DETERMINATION REPORT CLOSED JOINT STOCK COMPANY "NATIONAL CARBON SEQUESTRATION FOUNDATION" (NCSF)

DETERMINATION OF THE EFFECTIVE UTILIZATION OF THE BLAST-FURNACE GAS AND WASTE HEAT AT THE JSC "ZAPORIZHSTAL", UKRAINE

REPORT NO. UKRAINE/0073/2010

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DETERMINATION REPORT

Date of first issue: 09/03/2010	Organizational unit: Bureau Veritas Certification Holding SAS
Client: CJSC "National Carbon Sequestration Foundation" (NCSF)	Client ref.: Yuriy Fedorov

Summary:
Bureau Veritas Certification has made the determination of the "Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC "Zaporizhstal", Ukraine" project of CJSC "National Carbon Sequestration Foundation" located at city of Zaporizhzhya, Zaporizhzhya region, Ukraine on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria. The project is submitted under the track 1 procedure.

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final determination report and opinion. The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology developed according the Guidance on Criteria for Baseline Setting and Monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.
On behalf of determination team Flavio Gomes, Bureau Veritas Certification Holding SAS Global Product Manager for Climate Change, approved final version of the Determination Report. Determination Report is signed by Ivan Sokolov authorized Bureau Veritas Certification Holding SAS Local product manager for Climate Change in Ukraine.

Report No.:	Subject Group:
UKRAINE/0073/2010	JI

Project title:

"Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC "Zaporizhstal", Ukraine"

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Work verified by:

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Bureau Veritas Certification Holding SAS

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Indexing terms

Climate Change, Kyoto Protocol, JI, Emission Reductions, Determination

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Abbreviations

AIE	Accredited Independent Entity
CAR	Corrective Action Request
CHPP	Combined Heat and Power Plant
CL	Clarification Request
CO_2	Carbon Dioxide
ECS	Evaporation cooling system
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
GHG	Green House Gas(es)
HU	Heating Unit
I	Interview
IETA	International Emissions Trading Association
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MoV	Means of Verification
NCSF	CJSC “National Carbon Sequestration Foundation”
NGO	Non Government Organization
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change
WHB	Waste-heat Boiler

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1 INTRODUCTION

CJSC "National Carbon Sequestration Foundation" has commissioned Bureau Veritas Certification to determinate its JI project "Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC "Zaporizhstal", Ukraine"" (hereafter called "the project") at the city of Zaporizhzhya, Zaporizhzhya region, Ukraine.

This report summarizes the findings of the determination of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reduction units (ERUs).

UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

1.2 Scope

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

1.3 GHG Project Description

JSC "Zaporizhstal" is implementing the project directed at the effective utilization of the blast-furnace gas by means of construction a turbogenerator with the capacity of 35 MW (subproject "The blast-furnace gas utilization") and the effective use of the waste heat due to the reconstruction of the heat networks supplying heat to the customers of Zaporizhzhya (subproject "The waste heat utilization").

The project scenario for the subproject “The blast-furnace gas utilization” includes the installation of the steam boiler with the capacity of up to 150 t of steam per hour and the installation of the turbogenerator with the capacity of 35 MW. In compliance with the project scenario, the redundant blast-furnace gas, which was earlier flared due to the absence of the blast-furnace gas consumers, will be supplied to the CHPP to generate the electric power. A new steam boiler and turbogenerator commissioning will permit the effective utilization of about 250 mln. m^3 of the blast-furnace gas a year additionally to the situation before project implementation. The electric power production at the own CHPP because of the additional utilization of the blast-furnace gas will allow to reduce the electric power supply from the power grid. The total volume of the electric power production at own CHPP in the project scenario will amount to 200,000 MWh per year.
To effectively use the waste heat the JSC “Zaporizhstal” has provided the reconstruction of the heat networks to supply the hot water to the consumers. The hot water is produced during the warm time of a year (from April to October) by the HU with the waste heat from the ECS and the WHB of the blast-furnaces and the open-hearth furnaces being used and then supplied to the consumers of the city of Zaporizhzhya. The seasonal supply of the heat power by the JSC “Zaporizhstal” to the consumers of the city of Zaporizhzhya will range from 70,000 to 120,000 Gcal per season (from April to October). The JSC “Zaporizhstal” heat power supply to the consumers will permit to reduce the production of the heat power in the equivalent quantity at the boiler plants of the city working on the natural gas.

1.4 Determination team

The determination team consists of the following personnel:

Nadiya Kaiiun – Team Leader, Bureau Veritas Certification Climate Change Lead Verifier,

Oleg Skoblyk – Team member, Bureau Veritas Certification Climate Change Verifier,

Victoria Legka - Team member, Bureau Veritas Certification Climate Change Verifier,

Denis Pischalov – Team member, Bureau Veritas Certification Financial Specialist.

The determination report was reviewed by:
Ivan Sokolov – Bureau Veritas Certification Internal Technical Reviewer.

2 METHODOLOGY

The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

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

- It organizes, details and clarifies the requirements a JI project is expected to meet;
- It ensures a transparent determination process where the determinator will document how a particular requirement has been determined and the result of the determination.

The determination protocol consists of five tables. The different columns in these tables are described in Figure 1.

The completed determination protocol is enclosed in Appendix A to this report. It consists of four tables. Table 3 for "Baseline and Monitoring Methodologies" is omitted because the project participants established their own baseline and monitoring approach (JI specific approach) that is in accordance with appendix B of the JI Guidelines and because the questions regarding the used approach are presented in Table 2.

Determination Protocol Table 1: Mandatory Requirements			
Requirement	**Reference**	**Conclusion**	**Cross reference**
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** or a **Clarification Request (CL)** of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Determination Report.	Used to refer to the relevant protocol questions in Tables 2 and 3 to show how the specific requirement is determined. This is to ensure a transparent determination process.

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

Determination Protocol Table 3: Baseline and Monitoring Methodologies				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements of baseline and monitoring methodologies should be met. The checklist is organized in several sections. Each section is then further sub-	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	The section is used to elaborate and discuss the checklist question and/or the conformance to the	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question. (See below).

divided. The lowest level constitutes a checklist question.		review (DR) or interview (I). N/A means not applicable.	question. It is further used to explain the conclusions reached.	Clarification Request (CL) is used when the determination team has identified a need for further clarification.

Determination Protocol Table 4: Legal requirements				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The national legal requirements the project must meet.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	**Ref. to checklist question in tables 2**	**Summary of project owner response**	**Determination conclusion**
If the conclusions from the Determination	Reference to the checklist question number in	The responses given by the Client or other project	This section should summarize the determination team's responses

are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Tables 2 and 3 where the Corrective Action Request or Clarification Request is explained.	participants during the communications with the determination team should be summarized in this section.	and final conclusions. The conclusions should also be included in Tables 2 and 3, under "Final Conclusion".

Figure 1 Determination protocol tables

2.1 Review of Documents

The Project Design Document (PDD version 01 of 16/11/2009) was submitted by CJSC "National Carbon Sequestration Foundation" on 02/12/2009 together with supporting documentation regarding calculation of GHG emission and spreadsheets with investment analysis.

PDD Version 01 was made publicly available for comments on Bureau Veritas Ukraine web-site from 15 December 2009 till 13 January 2010.

PDD Version 01 and supporting documentation as well as additional background documents related to the project design, baseline, and monitoring plan, such as Kyoto Protocol, host Country laws and regulations, JI guidelines, JISC Guidance on criteria for baseline setting and monitoring, and Guidelines for users of the JI PDD Form were reviewed.

The first deliverable of the document review was the Draft Determination Report with 38 CAR's and 12 CL's.

To address Bureau Veritas Certification corrective action and clarification requests, NCSF revised the PDD and as a response issued PDD version 02 of 11/02/2010 which was reviewed together with project participants' responses by the BV Certification and as result one additional CAR 39 and requests for supplementary explanations were raised. Taking into account all BV Certification's requests and findings NCSF updated the PDD and supporting documentation and resubmitted PDD version 03 dated 19/02/2010. After Internal Technical Review of the Draft Determination Report four requests for amendment of PDD have been raised which were addressed in the final version 04 of the PDD dated 01/03/2010 submitted by NCSF on 01/03/2010.

The determination findings presented in this report relate to the project as described in the PDD version 01 of 16/11/2009 and version 04 dated 01/03/2010.

2.2 Follow-up Interviews

On 19–20 January 2010 Bureau Veritas Certification determination team conducted a visit to the project site (JSC "Zaporizhstal"). On-site interviews with the project participant JSC "Zaporizhstal" and the PDD developer NCSF were conducted to confirm the selected information and to clarify some issues identified during document review.

The main topics of the interviews are summarized in Table 1. The interviewees are listed in Section 6 References.

Table 1 Interview topics

Interviewed organization	Interview topics
JSC "Zaporizhstal"	➢ Project history ➢ Project approach ➢ Project boundary ➢ Implementation schedule ➢ Organizational structure ➢ Responsibilities and authorities ➢ Training of personnel ➢ Quality management procedures and technology ➢ Rehabilitation/Implementation of equipment (records) ➢ Metering equipment control ➢ Metering record keeping system, database ➢ Technical documentation ➢ Monitoring plan and procedures ➢ Permits and licenses ➢ Environmental Impact Assessment ➢ Local stakeholder's response.
NCSF	➢ Baseline methodology. ➢ Monitoring plan. ➢ Investment analysis. ➢ Calculation of emission reduction

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Actions Requests (CAR) are issued, where:

i) there is a clear deviation concerning the implementation of the project as defined the PDD;

ii) requirements set by the Methodological Procedure or qualifications in a verification opinion have not been met; or

iii) there is a risk that the project would not be able to deliver high quality ERUs.

