. 2007 FIRR calculation sheet has been provided as Appendix of the PDD-Ver.2.3. The price of waste heat, 0.075Yuan/kWh will be based on the electricity output of the power plant. The project owner will pay the coke production entity 0.075 Yuan/kWh. 2) Due to the fact that the major business of the project owner is coke production, from the viewpoint of the project owner, the revenue opportunity is its major business of coke production, that is to say if the project owner do not investment on the proposed project, and invest on the coke production, he maybe earn the	**OK** 1)All critical parameters were reviewed and confirmed as appropriateness according to the FSR./10/ FIRR calculation sheet was reviewed and confirmed as appropriateness. 2) The request is not positively responded. It is requested to explain more detail that the 12% of the benchmark can be applied for the project. For example, if 12% is not applied, government would not approve the implementation of the project.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
		revenue of coke production, . The sectoral benchmark FIRR on total investment for coke production industrial projects is 12 %(before tax), Which is jointly issued by NDRC and Ministry of Construction in 2006. Although IRR for power generation, 8%, is generally addressed as “after tax”, the proposed project is adopted the 12% before income tax according to the latest “*Project economic assessment and key parameters (version 3)*”/11/, from its major business of coke production. 3)As for the variation of critical assumption is described clearly in Sub-step 2d of Section B.5 in the PDD-Ver.2.3	It is notified that the benchmark IRR for power generation, 8%, is generally addressed as “after tax” 12 %(before tax) of benchmark was confirmed clearly according to the latest “*Project economic assessment and key parameters (version 3)*”/11/. 3)It was reviewed and justified. **CAR-3 was resolved.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
CLAR-1 The questionnaires and answers summary shall be reviewed at the on-site assessment. It is requested to clarify on due account.	Table-1 M.13 Table-2 E.5.	The initial version, version 1.0 was 100, which is carried out before the EIA approval, much earlier than the project activity started. The key point is that, it is carried out to collect the opinions to the coke production activity. To make more accuracy to collect the opinions to the waste heat recovery and generation project, additional questionnaire survey activity has carried out on 12~22, July, 2007. Please see"summary of Questionnaire survey. PDF"	**OK** At the on-site assessment, the questionnaires and answers summarized/17/ was confirmed. No negative opinion was given regarding the project. **CLAR-1 was resolved.**
CLAR-2 Further information shall be given for the installation location of the monitoring instruments together with the provisions prepared for monitoring, verification and reporting. They shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP	Table-1 M.19.	The installation location of the monitoring instruments is shown in Figure 5 of Section B.7.2. of the PDD-Ver.2.3.	**OK** It was confirmed that the The installation location of the monitoring instruments was shown appropriately in Figure 5. **CLAR-2 was resolved.**
CLAR-3 It is requested to clarify if project spatial boundary is consistent to one provided in tthe figure since explicit explanation on the issue is not provided.	Table-2 A.1.	The project boundary is described in Figure 2 on the PDD-Ver.2.3 including electricity system.	**OK** It was confirmed that the project boundary is described appropriately in Figure 2 according to ACM0004 Ver.02. **CLAR-3 was resolved.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
CLAR-4 It is requested to clarify the project-, and connected-, electricity system that shall be included in the system boundary of the project	Table-2 A.2.	Same response as CLAR-3.	**OK** Same conclusion as CLAR-3 **CLAR-4 was resolved.**
CLAR-5 (1) Technical description of the source process, “clean-coke (LRJ-2000)”, of the waste heat is requested to improve the transparency of the project. (2)The description about the technology employed for the project is not sufficient. Further information for the project design and installations shall be given. (3) Overview of the energy utilization in the project, waste heat, steam, and electricity under both current situation and the project situation shall be quantitatively provided possibly in a table in this section. It shall be noted that the power generation from only part of waste heat stream that is not utilized under the current situation may be eligible for CDM project with ACM0004-Ver.02.	Table-2 A.7.	(1) During the coke production process, high temperature flue gas (950 ° C) will be produced every year (N2, H2O, CO2, O2, SO2, dust and little combustible gases, which can not be burned as fuel, but contains some heat energy due to the high temperature), The big difference from Jinsunda project is: the waste gas from Jinsunda project includes combustible gases. Therefore, they are not similar projects. (2) The technologies of similar heat boiler, steam turbine and generator are widely used in China commercially and the project design engineering reflects current good practice. (3)Before the proposed project activity, only about 80 million cubic meters of the total 1.43 billion cubic meters of waste gas are used for heat supply. When the proposed project activity is implemented, 1.248 billion cubic meters waste gas will	**OK** (1)It was confirmed that the technical description of the source process is clearly explained. (2)It was confirmed that the project design engineering reflects current good practice. (3) Though relevant figures on the heat seem to be consistent, it is requested to provide figures for heat and power under both current and project conditions in a tabular form.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
		be used for generation. The rest of 182 million cubic meters will still be directly emitted into the air. The annual heat supply after power generation will be 150 TJ which will displace existing heat supply and existing boiler will be eliminated. Confirmed by the project owner technician expert, For the heat supply, there are about 4.356*10^4 t/a of steam (200℃, 0.98Mpa) for industrial process and 5.394*10^4 t/a of steam (120℃, 0.6Mpa) for residents living use. And the total is about 9.75 *10^4 t/a steam of 150 TJ. So, the annual heat supply after power generation will be 150 TJ which will displace existing heat supply (80TJ) and existing boiler will be eliminated. Waste heat balance before and after the proposed project is described in the PDD-Ver.2.3	It was confirmed that the waste heat balance before and after the proposed project is clearly described in the PDD-Ver.2.3 **CLAR-5 was resolved.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
CLAR-6 There is none of the explanation to meet the training of the equipment to be employed in the proposed project regardless of the message provided in Sub-step 4b in section B.5.	Table-2 A.9. B.51.	Due to most of the key technicians of the proposed project are newly employed and lack the corresponding experience of management and operation and maintenance, the project owner will carry out a training course three months before the project put into operation. The training course includes series steps of “learning by doing” until the engineers and operator on site can run the system smoothly. And the training plan/15/ has been provided by the project owner.	**OK** The following training plan/15/ was confirmed and JCI judged it would be carried out appropriately. The project owner will carry out a training course three months before the project put into operation. The training course includes series steps of “learning by doing” until the engineers and operator on site can learn the system smoothly. **CLAR-6 was resolved.**
CLAR-7 It is requested to specify the plausible alternative scenarios identified for the proposed project activity other than representation of the examples provided in the baseline methodology. It shall be noted that all the documents employed for justification of the baseline scenario identification shall be appropriately cited to enable PDD readers to access, and reviewed by DOE for validation of the project.	Table-2 B.4.	For captive power generation as specified in methodology, which include two options(on grid or off grid) Revised as the PDD-Ver.2.1 According to the approve letter of local energy authority (Zaozhuang city energy and resource office) ,due to the limitation of renewable resource at the project site, the generation from the small hydro, biomass, wind and other renewable energy generation methods are excluded. According to the regulations covering "small thermal power plant construction management(Ministry of electricity, 1997)	**OK** It is requested to provide the other document evidences to exclude the alternative (c).