Clarification Requests (CL) are issued where:

iv) additional information is needed to fully clarify an issue.

To guarantee the transparency of the determination process, the concerns raised are documented in more detail in the determination protocol in Appendix A.

3 DETERMINATION FINDINGS

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

1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Determination Protocol in Appendix A.
2) Where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 39 Corrective Action Requests and 12 Clarification Requests.
3) The conclusions for determination subject are presented.

3.1 Project Design

The project which is being implemented at the JSC “Zaporizhstal” is aimed at effective utilization of the blast-furnace gas by means of construction a turbogenerator (35 MW capacity) and the effective use of the waste heat due to the reconstruction of the heat networks supplying heat to the customers of Zaporizhia.

For the purpose of utilization of redundant blast-furnace gas at the CHPP of the JSC “Zaporizhstal” the project scenario envisages the installation of the steam boiler E-120/150-3,2-390 DKGM with the capacity up to 150 t of steam per hour, cogeneration steam turbine ST-35-2,9/0,8/0,12 with two adjustable steam extractions, with the nominal capacity of 35 MW with the rotating frequency of 50 s-1 (3,000 rot/min) which is designed to directly drive the alternating-current generator of the type TA-35-2MU3.

To utilize the waste heat it is planned to reconstruct the heat networks to supply the heat power to the consumers.

The technological scheme based on effective and full blast-furnace gas (waste gas) utilization is new for JSC “Zaporizhstal” and not commonly used in Ukrainian metallurgical works.

The technology of waste heat utilization in metallurgical works for heat power production and its supply to the consumers is one of its kind; for the last 5 years no project on supplying the consumers of the city of Zaporizhia with the hot water by the other industrial enterprises (except the JSC “Zaporizhstal”) using waste heat, waste technological gases or the alternative sources of energy was implemented. The districts of Zaporizhia that are not supplied with heat from Zaporizhstal are supplied with heat from the city boiler plants only.

The GHG emissions reduction as a result of implementation of the project scenario is achieved by prevention of combustion of the fossil fuel to produce the electric power and the heat.

The project scenario is in compliance with relevant host party legislation for energy and energy efficiency.

Bureau Veritas Certification recognizes that the present project is helping the host country fulfill its goals of promoting sustainable development. The project is expected to be in line with the specific host-country JI requirements.

The Project Scenario is considered additional in comparison to the baseline scenario, and therefore eligible to receive Emissions Reductions Units (ERUs) under the JI, based on an analysis, presented by the PDD, of investment, technological and other barriers, and prevailing practice.
The project design is sound and the geographical (Project site is located at the territory of JSC “Zaporizhstal”, city of Zaporizhzhya, Zaporizhzhya region, in the south-east of Ukraine) and temporal (20 years) boundaries of the project are clearly defined.

The identified areas of concern as to Project Design, project participants response and BV Certification’s conclusion are described in Appendix A Table 5 (refer to CAR 01, CAR 02, CAR 03, CAR 04, CAR 05, CAR 06, CAR 07, CAR 08; CL 01, CL 02, CL 03, CL 12).

The identified area of concern as to Project Duration / Crediting Period, project participants response and BV Certification’s conclusion are described in Appendix A Table 5 (refer to CAR 28, CAR 29, CAR 30).

3.2 Baseline and Additionality

The project “Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC “Zaporizhstal”, Ukraine” uses the baseline and monitoring approach developed according to the latest version of Guidance on Criteria for Baseline Setting and Monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

In accordance with the Paragraph 9 (a) of the Guidance, project participants decided to use an approach for baseline setting and monitoring developed in accordance with appendix B of the JI guidelines (JI specific approach). It applies two steps: 1- Identification and listing of plausible alternative baseline scenarios and 2 - Identification of the most plausible alternative scenario. Under step 1 six plausible alternative scenarios were identified, which under step 2 were analyzed against their correspondence with the technical regulation and implementation availability. The analysis showed that only two alternatives complies with current legislation and are available for the project participants; these are the following:

For subproject – blast-furnace gas utilization:

- Alternative scenario 1. Installation of the steam boiler with the capacity of up to 150 t steam per hour and the turbogenerator with the capacity of 35 MW. Operation of the turbogenerator with the available capacity 18 MW without reconstruction. The redundant blast-furnace gas is utilized to produce the electric power.
- Alternative scenario 2. The reconstruction and the further operation of the turbogenerator with the available capacity 18 MW without steam boiler replacement and flaring of the redundant blast-furnace gas.

For subproject – waste heat utilization:

- Alternative scenario 1. Production the hot water in the heating unit using the waste steam of the ECS and the WHB of the blast furnaces and the open-hearth furnaces of the JSC “Zaporizhstal”. Reconstruction of the heat networks to supply the heat to the consumers.
- Alternative scenario 2. The waste heat at the JSC “Zaporizhstal” during the warm time of the year is not used: the steam of the ECS is thrown into the atmospheres, the WHB are taken out of service. The consumers of the city of Zaporizhia are supplied with the hot water by the city boiler plants working on the natural gas.

The baseline options considered do not include those options that:

- do not comply with legal and regulatory requirements; or
- depend on key resources such as fuels, materials or technology that are not available at the project site.

The results of the performed analysis of key factors affected the alternative scenarios make it possible to draw the conclusion that the most plausible scenarios are Alternative scenario 2 both for subproject “Blast-furnace gas utilization” and subproject “Waste heat utilization”, which is considered as baseline scenario.

JI specific approach is used for demonstration of additionality of the project in accordance with the paragraph 2(a) of the Annex I to the “Guidance on criteria for baseline setting and monitoring”, (Version 02). The approved CDM methodologies and tools are not used for demonstration of additionality.

It was proven that the project is not a part of the baseline scenario, which can be shown by analyzing the key factors that affect the implementation of the project scenarios. The financial barrier (economic efficiency) is considered as the key factor that affects the implementation of the project scenarios. The results of the investment analysis demonstrated that the project scenario is not part of the identified baseline scenario.
The analysis of the alternative scenarios and the key factors affected their implementation shows that the project activity is not the baseline scenario due to the presence of the substantial financial barriers to implement them. Therefore the reduction of emissions obtained in the course of project implementation is additional to the baseline scenario.

The proposed approach to additionality demonstration and assessment provides traceable and transparent information showing that the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to reductions of anthropogenic emissions by sources of GHG.

The identified areas of concern as to Baseline and Additionality, project participants responses and BV Certification's conclusions are described in Appendix A Table 5 (refer to CARs 09-27,CAR 39, CLs 04-07).

3.3 Monitoring Plan

The Project uses the monitoring approach developed according to the Guidance on Criteria for Baseline Setting and Monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.
The monitoring plan is established in accordance with appendix B of the JI guidelines and further Guidance on baseline setting and monitoring developed by the JISC.
All categories of data to be collected in order to monitor project and baseline emissions (Option 1) as well as formulae for processing the collected data and calculation of GHG emissions are described in required details.
The monitoring plan employs the following approaches to the determination of the GHG emissions in the project and baseline scenarios:

1. The calculation of CO_2 emissions during the fuel combustion to generate the electric power at the CHPP of the JSC "Zaporizhstal" is made on the basis of the data on fuel consumption according to the type of the fuel and CO_2 emissions factor for each type of the fuel used.
2. The calculation of the CO_2 emissions by electric power generation in the power grid is made on the basis of the data on electric power consumption from the power grid of Ukraine and CO_2 emission factor during electric power generation supplied by the power grid of Ukraine.
3. The calculation of the CO_2 emissions in the result of the heat power production is made on the basis of the data on heat power generation

and CO_2 emission factor during the heat power production which would be produced in the absence of the project activity.

The detailed scheme of monitoring data collection, delivery and processing and management structure that the project participant will implement in order to monitor emission reduction is clearly described in the PDD. Monitoring related quality control and quality assurance procedures are well detailed.

The identified areas of concern as to Monitoring Plan, project participants response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CAR 31, CAR 32, CAR 33, CAR 34, CAR 35, CL 08, CL 09).

3.4 Calculation of GHG Emissions

The formulae used for calculation of project and baseline emissions are presented in PDD Section D.
Input data for calculations and the calculations per se are presented on the comprehensive spreadsheet which was made available to Bureau Veritas Certification. The results are summarised in Section E. The verifiers checked the calculations and found them accurate.
The leakage of the project is negligible which is sufficiently justified in the PDD.

The calculated amount of project emission reduction over the crediting period 2008 – 2012 is 366 381 tCO2e with the annual average emission reduction in amount of 73 276 tCO2e.
Emission reduction for the period 2005 – 2007 is 46 268 tCO2e, annual average is 15 423 tCO2e.
Emission reduction for the period 2013 – 2020 is 799 232 tCO2e, annual average is 99 904 tCO2e.

The identified areas of concern as to Calculation of GHG Emissions, project participants response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CAR 36, CAR 37).