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
		",/19/ construction of fossil (coal, oil, natural gas) power plants (including captive plant)with a unit capacity of less than 100 MW is restricted construction and a unit capacity of less than 25MW is forbidden. As the proposed project will have only 15 MW installed capacity, fossil power plants of the same capacity would not be in compliance with existing laws and regulations. Due to the technology development status and the high cost for power generation, solar PV, geothermal wind farm and biomass of the similar installed capacity as the proposed project are alternatives far from being attractive investment in the grid in China. For example, the biomass project (Shandong Shanxian 1*25MW Biomass Power Plant Project) and the wind farm project (Laizhou Diaolongzui Wind Farm) have already been registered as a CDM project due to the high cost. Furthermore there is no hydro power resource in this area to provide a comparable output or the same services as the proposed project. As for the water resources investigation, only a few water resources can be developed in Shandong Province, the commercially exploitable installed capacity is 50.8MW, of which, 34.9MW has been developed	

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
		and annual electricity generation was 87 GWh. That is to say all the rest commercially exploitable installed capacity of 15.9MW can not provide the electricity generation of the proposed project activity. These are described in Section B.3. of the PDD-Ver.2.3.	It was confirmed that these explanation is described appropriately in the PDD-Ver.2.3. **CLAR-7 was resolved.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
CLAR-8 It is requested that the baseline scenario identification process shall be further organized according to the baseline methodology.	Table-2 B.5.	Same responses as CLAR-7.	**OK** **CLAR-8 was resolved.**
CLAR-9 It is requested to provide relevant references or documentations to identification of baseline scenario, such as FSR (project feasibility study report)/10/.	Table-2 B.8.	Tthe feasibility study report was prepared by Shanxi Guoyang investment consult Ltd. (qualification A) on Oct, 2006 and got approved by the Shandong Provincial Economic and Trade Committee on Mar. 2007. This report has been provided to DOE. Please refer to http://info.westpower.com.cn/cgi-bin/Ginfo.dll?DispLaw&w=westpower&ac=&gr=6851&pr=0&lid=15812 According to the regulations covering "small thermal power plant construction management(Ministry of electricity, 1997) " /19/, construction of fossil (coal, oil, natural gas) power plants (including captive plant)with a unit capacity of less than 100 MW is restricted construction and a unit capacity of less than 25MW is forbidden. As the proposed project will have only 15 MW installed capacity, fossil power plants of the same capacity would not be in compliance with existing laws and regulations.	**OK** FSR/10/ and the other documents were reviewed by JCI. The total investment cost, O6M cost, delivered electricity, electricity tariff, heat tariff and so on were checked and reviewed. **CLAR-9 was resolved.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
CLAR-11 Additional supporting information for developing common practice analysis (PDD B.5.Step 4) shall be given to help validator to compare the project activity against the other existing 3 projects.	Table-2 B.12	Additional supporting information documents/20/,/21/,/22/,/25/,/26/ has been provided and it is clearly described in the PDD-Ver.2.3 that the project is not common practice as below. Preferential treatment and exemption from Taxation,administation fee etc. Weishan /21/: 100% of local Taxation shall be deducted untill 2005 and 50% shall be deducted from 2006 to 2008.Full of local administation fee shall be exempted untill operation of project started. Rizhao /22/: ● 100% of local administation fee and 50% of local Taxation shall be deducted untill construction of the project started. ● Full of local administation fee shall be exempted for three years after operation of project started and lowest administation fee regulations shall be applied from 4th to 10th year. 50% of provincal administation fee of Shandong shall be deducted during the years.	**OK** Three similar existing projects in Shandong Province are listed up in sub-step 4a of the PDD-Ver.1.0, and it was demonstrated appropriately with evidences as below that the project is not common practice in the PDD-Ver.2.3. It was reviewed by the evidences provided by the project owner that the two similar projects (Rizhao and Weishan projects) has got political support on tax deduction and privilege from local government/21/,/22/, and unit investment cost is each 4,120Yuan/KW/26/ and 4,215Yuan/KW/25/ but that of the project is 4,667Yuan/KW which is increasing 5,660Yuan/KW at present due to inflation./20/ As another one project (Jinshunda project) is not likely similar because of the different waste gas quality from coke production, and was deleted from the Table 3 in Sub-step 4a of Section B.5. JCI judged this is appropriate.

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
		● The construction funds of water suplly and mentenance fee of river shall be exempeted for five years after operation of the project started.. ● Subsidy in amount of to-be-paid local Taxiation shall be supported for three years after operation of the project started and its' 50% shall be supported for two years after then. And, another one project (Jinshunda project) is not likely similar because of the different waste gas quality from coke production, that is the project is to use the waste heat of high temperature 950℃ flue gas with little combustible gases, but the waste gas from Jinshunda project includes combustible gases. Accordingly, this project was deleted from the Table 3 in Sub-step 4a of Section B.5.	**CLAR-11 was resolved.**
CLAR-12 It is requested to specify in Section B.5 of the PDD what the starting date of the project according to some evidences is.	Table-2 B.13. C.1.	The project owner has attended the second session of the Green Expo. at Shandong Province in September 2006. At the meeting, the project owner has got to known the CDM possibility of waste heat recovery project, which can facilitate solve the barriers of loan and financing difficulties. Basing on the project owner explain and considering the energy	**OK** The approval letter for permission of construction by Shandong Economic and Trade Committee on March 2007 and the Section B.5. of the PDD-Ver.2.3 were reviewed. JCI has confirmed the project participant has taken into account CDM project before the starting date

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
		saving and environment protection, and the additional CERs revenue, the project owner finally got the local government permission on March 27, 2007, and the local bank generally agree on April 10,2007 to provide loan if the project owner succeed in the CDM application. The local government permission was eventually made it possible to start implementation of the proposed project and thus the starting date of the project is on March 27, 2007. The Documents/27/ has been provided as an evedence of local government permittion. These are mentioned in Section B.5. of the PDD-Ver.2.3.	of the project and judged that the starting date of the project on 27 March 2007 was appropriate. **CLAR-12 was resolved.**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
CLAR-13 It is requested to clarify the following points on this issue, 1) scheme of data handling of the import of electricity, 2) explicit explanation on the methodological choices on baseline emission factor, 3) definition GENj,y and GENm,y, 4) eligible data vintage for baseline emission factor calculation, as the latest (2006) version of official data, China Electric Power Year Book, and China Energy Statistical Yearbook were already published, 5) handling of data provided in Annex 3 in conjunction with the explanation in the PDD text. It is requested to cite data provided for low-cost/must-run resources in Table A3-1 in Annex 3 to support the description of the PDD text.	Table-2 B.17.	1) According to ACM0002 version 06, and the project boundary is delineated as NCPG as China DNA publication. For the import electricity from ENCPG, the import electricity is less than 5% of the total NCPG in recent years, and the average emission grid factor of ENCPG is adopted. Because an import from a connected electricity system should be considered as one power source j. Revised as PDD Please refer to Table A3-3-1 to Table A3-3-3 in annex 3. 2)It is clearly described in the Section B.6.1. of the PDD-Ver.2.3. 3) It is clearly described in the Section B.6.1. of the PDD-Ver.2.3. 4)Emission factor calculation (OM, BM) process using the latest (2006) version of official data/12/,/13/ and DNA data source issued on 9 August 2007 is attached in Annex 3. 5)Low cost/must-run data for recent 5 years/12/ and average are described in	**OK** 1) It was confirmed that data handling is appropriate in Table A3-3-1 to Table A3-3-3 in Annex 3. 2) It was confirmed that the methodological choise is appropriate. 3) Definition of GENjy and GENmy was confirmed. 4) It was confirmed that Emission factor calculation (OM, BM) process using the latest (2006) version of official data/12/,/13/ and DNA data source issued on 9 August 2007 is carried out appropriately in Annex 3. 5) It was confirmed that Low cost/must-run data for recent 5