3.5 Environmental Impacts

The environmental impact assessment (EIA) of the project is fulfilled on the stage of the project documentation elaboration in compliance with the requirements of the environmental legislation of Ukraine. The relevant documentation on the project's EIA was reviewed during site-visit. The results of the project's EIA show that the project implementation will not bring to a significant impact on the environment.
The positive conclusion of the state environmental expertise proves the compliance of the project events with the current legislation in the sphere

of the environmental protection, i.e. it proves the acceptable level of the project impact on the environment at all the stages of its implementation (starting from the construction and up the taking out of service).
The project obtained the positive conclusion of the state environmental expertise proves from Ministry for Environmental Protection of Ukraine.
The JSC "Zaporizhstal" has all the necessary permissions for the sources of the pollution emissions.
No transboundary or adverse environmental impacts are expected.

The identified areas of concern as to Environmental Impacts, project participants response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CAR 38, CL 10, CL11).

3.6 Comments by Local Stakeholders

The information about the project implementation was published in the local newspaper "Industrialnoye Zaporozhye" on 22/12/2007.
No comments from local stakeholders were received.

No areas of concern were identified as to Comments by Local Stakeholders.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

According to the modalities for the Determination of JI projects, the AIE shall make publicly available the project design document and receive, within 30 days, comments from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available.

Bureau Veritas Certification published the project documents on the website http://www.bureauveritas.com.ua on 15/12/2009 and invited comments within 13/01/2010 by Parties, stakeholders and non-governmental organizations.
No comments from stakeholders were received.

5 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the project "Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC "Zaporizhstal", Ukraine" in Ukraine. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The determination consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of

outstanding issues and the issuance of the final determination report and opinion.

The review of the project design documentation, the subsequent follow-up interviews, and the resolution of the Corrective Action Requests have provided Bureau Veritas Certification with the sufficient evidences to determine the fulfillment of the above stated criteria and to demonstrate that the project is additional.

The PDD provides analysis of investment and other barriers to determine that the project activity itself is not the baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The determination revealed one pending issue related to the current determination stage of the project: the written approval of the project by the host Party (Ukraine) was not obtained. If the written approval by the host Party is awarded, it is our opinion that the project as described in the Project Design Document, Version 04 dated 01/03/2010 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria, meeting the expectations of interested parties.

The determination is based on the information made available to us and the engagement conditions detailed in this report.

6 REFERENCES

Category 1 Documents:
Documents provided by the NCSF that relate directly to the GHG components of the project.

/1/ PDD "Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC "Zaporizhstal", Ukraine", version 01 dated 16/11/2009

/2/ PDD "Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC "Zaporizhstal", Ukraine", version 02 dated 11/02/2010

/3/ PDD "Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC "Zaporizhstal", Ukraine", version 03 dated 19/02/2010

/4/ PDD "Effective Utilization of the Blast-Furnace Gas and Waste Heat at the JSC "Zaporizhstal", Ukraine", version 04 dated

01/03/2010

/5/ Decree of Cabinet of Ministers of Ukraine #206, dated 22/02/2006

/6/ Guidelines for Users of the Join Implementation Project Design Document Form, version 04, JISC

/7/ Joint Implementation Project Design Document Form, version 01

/8/ Glossary of JI terms, version 02, JISC.

/9/ Guidance on Criteria for Baseline Setting and Monitoring, version 02, JISC.

/10/ JISC "Clarification regarding the public availability of documents under the verification procedure under the Joint Implementation Supervisory Committee." Version 03

/11/ IPCC Guidelines for National Greenhouse Gas Inventories, 2006 – Volume 2: Energy.

/12/ Letter of Endorsement № 13443/11/10-07 of December 14, 2007 issued by the Ministry for Environmental Protection of Ukraine.

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ List of the volumes of the project of complete repair with the ДП-2 reconstruction at JSC "Zaporozhstal".

/2/ Environmental Impact Assessment (EIA). Work project ДТ 336456. Volume 2. November, 2000. Complete repair with reconstruction ДП-2. OJSC "Zaporozhstal".

/3/ Project ДТ-336456. Volume 2. November, 2000. Complete repair with reconstruction ДП-2. OJSC "Zaporozhstal".

/4/ General characteristics of the design object ДТ-336456.

/5/ Business plan. CHPP ПВС reconstruction (Turbine generator, boiler) ДТ 335747, 2007. OJSC "Zaporozhstal".

/6/ Explanatory note ДТ340050 volume 1, 2003. External heat supply network reconstruction from CHPP-ПВС to the thermal camera ТК П9. OJSC "Zaporozhstal".

/7/ Environmental impact assessment (EIA). Statement on environmental implications. Working project. ДТ 340050 Volume 2 14191-3, 2003. Reconstruction of the external heat supply networks from CHPP to heat chamber ТК П9. OJSC "Zaporozhye metallurgical plant "Zaporozhstal".

/8/ Order #111 of approval of the working committee statement of the facility commission: "External heat supply network reconstruction from CHPP-ПВС to the thermal camera ТК П9" dated 18.08.2005.

/9/ Statement of the working committee of commission of the building, construction, and facility.

/10/ Logbook for daily registration of electricity production by turbogenerators #1,2 for February 2008.

/11/ Logbook for daily registration of electricity production by turbogenerators #1,2 for March 2008.

/12/ Logbook for daily registration of electricity production by turbogenerators #1,2 for December 2009.

/13/ Logbook of daily production of electricity ТГ-1,2. 2(1) №119-140-а.

/14/ Passport БИЛТ.651111.008 ПС, 2006, for turbogenerator ТА-35-2МУЗ ser. #211222.

/15/ Steam turbine ПТ-35-2,9/0,8/0,12. Registration book. Part 1. Turbine. Б-05ФО

/16/ Acceptance certificate. Set of condenser units (ser. #112559) and turbine (ser. #112259). Date of issue: July 2006.

/17/ Spreadsheet with parameters of emissions of pollutants in the atmosphere per installation unit.

/18/ Passport of Steam boiler #3. Type E-120/150-3,2-390, Ser. #47905. Kharkov, 2006.

/19/ Technical report on the work of CHPP of JSC “Zaporozhstal” for December 2009.

/20/ Certificate of physical and chemical parameters of natural gas transmitted "Kharkivtransgaz" and accepted by Zaporizkiy LVUMG GRS-1pipeline ШДО, ШДКРІ for the period from 01.12.2009 to 31.12.2009.

/21/ Guidelines for Preparation of Technical Report on thermal efficiency of power plant according to the form # 3-tech (m). Approved by Chermetenergo of USSR dated 17/11/1986.

/22/ Permit #2310136600-39a for emissions of pollutants in the atmosphere by stationary sources dated 07.04.2008 for the period of 5 years till 06/04/2013.

/23/ Guidelines for installation instructions and passport. Multifunction power meter EvroALFA type. Certificate of acceptance and packaging. Type of meter EA 05RALX-B-4 ser. # 01103395. Verification date: 03.09.2004.

/24/ Guidelines for installation instructions and passport. Multifunction power meter EvroALFA type. Certificate of acceptance and packaging. Type of meter EA 05RALX-B-4 ser. # 01152406, 19 Ш. Verification date: 21.02.2007.

/25/ Report on calculation of fuel and energy resource consumption by consumers, dated 31.12.2009.

/26/ Logbook of gas balance for January 2008.

/27/ Business Plan. Reconstruction of CHPP ПВС (Turbogenerator, boiler) ДТ348508. OJSC "Zaporozhstal".

/28/ Training information of CHPP connected with installation of new equipment dated 11/01/2010.

/29/ Interest rate of banks refunding by National Bank of Ukraine.

/30/ Business-plan. Reconstruction of CHP ПВС (Turbine, boiler) ДТ 348508 OJSC "Zaporizhstal" dated 2007.

/31/ Declaration of the intention for project realization at JSC “Zaporozhstal” in the newspaper "Industrialnoe Zaporozhie" dated 22.12.2007.

/32/ Minutes of the meeting with Chair of the Board about the ability of usage of the Kyoto Protocol mechanisms for attracting additional funding for the investment projects of OJSC "Zaporizhstal" dated 08.04.2004.

/33/ Minutes of the meeting with the technical director about the realization of the project "Reconstruction CHP-ПВС" dated 11.06.2004.

/34/ Minutes of the meeting with the technical director about the realization of the project "Reconstruction of the external heat supply networks from CHP-ПВС to the thermal camera ТК П9" dated 07.06.2004.

/35/ Letter of support of the JI project "Turbogenerator instalation at the CHPP of JSC "Zaporizhstal".

/36/ Passport of measuring equipment parameters and characteristics at CHPP, boiler #2, initial transducer ДМ3583М (ser. #19883), secondary device КСД 3 (ser. #176438) dated 10.01.2008. Last calibration date 14.01.2009.

/37/ Passport 15/17 of measuring equipment parameters and characteristics at CHPP of JSC “Zaporozhstal”, initial transducer ДМ (ser. #84898), secondary device КСО-3 (ser. #203067) dated 04/01/2007. Last calibration date 08/01/2009.

/38/ Passport of measuring equipment parameters and characteristics initial transducer Metran-100ДД-1440 (ser. #235857) dated 19.06.2007. Last calibration date 16.01.2009.

/39/ Passport of measuring equipment parameters and characteristics at JSC “Zaporozhstal” CHPP, boiler # 3, internal transducer Metran 1440 (ser. #235860). Last calibration date 16/01/2009

/40/ Passport of measuring equipment parameters and characteristics at JSC “Zsporozhstal” CHPP, turbogenerator #1, internal transducer SAfir-M 5440 (ser. #04015735) dated 27.07.2007. Last calibration date 28/01/2009.

/41/ Passport of measuring equipment parameters and characteristics at JSC “Zsporozhstal” CHPP, turbogenerator #1, internal transducer SAfir-M 5440 (ser. #04025734) dated 27.07.2007. Last calibration date 28/01/2009.

/42/ Passport 15/148 of measuring equipment parameters and characteristics at CHPP JSC “Zaporozhstal” internal transducer, secondary device СПГ-762 (ser. #0392) dated 26.02.2007. Last calibration date 06/02/2009.

/43/ Passport of measuring equipment parameters and characteristics at JSC “Zaporozhstal” КЦ №1, boiler #3, secondary device СПТ 961 (ser. #10919) dated 16/06/2007. Last calibration date 16/01/2009.

/44/ Passport of measuring equipment parameters and characteristics at JSC “Zaporozhstal” КЦ №1, boiler #3, СПТ 961 (ser. #10912) dated

16/06/2007. Last calibration date 16/01/2009.

/45/ Calibration information of ultrasonic flowmeter “ВЗЛЕТ МР-У” УРСВ-022М-002ТП (ser. #404033). Last calibration date 24/03/2009.

/46/ Calibration information of ultrasonic flowmeter “ВЗЛЕТ МР-У” УРСВ-022М-002ТП (ser. #404034). Last periodic calibration date 24/03/2009.

/47/ Minutes of technical meeting at CHPP of JSC "Zaporizhstal" dated 02/06/2004

/48/ Information note # 76/2-22/17 of 29/01/2010 about the volume of financing for CHPP power units reconstruction and city heat supply at JSC “Zaporozhstal”

/49/ Informational spreadsheet with data about CHPP’s employee training with regard to new equipment installation at JSC “Zaporozhstal” dated 11/01/2010

Persons interviewed:

(List of persons interviewed during the determination or persons that contributed with other information that are not included in the documents listed above)

/1/ A. Putnoki – Technical manager of JSC “Zaporozhstal”

/2/ N. Silin – Chief environmental specialist of JSC “Zaporozhstal”

/3/ I. Kholina – Head of the environmental laboratory of JSC “Zaporozhstal”

/4/ V. Jarysh – Deputy head of chief energy management department of JSC “Zaporozhstal”

/5/ A. Tyryshkin – Deputy head of automation and metrology department of JSC “Zaporozhstal”

/6/ M. Nikityuk – Deputy head of import department of Export trading firm department of JSC “Zaporozhstal”

/7/ N. Nechiporuk – Deputy head of training department of JSC “Zaporozhstal”

/8/ A. Grabko – Head of automation and metrology department of JSC “Zaporozhstal”

/9/ S. Ryabokon – Head of production and technical department of CHPP of JSC “Zaporozhstal”

/10/ R. Zemenkov – Head of metrological and economical calculation of the planning and economic department at JSC “Zaporozhstal”

/11/ V. Litvin – Manager of marketing and export & economic activity department JSC “Zaporozhstal”

/12/ A. Panchenko – Senior supervisor of CHPP KIP sector of JSC “Zaporozhstal”

/13/ R. Kazakov – Principal specialist of CJSC “NCSF”

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APPENDIX A: JI PROJECT DETERMINATION PROTOCOL

Table 1 Mandatory Requirements for Joint Implementation (JI) Projects

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	**CAR 01**. The project has no approval of the Host Party. After finishing of project determination report, the PDD and Determination Report with CARs and CLs clarified except CAR 01 will be presented to National Environmental Investments Agency of Ukraine for receiving the Letter of Approval. Remaining CAR 01 will be closed after the issuance of the LoA by the Parties involved. Letter of Approval from the sponsor party must be received.	Table 2, Section A.5
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur	Kyoto Protocol Article 6.1 (b)	OK	Table 2, Section B
3. The sponsor Party shall not acquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	Article 5 requires "…Annex I Parties to having in place, no later than 2007, national systems for the estimation of greenhouse gas emissions by sources and removals by	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		sinks." Article 7 requires "… Annex I Parties to submit annual greenhouse gas inventories, as well as national communications, at regular intervals, both including supplementary information to demonstrate compliance with the Protocol". The sponsor Party will be defined after the determination report will be issued and the Host Party approval obtained.	
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3	Kyoto Protocol Article 6.1 (d)	OK	
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects	Marrakech Accords, JI Modalities, §20	Ukraine has designated its Focal Point. National guidelines and procedures for approving JI projects have been published. Contact data in Ukraine: National Environmental Investment Agency of Ukraine 35 Urytsky Str., Kyiv, P.O. 03035	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		Phone: +380 44 594 91 11 Fax: +380 44 5949115 Email: info.neia@gmail.com Mr. Igor Lupaltsov – Head Ukrainian national guidelines and procedures for the approval of JI projects are available (www.neia.gov.ua)	
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	The Ukraine is a Party (Annex I Party) to the Kyoto Protocol and has ratified the Kyoto Protocol at April 12th, 2004.	
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts	Marrakech Accords, JI Modalities, §21(b)/24	In the Initial Report submitted by Ukraine on 29. Dec. 2006 the AAUs are quantified with: 925 362 174.39 (x 5) = 4 626 810 872 tCO2-e	
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4	Marrakech Accords, JI Modalities, §21(d)/24	The designed system of the national registry has been described in the Initial Report mentioned above	
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination	Marrakech Accords, JI Modalities, §31	OK	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
10. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments	Marrakech Accords, JI Modalities, §32	The PDD has been made publicly available through http://www.bureauveritas.com.ua/ website from December, 15th 2009 to January, 13th 2010	
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out	Marrakech Accords, JI Modalities, §33(d)	OK	Table 2, Section F
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, JI Modalities, Appendix B	See CARs and CLs, table 2, section B below.	Table 2, Section B
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B
15. The project shall have an appropriate monitoring plan	Marrakech Accords, JI Modalities, §33(c)	See CARs and CLs, table 2, section D below.	Table 2, Section D

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
16. A project participant may be: (a) A Party involved in the JI project; or (b) A legal entity authorized by a Party involved to participate in the JI project.	JISC "Modalities of communication of Project Participants with the JISC" Version 01, Clause A.3	The Ukrainian project participant will be authorised by the Host Party through the issuance of the approval for the project. Conclusion is pending a follow-up on CAR 01. Refer to Verifiers' Note in 1 above.	Table 2, Section A