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
		Section B.6.1. of the PDD-Ver.2.3 and attached in detail in Annex 3.	years/12/ and average are described appropriately in Section B.6.1. of the PDD-Ver.2.3 and attached in detail in Annex 3. **CLAR-13 was resolved.**
CLAR-14 It is requested to justify "the efficiency level of the best technology commercially available in the provincial/regional or national grid of China" for the BM calculation.	Table-2 B.18. B.19.	For the super critical, it is very few and the detail data is not available. According to DNA publication, in 2005, the newly total install capacity of 600MW only accounts for 17% of total newly built coal fired generation. Therefore, the efficiency of 600MW can represent the best efficiency. Firstly, the Ultra-supercritical Coal-fired Power Project is not a full commercially activity, it is also seek for CDM application through methodology development. Secondly, although the Chinese government carried out the efforts toward the improvement of energy efficiency, but in 2006, due to the operation time of coal-fired power plant is decreased, the energy efficiency seem to worse than that of the 2005, this is the fact and issued by China DNA.	**OK** JCI has judged the justification of the project owner response is appropriate. **CLAR-14 was resolved.**
CLAR-15	Table-2		**OK**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1&2	Summary of project owner response	Validation team conclusion
It is requested to provide explanation on the measurement method in an explicit and consistent manner.	B.37.	It has been described in Section 6.2 of the PDD-Ver.2.3.	It was confirmed that the explanation on the measurement method is described appropriately. **CLAR-15 was resolved.**
CLAR-16 It is requested to clarify the following points, 1) how auxiliary meter would support in case main meter is in failure, 2) consistency between explanation in the text of PDD and figure provided for monitoring system, 3) implementation of project performance review.	Table-2 B.38. B.54.	1)First, the accuracy of auxiliary meters is same as the main meters. Second If the auxiliary meter is also not function normally, the lowest value of the recent months (at least three months) will be adopted. Which is revised in the PDD-Ver2.1. 2)It has been described in Section B.7.2 of the PDD-Ver.2.3. 3) It has been described in Section B.7.2 of the PDD-Ver.2.3.	**OK** 1)-3) These were confirmed in the PDD-Ver.2.3. **CLAR-16 was resolved.**

Appendix B

Certificate of Appointment of Validation Team

Project Title	Shangdong Zaozhuang 15MW waste heat recovery for electricity generation project(I)
Applied Methodology	ACM0004-Ver.02
	Sectoral Scope1

Date:4 July 2007

Designated Operational Entity : Japan Consulting Institute (JCI)

Reflecting the competence criteria of JCI in accordance with "Criteria for operational entities of LIST of SECTORAL SCOPES", this is to certify the appointment of Validation team of JCI specified below for the CDM project activity above, as per CDM Project Activity Registration Form, "F-CDM-REG" adopted at the 24th Meeting of CDM Executive Board, and Validation Procedure established by JCI CDM Center.

Signature

Akio Yoshida,
Executive Director, JCI CDM Center

Date:10 July 2007

Client:

Reflecting the curricula vitae provided, this is to agree the validation team of JCI specified below for the CDM project activity above, as per Validation Procedure established by JCI CDM Center.

It is also agreed that Mr.Yoshihisa SAKAI of JCI participates in the validation activities of the said project for the quality issues under its quality management scheme.

Signature

(Name) Bingyi LIU
(Title) President & CEO,
Tepia Corporation Japan, Co., Ltd

Validation Team

Validation Team	Name	Assigned Role
Leader	Hideyuki SATO	All relevant issues
Member	Toru KITAGAWA	CDM auditor