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of the project					
A.1 Title of the project					
A.1.1. Is the title of the project activity presented?	1, 2, 3, 5,6	DR	The title is presented. The title of the project is "Effective utilization of the blast-furnace gas and waste heat at the JSC "Zaporizhstal", Ukraine".	OK	OK
A.1.2. Is the current version number of the document presented?	1, 2, 3, 5, 6	DR	The current version of the PDD is version 04 of March 01st 2010.	OK	OK
A.1.3. Is the date when the document was completed presented?	1, 2, 3, 5, 6	DR	The date when the document was completed is 1st of March 2010.	OK	OK
A.2. Description of the project					
A.2.1. Is the purpose of the project activity included?	1, 2, 3, 5, 6	DR	The purpose of the project is the effective utilization of the blast-furnace gas by means of construction a turbogenerator with the capacity of 35 MW and the effective use of the waste heat due to the reconstruction of the heat networks supplying heat to the customers of Zaporizhia.	OK	OK
A.2.2. Is it explained how the proposed project activity reduces greenhouse gas emissions?	1, 2, 3, 5, 6	DR	Reduction of greenhouse gas emissions can be achieved due to the fact that the fossil fuel to produce the electric power in the power grid of Ukraine and the heat power in the boiler plants of the city of Zaporizhia will not be combusted. **CAR 02.** The section A.2 exceeds two	CAR 02	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			pages which is not in accordance with Guidelines for JI PDD Form.		
A.3. Project participants					
A.3.1. Are project participants and Party(ies) involved in the project listed?	1, 2, 3, 5, 6	DR	Host Party (Ukraine) is indicated only. Legal entity for Host Party is JSC "Zaporizhstal" .	OK	OK
A.3.2. Are project participants authorized by a Party involved?	1, 2, 3, 4, 5, 6	DR	Letter of Approval from National Environmental Investment Agency of Ukraine is not received. See CAR 01	Pending	OK
A.3.3. The data of the project participants are presented in tabular format?	1, 2, 3, 5, 6	DR	Yes, the data of the project participants are presented in tabular format.	OK	OK
A.3.4. Is contact information provided in annex 1 of the PDD?	1, 2, 3, 5, 6	DR	The contact details for JSC "Zaporizhstal" is provided (refer to Annex 1).	OK	OK
A.3.5. Is it indicated, if it is the case, if the Party involved is a host Party?	1, 2, 3, 5, 6	DR	Ukraine is indicated as a Host Party.	OK	OK
A.4. Technical description of the project					
A.4.1. Location of the project activity					
A.4.1.1. Host Party(ies)	1, 2, 3, 5, 6	DR	Ukraine is indicated as a Host Party.	OK	OK
A.4.1.2. Region/State/Province etc.	1, 2, 3, 5, 6	DR	Zaporizhska oblast (region)	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.4.1.3. City/Town/Community etc.	1,2,3 ,5,6	DR	Zaporizhia	OK	OK
A.4.1.4. Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	1, 2, 3, 5, 6	DR	See part A.4.1.4. of the PDD. **CL 01**. Please provide information in section A.4.1. regarding the location of the project as required by JI PDD Form. **CAR 03.** The section A.4.1.4. exceeds one page which does not comply with JI PDD Form.	CL 01 CAR 03	OK OK
A.4.2. Technology(ies) to be employed, or measures, operations or actions to be implemented by the project					
A.4.2.1. Does the project design engineering reflect current good practices?	1, 2, 3, 4, 5, 6	DR	The project design engineering reflects current good practices. **CAR 04**. The implementation schedule is not presented. **CAR 05**. Please provide an investment schedule of the project as required by the Host Party.	CAR 04 CAR 05	OK OK
A.4.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2, 3, 5, 6	DR	**CL 02**. Please clarify in PDD if the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country.	CL 02	OK
A.4.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2, 3, 5, 6	DR	The project technology is not likely to be substituted by other or more efficient technologies within the project period because the project technology is the optimal solution for the presented plant within national (geographical, political and economical) circumstances.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.4.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1, 2, 3, 5, 6	DR	**CL 03.** Please clarify if the project requires extensive initial training and maintenance efforts in order to work as presumed during the project period.	CL 03	OK
A.4.2.5. Does the project make provisions for meeting training and maintenance needs?	1,2,3, 5, 6	DR	Conclusion is pending a response to CL 03.	Pending	OK
A.4.3. Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances					
A.4.3.1. Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	1, 2, 3, 5, 6,7,8	DR	The GHG emissions reduction is achieved by prevention of combustion of the fossil fuel to produce the electric power and the heat. See section A.4.3 of the PDD.	OK	OK
A.4.3.2. Is it provided the estimation of emission reductions over the crediting period?	1, 2, 3, 5, 6	DR	Yes, the estimation of emission reductions over the crediting period is provided in the table A.4.3.1 of the PDD	OK	OK
A.4.3.3. Is it provided the estimated annual reduction for the chosen credit period in tCO_2e?	1, 2, 3, 5, 6	DR	**CAR 06.** The amount of emission reductions stated in sections A.2, A.4.3, D and E of the PDD is states in tonnes of CO_2 while it should be provided in tonnes of CO_2 equivalent. Please correct.	CAR 06	OK
A.4.3.4. Are the data from questions A.4.3.2 to A.4.3.4 above presented in tabular format?	1, 2, 3, 5, 6	DR	See PDD table A.4.3.1. **CAR 07.** The length of the crediting period in PDD's table A.4.3.1 and section C.3 are not consistent. Please provide consistent data on the length of the crediting period throughout the PDD.	CAR 07	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.5. Project approval by the Parties involved					
A.5.1. Are written project approvals by the Parties involved attached?	1, 2, 3, 4, 5, 6, 11	DR	Letter of Approval will be issued after the complete determination report is presented to the NFP. **CAR 08.** As Letter of Approval from Parties involved has not been issued yet but Letter of Endorsement is available only, please make relevant corrections to the section A.5. of the PDD.	CAR 08	OK
B. Baseline					
B.1. Description and justification of the baseline chosen					
B.1.1. Is the chosen baseline described?	1,2, 3,5, 6,8	DR	**CAR 09**. The key information and data used to establish the baseline (variables, parameters, data sources etc.) shall be provided in the prescribed tabular form in section B1 of the PDD.	CAR 09	OK
B.1.2. Is it justified the choice of the applicable baseline for the project category?	1,2, 3,5, 6,8	DR	**CAR 10.** It is not explicitly indicated which of the approaches regarding baseline setting is chosen (JI specific approach or approved CDM methodology).	CAR 10	OK
B.1.3. Is it described how the methodology is applied in the context of the project?	1,2, 3,5, 6,8	DR	**CAR 11**. The application of approach chosen for baseline setting is to be described in section B.1 of the PDD as required by Guidelines for JI PDD Form Users.	CAR 11	OK
B.1.4. Are the basic assumptions of the baseline methodology in the context of the project activity presented (See Annex 2)?	1,2, 3,5,6 , 7, 8	DR	**CAR 12.** Annex 2 (baseline information) does not contain a summary of the key elements in tabular form as required by Guidelines for Users of JI PDD Form.	CAR 12	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.1.5. Is all literature and sources clearly referenced?	1,2, 3, 5, 6	DR	**CAR 13.** Please provide correct references to Guidance on criteria for baseline setting and monitoring throughout the PDD.	CAR 13	OK
B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the JI project					
B.2.1. Is the proposed project activity additional?	1,2,3 ,5,6, 8	DR	**CAR 14.** It is not explicitly indicated which of the approaches is chosen for demonstrating additionality. **CAR 15**. The format of demonstrating additionality prescribed by the latest version of the Tool for the demonstration and assessment of additionality (Additionality Tool) is not followed. **CAR 16.** English version of Excel files calculation on investment analysis shall be submitted. **CAR 17**. According to the Additionality Tool the levelised cost of power produced shall be used as a key factor for comparison of the alternatives for "Blast-furnace gas utilization" sub-project while in the PDD simple cost of electrical energy is used. Please correct. **CL 04.** As it appears from the PDD as for the sub-project "Blast-furnace gas utilization" the system is to generate some amount of process steam as well. Please	CAR 14 CAR 15 CAR 16 CAR 17 CL 04 CAR 18 CL 05 CAR 19 CAR 20 CAR 21 CAR 22 CL 06	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			clarify this issue for two alternatives. Please note that in this case the levelised cost of heat generation shall be estimated as well. The service period for the sub-project "Blast-furnace gas utilization" equipment is defined as 10 years which is substantial underestimate. It is reasonable to assume that it will be much longer than expected residual life time of 18MW power plant after major overhaul. **CAR 18.** Please use correct service life time of equipment for calculation of the levelised cost of energy. **CL 05.** In Excel file 2009-11-16-Investment_Analysis _Waste GAS ver_01.xls the developer assumes that both installations of 18MW and 35MW would generate the same amount of electrical power 200000 MWh per year while 18MW turbogenerator obviously is not able to produce so much energy. In addition on the page 2 of the PDD it is stated that 18 MW turbogenerator is able to produce up to 150 000 MWh per year. Please clarify this issue. **CAR 19.** The IRR used as the benchmark in the investment analysis of the subproject "Waste heat utilization" is derived from the NBU discount rate as of the beginning of 2004. Please note that it can not be applied		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			in the project case as this rate is charged on UAH funds while project calculations are made in EUR. **CAR 20.** It is indicated that the service life of equipment of waste heat utilization sub-project is 10 years while investment analysis calculations are made for 9 years of operation. Please correct. **CAR 21.** Taking into account the fact that fixed prices are used in the model for investment analysis of waste heat utilization sub-project the real IRR shall be used instead of nominal (calculated in the following way: IRRr = (IRRn+1)/(I+1)-1, where IRRr- is real IRR, IRRn – nominal IRR, I – inflation index for EuroZone as financial calculations are made in Euros). Please correct. **CAR 22.** The methodology prescribed by the Corporate Tax Law of Ukraine is not followed for calculating depreciation of sub-project "Waste heat utilization". Please correct this issue as it provides substantial impact on after-tax cash flow. **CL 06.** Please clarify the nature of the "Cost of waste heat" item (see Excel file 2009-11-16-Investment_Analysis _WASTE HEAT ver_01.xls)		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.2.2. Is the baseline scenario described?	1,2, 3, 5, 6	DR	The baseline scenario is described in PDD sections B.1and B.2. **CAR 23.** Alternative scenario #1 in table B.2-1 of the PDD does not indicate whether the existing 18 MW turbogenerator will be in operation at the same time together with newly installed 35 MW turbogenerator or it will be out of the operation. Please specify and describe accordingly. **CAR 24.** The format of the PDD's section B.2. does not comply with JI PDD Form (landscape format of the pages 14-18, 25).	CAR 23 CAR 24	OK OK
B.2.3. Is the project scenario described?	1,2,3 , 5, 6	DR	The project scenario is properly described in the sections A.4.2, A.4.3 of the PDD.	OK	OK
B.2.4. Is an analysis showing why the emissions in the baseline scenario would likely exceed the emissions in the project scenario included?	1,2, 3, 5, 6	DR	**CL 07.** Please specify why the emissions in the baseline scenario would likely exceed the emissions in the project scenario. **CAR 39**. In the PDD ver.02 of 11/02/2010 in the end of section B.2. stated amount of project emission reductions do not comply with data in section E.	CL 07 CAR 39	OK OK
B.2.5. Is it demonstrated that the project activity itself is not a likely baseline scenario?	1,2,3 ,5,6, 8	DR	It is clearly demonstrated that the project activity itself is not a likely baseline scenario.	OK	OK
B.2.6. Are national policies and circumstances relevant to the baseline of the proposed project activity summarized?	1,2,3 ,5,6	DR	National policies and circumstances relevant to the baseline of the proposed project activity are summarized for sub-project "Blast-furnace gas utilization" (see table B.2.1 of the PDD). **CAR 25.** Please provide the summary of national policies and circumstances relevant to the baseline of the sub-project "Waste heat utilization".	CAR 25	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.3. Description of how the definition of the project boundary is applied to the project activity					
B.3.1. Are the project's spatial (geographical) boundaries clearly defined?	1,2,3,5,6	DR	The sources of the GHG emissions are defined and described. **CAR 26.** The potential leakage of the project is not assessed nor is explained which of sources of leakage are to be calculated and which can be neglected.	CAR 26	OK
B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline					
B.4.1. Is the date of the baseline setting presented (in DD/MM/YYYY)?	1,2,3,5,6	DR	**CAR 27.** Please provide the date the baseline setting in the DD/MM/YYYY format.	CAR 27	OK
B.4.2. Is the contact information provided?	1,2,3,5,6	DR	CJSC "National Carbon Sequestration Foundation" (Moscow) Contact person: Mr. Roman Kazakov; Tel.: +7 499 788 78 35 ext. 113 E-mail: KazakovRA@ncsf.ru	OK	OK
B.4.3. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2,3,5,6	DR	It is indicated that "National Carbon Sequestration Foundation" is not a project participant.	OK	OK
C. Duration of the project and crediting period					
C.1. Starting date of the project					
C.1.1. Is the project's starting date clearly defined?	1,2,3,5,6,7	DR	**CAR 28.** Please specify the exact project's starting date in the DD/MM/YYYY format and provide the relevant evidences to confirm selected date.	CAR 28	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
C.2. Expected operational lifetime of the project					
C.2.1. Is the project's operational lifetime clearly defined in years and months?	1,2,3,5,6	DR	The project's operation lifetime is defined as 15 years for blast-furnace gas utilization and 10 years for waste heat utilization. **CAR 29.** Please define the expected operational lifetime of the project in years and months.	CAR 29	OK
C.3. Length of the crediting period					
C.3.1. Is the length of the crediting period specified in years and months?	1,2,3,5,6	DR	The starting date of the crediting period is 01/01/2008. **CAR 30.** Please specify the length of the crediting period in years and months.	CAR 30	OK
D. Monitoring Plan					
D.1. Description of monitoring plan chosen					
D.1.1. Is the monitoring plan defined?	1,2,3,5,8	DR	The monitoring plan is defined. Option 1 is chosen for this project. **CAR 31.** To ensure better transparency of data monitored please provide more detailed description of monitoring plan in respect of calculated parameters used (e.g. fuel consumption, fuel composition, measurement of electric power through network pumps etc.) and how they are obtained.	CAR 31	OK
D.1.2. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario.	1,2,3,5,6,8	DR	Refer to section D.1.1 of the PDD	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.1.3. Data to be collected in order to monitor emissions from the project, and how these data will be archived.	1,2,3 ,5,6, 8	DR	Data to be collected in order to monitor emissions from the project are presented in the Table D.1.1.1. in the PDD. **CAR 32.** Please indicate in table D.1.1.1 of the PDD how data to monitor emissions from the project will be archived. **CAR 33.** Not all parameters states in section D.1.1.2 of the PDD are included in the table D.1.1.1. **CL 08.** Please specify the data source for parameters: maximal electrical load of the turbogenerator in the baseline scenario and conversion factor of natural fuel into standard fuel with clear references (if applicable) (see Annex 3 of the PDD).	CAR 32 CAR 33 CL 08	OK OK OK
D.1.4. Description of the formulae used to estimate project emissions (for each gas, source etc,; emissions in units of CO2 equivalent).	1,2,3 ,5,6	DR	Refer to section D.1.1.2 of the PDD. Please see CAR 06	Pending	OK
D.1.5. Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be collected and archived.	1,2,3 ,5,6	DR	Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary are presented in the Table D.1.1.3. in the PDD. This data will be archived both in electronic and paper format.	OK	OK
D.1.6. Description of the formulae used to estimate baseline emissions (for each gas, source etc, emissions in units of CO2 equivalent).	1,2,3 ,5,6	DR	See Section D.1.1.4. of the PDD	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.1.7. Option 2 – Direct monitoring of emissions reductions from the project (values should be consistent with those in section E)	1,2,3 ,5,6	DR	Not applicable.	OK	OK
D.1.8. Data to be collected in order to monitor emission reductions from the project, and how these data will be archived.	1,2,3 ,5,6	DR	Not applicable.	OK	OK
D.1.9. Description of the formulae used to calculate emission reductions from the project (for each gas, source etc,; emissions/emission reductions in units of CO2 equivalent).	1,2,3 ,5,6	DR	Not applicable.	OK	OK
D.1.10. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project.	1,2,3 ,5,6, 8	DR	No leakage has been identified within the project. Refer to CAR 26	Pending	OK
D.1.11. Description of the formulae used to estimate leakage (for each gas, source etc,; emissions in units of CO2 equivalent).	1,2,3 ,5,6	DR	Not applicable.	OK	OK
D.1.12. Description of the formulae used to estimate emission reductions for the project (for each gas, source etc,; emissions in units of CO2 equivalent).	1,2,3 ,5,6	DR	See section D.1.4. of the PDD	OK	OK
D.1.13. Is information on the collection and archiving of information on the environmental impacts of the project provided?	1,2,3 ,5,6	DR, I	The project environmental impacts will be recorded by the Laboratory of the environment protection of the JSC "Zaporizhstal" in compliance with the existing procedures. The record of the data on the project environmental impacts will be done on the basis of the approved instrumental measuring and calculation methods. The information on the project project environmental impacts is to be hold at the JSC "Zaporizhstal" and is to be delivered to the state executive jurisdiction in the form of the state statistics.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.1.14. Is reference to the relevant host Party regulation(s) provided?	1,2,3,5,6	DR, I	**CAR 34.** Please provide reference to the relevant host Party regulations.	CAR 34	OK
D.1.15. If not applicable, is it stated so?	1,2,3,5,6	DR, I	Refer to D.1.14 of this protocol.	Pending	OK
D.2. Qualitative control (QC) and quality assurance (QA) procedures undertaken for data monitored					
D.2.1. Are there quality control and quality assurance procedures to be used in the monitoring of the measured data established?	1,2,3,5,6	DR	Quality control and quality assurance procedures to be used in the monitoring of the measured data are established in the section D.2. of the PDD. **CL 09.** Please clarify what kind of methodology is implied for QC/QA in the table of section D.2.	CL 09	OK
D.3. Please describe of the operational and management structure that the project operator will apply in implementing the monitoring plan					
D.3.1. Is it described briefly the operational and management structure that the project participants(s) will implement in order to monitor emission reduction and any leakage effects generated by the project activity	1,2,3,5,6	DR	**CAR 35.** Please provide a chart (diagram) of data flow from primary data sources (measuring equipment) to the archiving system (computer database) with indicated persons responsible for each monitoring step and for the monitoring in whole.	CAR 35	OK
D.4. Name of person(s)/entity(ies) establishing the monitoring plan					
D.4.1. Is the contact information provided?	1,2,3,5,6	DR	CJSC "National Carbon Sequestration Foundation" (Moscow); Contact person: Mr. Roman Kazakov; Tel.: +7 499 788 78 35 ext. 113 E-mail: KazakovRA@ncsf.ru	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
D.4.2. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2,3 ,5,6	DR	It is indicated that "National Carbon Sequestration Foundation" is not a project participant.	OK	OK
E. Estimation of greenhouse gases emission reductions					
E.1. Estimated project emissions					
E.1.1. Are described the formulae used to estimate anthropogenic emissions by source of GHGs due the project?	1,2,3 ,5,6, 8	DR	The formulae used to estimate project emissions are described in the section D.1.1.2 of the PDD.	OK	OK
E.1.2. Is there a description of calculation of GHG project emissions in accordance with the formula specified in for the applicable project category?	1,2,3 ,5,6, 8	DR	All the calculations are provided in the Excel file "2009-11-16-GHG ESTIMATION-WASTE_ENERGY-ver_01.xls". **CAR 36.** Information of the GHG emission calculation in the Excel file must be presented in English.	CAR 36	OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1,2,3 ,5,6	DR	Conservative assumptions have been used to calculate project GHG emissions.	OK	OK
E.2. Estimated leakage					
E.2.1. Are described the formulae used to estimate leakage due to the project activity where required?	1,2,3 ,5,6, 8	DR	Leakage is not expected. See CAR 26	Pending	OK
E.2.2. Is there a description of calculation of leakage in accordance with the formula specified in for the applicable project category?	1,2,3 ,5,6	DR	Refer to E.2.1 above.	Pending	OK
E.2.3. Have conservative assumptions been used to calculate leakage?	1,2,3 ,5,6, 8	DR	Refer to E.2.1 above.	Pending	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.3. The sum of E.1 and E.2.					
E.3.1. Does the sum of E.1 and E.2 represent the project activity emissions?	1,2,3 ,5,6	DR	The calculated values of the sum of E.1 and E.2 represent the project emissions. The sum equals E.1 since the leakage emissions are assumed equal to zero. Refer to PDD Section E.3 Table 8.	OK	OK
E.4. Estimated baseline emissions					
E.4.1. Are described the formulae used to estimate the anthropogenic emissions by source of GHGs in the baseline using the baseline methodology for the applicable project category?	1,2,3 ,5,6	DR	The formulae used to estimate baseline emissions are described in the section D.1.1.4 of the PDD.	OK	OK
E.4.2. Is there a description of calculation of GHG baseline emissions in accordance with the formula specified in for the applicable project category?	1,2,3 ,5,6	DR	The estimated values of the baseline emissions are presented in PDD Section E.4. The calculations are provided in the Excel file "2009-11-16-GHG ESTIMATION-WASTE_ENERGY-ver_01".	OK	OK
E.4.3. Have conservative assumptions been used to calculate baseline GHG emissions?	1,2,3 ,5,6	DR	Conservative assumptions were made.	OK	OK
E.5. Difference between E.4. and E.3. representing the emission reductions of the project					
E.5.1. Does the difference between E.4. and E.3. represent the emission reductions due to the project during a given period?	1,2,3 ,5,6	DR	**CAR 37.** Please calculate and insert the difference between E.4. and E.3. representing the emission reductions due to the project.	CAR 37	OK
E.6. Table providing values obtained when applying formulae above					
E.6.1. Is there a table providing values of total CO_2	1,2,3	DR	Yes. The table is presented in section E.6 of	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
abated?	,5,6		the PDD		
F. Environmental Impacts					
F.1. Documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party					
F.1.1. Has an analysis of the environmental impacts of the project been sufficiently described?	1,2,3 ,5,6	DR, I	The results of the environmental impact assessment are subjects to the state expertise the positive conclusion of which proves the compliance of the project events with the current legislation in the sphere of the environmental protection. **CL 10.** Please clarify environmental impacts of the project more precisely.	CL 10	OK
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is and EIA approved?	1,2,3 ,5,6	DR, I	The EIA of the project is fulfilled on the stage of the project documentation elaboration in compliance with the requirements of the environmental legislation of Ukraine. The results of the project's EIA show that the project implementation will not bring to a significant impact on the environment. **CAR 38**. Please provide references to supporting documentation on environmental impact assessment and list the documentation as required by Guidelines for users of the JI PDD Form.	CAR 38	OK
F.1.3. Are the requirements of the National Focal Point being met?	1,2,3 ,5,6	DR, I	The National Focal Point issued Letter of Endorsement for the project.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
F.1.4. Will the project create any adverse environmental effects?	1,2,3,5,6	DR, I	Adverse environmental effects are not expected.	OK	OK
F.1.5. Are transboundary environmental considered in the analysis?	1,2,3,5,6	DR, I	**CL 11.** There is no information about transboundary effects. Please clarify.	CL 11	OK
F.1.6. Have identified environmental impacts been addressed in the project design?	1,2,3,5,6	DR, I	Yes, identified environmental impacts have been addressed in the project design.	OK	OK
***G.* Stakeholders' comments**					
G.1. Information on stakeholders' comments on the project, as appropriate					
G.1.1. Is there a list of stakeholders from whom comments on the project have been received?	1,2,3,5,6,11	DR	The host Party legislation does not require consultations with stakeholders for Joint Implementation projects. See section G.1 of the PDD. Information on the project has been published in the local newspaper, no comments were received.	OK	OK
G.1.2. The nature of comments is provided?	1,2,3,5,6	DR	See G.1.1 above.	OK	OK
G.1.3. Has due account been taken of any stakeholder comments received?	1,2,3,5,6	DR	See G.1.1 above.	OK	OK

Table 4 Legal requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. **Legal requirements**					
1.1. Is the project activity environmentally licensed by the competent authority?	1,2,3,4	DR, I	The positive conclusion of the state environmental expertise of the Host Party proves the compliance of the project events with the current legislation in the sphere of the environmental protection, i.e. it proves the acceptable level of the project impact on the environment at all the stages of its implementation. The project obtained the positive report of the state environmental expertise.	OK	OK
1.2. Are there conditions of the environmental permit? In case of yes, are they already being met?	1,2,3	DR, I	The JSC "Zaporizhstal" has all the necessary permissions for the sources of the pollution emissions. See section F.2 of the PDD.	OK	OK
1.3. Is the project in line with relevant legislation and plans in the host country?	1,2,3	DR, I	**CL 12.** Please clarify if the project is in line with relevant legislation and plans in the host country.	CL 12	OK

Table 5 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
CAR 01. The project has no approval of the Host Party.	Table 1, 1.	The Letter of Approval by the Host Party will be received after successfully determination of the Project. This is in accordance with Ukrainian Legislation (Order Nr. 718, dated 10 August 2008. On Approval of the Procedure of Drafting, Review, Approval and Implementation of Projects Aimed at Reduction of Anthropogenic Emissions of Greenhouse Gases; Order Nr. 33, dated June 25, 2008. On approval of Requirements to preparation of the joint implementation projects).	The CAR will be closed after report finalizing
CAR 02. The section A.2 exceeds two pages which is not in accordance with Guidelines for JI PDD Form.	A.2.2.	The section A.2 of PPD is corrected. The length of this section is not exceeding two pages.	PDD version 02 was checked. The issue is closed.
CAR 03. The section A.4.1.4. exceeds one page which does not comply with JI PDD Form.	A.4.1.4.	The section A.4.1.4. of PPD is corrected. The length of this section is not exceeding one page.	PDD version 02 was checked. The issue is closed.
CAR 04. The implementation schedule is not presented.	A.4.2.1.	The implementation schedule of the project is presented in the section A.4.2.	PDD version 02 was checked. The issue is closed.
CAR 05. Please provide an investment schedule of the project as required by the Host Party.	A.4.2.1.	The investment schedule is prepared and provided as additional file to the PDD.	The document presenting amount of investment for subproject stages was checked. The issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
CAR 06. The amount of emission reductions stated in sections A.2, A.4.3, D and E of the PDD is states in tonnes of CO2 while it should be provided in tonnes of CO2 equivalent. Please correct.	A.4.3.3.	Corrected. The amount of emission reductions is provided in the PDD in tonnes of CO2 equivalent.	PDD version 02 was checked. The issue is closed.
CAR 07. The length of the crediting period in PDD's table A.4.3.1 and section C.3 are not consistent. Please provide consistent data on the length of the crediting period throughout the PDD	A.4.3.4.	The length of the crediting period is 5 years or 60 months. The crediting period begins on 01.01.2008 and finishes on 31.12.2012. The consistent data are provided throughout the PDD.	PDD version 02 was checked. The issue is closed.
CAR 08. As Letter of Approval from Parties involved has not been issued yet but Letter of Endorsement is available only, please make relevant corrections to the section A.5. of the PDD.	A.5.1.	The information in the section A.5 is corrected. The Letter of Approval by the Host Party will be received after successfully determination of the Project (see CAR 01).	PDD version 02 was checked. The issue is closed.
CAR 09. The key information and data used to establish the baseline (variables, parameters, data sources etc.) shall be provided in the prescribed tabular form in section B1 of the PDD.	B.1.1.	The key information and data used to establish the baseline are provided in the prescribed tabular form in the section B1 of the PDD.	PDD version 02 was checked. The issue is closed.
CAR 10. It is not explicitly indicated which of the approaches regarding baseline setting is chosen (JI specific approach or approved CDM methodology).	B.1.2.	The JI specific approach is chosen for baseline setting according to the paragraph 9(a) "Guidance on criteria for baseline setting and monitoring", (Version 02). The indication and description of the approach chosen is provided in the section B.1.of the PDD.	PDD version 02 was checked. The issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
CAR 11. The application of approach chosen for baseline setting is to be described in section B.1 of the PDD as required by Guidelines for JI PDD Form Users.	B.1.3.	The application of the approach chosen for baseline setting is described in the section B.1. of the PDD.	PDD version 02 was checked. The issue is closed.
CAR 12. Annex 2 (baseline information) does not contain a summary of the key elements in tabular form as required by Guidelines for Users of JI PDD Form.	B.1.4.	Table containing the key elements of the baseline (including variables, parameters and data sources) is provided in the Annex 2 of the PDD.	PDD version 02 was checked. The issue is closed.
CAR 13. Please provide correct references to Guidance on criteria for baseline setting and monitoring throughout the PDD.	B.1.5.	*Response 1:* The correct references to Guidance on criteria for baseline setting and monitoring are provided throughout the PDD. *Response 2:* The actual version of the Guidance on criteria for baseline setting and monitoring is used in the PDD: "Guidance on criteria for baseline setting and monitoring (Version 02)". This ensures more transparency of the PDD.	*Conclusion 1*: Please specify what version of Guidance on criteria for baseline and monitoring was used in the PDD ver.02 of 11.02.2010, as it differs from PDD ver.01 of 16.11.2009. *Conclusion final*: The information provided is exhaustive. The issue is closed.
CAR 14. It is not explicitly indicated which of the approaches is chosen for demonstrating additionality.	B.2.1.	The JI specific approach is chosen for demonstrating additionality according to the paragraph 2(a) of the Annex I to the "Guidance on criteria for baseline setting and monitoring", (Version 02). The indication and description of the approach chosen is provided in the section	PDD version 02 was checked. The issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		B.2.of the PDD.	
CAR 15. The format of demonstrating additionality prescribed by the latest version of the Tool for the demonstration and assessment of additionality (Additionality Tool) is not followed.	B.2.1.	Tool for the demonstration and assessment of additionality (Additionality Tool) is not used for demonstrating additionality. The JI specific approach is chosen for demonstrating additionality. See CAR 14.	PDD version 03 and Excel file with investment analysis calculations were checked. Despite the fact that Additionality Tool is not used in the PDD, the additionality can be considered sufficiently demonstrated with the method applied in the present PDD. The issue is closed.
CAR 16. English version of Excel files calculation on investment analysis shall be submitted.	B.2.1.	The English version of Excel files calculation on investment analysis is prepared and submitted.	The Excel files with investment analysis calculations were checked. The issue is closed.
CAR 17. According to the Additionality Tool the levelised cost of power produced shall be used as a key factor for comparison of the alternatives for "Blast-furnace gas utilization" sub-project while in the PDD simple cost of electrical energy is used. Please correct.	B.2.1.	Additionality Tool isn't used in the PDD (See CAR 14 and CAR 15). Barrier analysis was provided according to the "Guidance on criteria for baseline setting and monitoring", Ver.02. The levelised cost of electricity is calculated and used for comparison of the alternative scenarios. The calculation is submitted as an excel file. The results of investment comparison analysis are provided in the section B of the PDD.	PDD version 03 and Excel file with investment analysis calculations were checked. The issue is closed.
CAR 18. Please use correct service life time of equipment for calculation of the levelised cost of energy.	B.2.1.	The levelised cost of electricity is calculated on the basis of 10 years equipment lifetime for the baseline scenario and 20 years equipment lifetime for the project scenario. The calculation	Excel file with investment analysis calculations were checked. The issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		is submitted as an excel file.	
CAR 19. The IRR used as the benchmark in the investment analysis of the subproject "Waste heat utilization" is derived from the NBU discount rate as of the beginning of 2004. Please note that it can not be applied in the project case as this rate is charged on UAH funds while project calculations are made in EUR.	B.2.1.	Corrected. The discount rate is used in the end of 2003 charged by Ukrainian commercial banks on loans denominated in foreign currency (USD and EUR).	PDD version 02 was checked. The issue is closed.
CAR 20. It is indicated that the service life of equipment of waste heat utilization sub-project is 10 years while investment analysis calculations are made for 9 years of operation. Please correct.	B.2.1	Corrected. Calculations were prolonged.	PDD version 02 and Excel file with investment analysis calculations were checked. The issue is closed.
CAR 21. Taking into account the fact that fixed prices are used in the model for investment analysis of waste heat utilization sub-project the real IRR shall be used instead of nominal (calculated in the following way: IRRr = (IRRn+1)/(I+1)-1, where IRRr- is real IRR, IRRn – nominal IRR, I – inflation index for EuroZone as financial calculations are made in Euros). Please correct.	B.2.1	Corrected. Real discount rate was calculated.	PDD version 02 and Excel file with investment analysis calculations were checked. The issue is closed.
CAR 22. The methodology prescribed by the Corporate Tax Law of Ukraine is not followed for calculating depreciation of sub-project	B.2.1	Corrected. Approach for depreciation calculation was changed in accordance with the Corporate Tax Law of Ukraine.	PDD version 02 and Excel file with investment analysis calculations were checked. The

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
"Waste heat utilization". Please correct this issue as it provides substantial impact on after-tax cash flow.			issue is closed.
CAR 23. Alternative scenario #1 in table B.2-1 of the PDD does not indicate whether the existing 18 MW turbogenerator will be in operation at the same time together with newly installed 35 MW turbogenerator or it will be out of the operation. Please specify and describe accordingly.	B.2.2.	The existing 18 MW turbogenerator will be operated together with new installed equipment (turbogenerator 35 MW) only in cases when the amount of blast-furnace gas will be so much that it can not be fully consumed by electricity production with the turbogenerator 35 MW. The definition and description of alternative scenario #1 is corrected throughout the PDD.	PDD version 02 was checked. The issue is closed.
CAR 24. The format of the PDD's section B.2. does not comply with JI PDD Form (landscape format of the pages 14-18, 25).	B.2.2.	The format of the PDD's section B.2. is corrected in accordance with JI PDD Form.	PDD version 02 was checked. The format is in compliance with JI PDD Form. The issue is closed.
CAR 25. Please provide the summary of national policies and circumstances relevant to the baseline of the sub-project "Waste heat utilization".	B.2.6.	The summary of the national policies relevant to the sub-project "Waste heat utilization" is provided in the PDD by analysis of corresponding of alternative scenarios with national regulation.	PDD version 02 was checked. The issue is closed.
CAR 26. The potential leakage of the project is not assessed nor is explained which of sources of leakage are to be calculated and which can be neglected.	B.3.1.	*Response 1:* The leakage for projects that utilize waste energy (incl. wastegas and wasteheat) is not applicable in accordance with Approved consolidated baseline and monitoring methodology ACM0012 / Version 03.2 "Consolidated baseline methodology for GHG emission reductions from waste energy	*Conclusion 1:* Please amend the PDD (section B.3.) with the relevant explanation regarding leakage as required by the "Guidance on criteria for baseline setting and monitoring", (Version 02). *Conclusion final*:

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		recovery projects" (p. 35, http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html). *Response 2:* The explanation regarding leakage is completed in accordance with "Guidance on criteria for baseline setting and monitoring", (Version 02) and provided in the section B.3. of the PDD.	PDD version 03 was checked. The issue is closed.
CAR 27. Please provide the date the baseline setting in the DD/MM/YYYY format.	B.4.1.	The format of dates in the PDD is corrected.	PDD version 02 was checked. The issue is closed.
CAR 28. Please specify the exact project's starting date in the DD/MM/YYYY format and provide the relevant evidences to confirm selected date.	C.1.1.	The starting date of the project is determined on 02/06/2004. The confirmed information (Protocol of technical meeting) is attached. The relevant information is provided in the PDD in the section C.1.	PDD version 02 and supporting documentation were checked. The issue is closed.
CAR 29. Please define the expected operational lifetime of the project in years and months.	C.2.1.	The expected operational lifetime of the project is 20 years (240 months) The relevant information is provided in the section C.2 of the PDD.	PDD version 02 was checked. The issue is closed.
CAR 30. Please specify the length of the crediting period in years and months.	C.3.1.	The length of the crediting period is specified in years and months and provided in the section C.3 of the PDD.	PDD version 02 was checked. The issue is closed.
CAR 31. To ensure better transparency of data monitored please provide more detailed description of monitoring plan in respect of	D.1.1.	The calculated parameters of monitoring plan are detailed described (inc. methodology of calculation and scheme of data collection) and	PDD version 02 was checked. The issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
calculated parameters used (e.g. fuel consumption, fuel composition, measurement of electric power through network pumps etc.) and how they are obtained.		provided in the Annex 3 "Monitoring plan" of the PDD.	
CAR 32. Please indicate in table D.1.1.1 of the PDD how data to monitor emissions from the project will be archived.	D.1.3.	The information about how data to monitor emissions from the project will be archived is provided in the table D.1.1.1.	PDD version 02 was checked. The issue is closed.
CAR 33. Not all parameters states in section D.1.1.2 of the PDD are included in the table D.1.1.1.	D.1.3.	The section D.1.1.1. is corrected. All parameters stated in the section D.1.1.2. are included in the section D.1.1.1.	PDD version 02 was checked. The issue is closed.
CAR 34. Please provide reference to the relevant host Party regulations.	D.1.14	The references to the relevant host Party regulations are provided in the section D.1.5.	PDD version 02 was checked. The issue is closed.
CAR 35. Please provide a chart (diagram) of data flow from primary data sources (measuring equipment) to the archiving system (computer database) with indicated persons responsible for each monitoring step and for the monitoring in whole.	D.3.1.	The scheme of data collection, delivery and processing and responsible persons for monitoring is provided in the Annex 3 "Monitoring plan" of the PDD.	PDD version 02 was checked. The issue is closed.
CAR 36. Information of the GHG emission calculation in the Excel file must be presented in English.	E.1.2.	The estimation of GHG emissions in English is completed. The relevant excel file is attached.	The Excel file with emission reduction calculation was checked. The issue is closed.
CAR 37. Please calculate and insert the difference between E.4. and E.3. representing the emission reductions due to the project.	E.5.1.	*Response 1:* The difference between E.4. and E.3 representing the emission reductions due to the project is calculated and inserted in the section E.5. of the PDD.	*Conclusion 1:* Please make the data on project emission reductions for 2008 consistent in the tables of sections E.5. and E.6. of the

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		Response 2: Corrected. The data on project emission reductions is consistent in the section E.5. and E.6. of the PDD.	PDD. *Conclusion final:* PDD version 03 was checked. The issue is closed.
CAR 38. Please provide references to supporting documentation on environmental impact assessment and list the documentation as required by Guidelines for users of the JI PDD Form.	F.1.2.	The references to supporting documentation on environmental impact assessment and the list of environmental impact regulation are provided in the section F.1. of the PDD.	PDD version 02 was checked. The issue is closed.
CAR 39. In the PDD ver.02 of 11/02/2010 in the end of section B.2. stated amount of project emission reductions do not comply with data in section E.	B.2.4.	Corrected. The amount of project emission reductions stated in the section B.2. is consistent with the section E.	PDD version 03 was checked. The issue is closed.
CL 01. Please provide information in section A.4.1. regarding the location of the project as required by JI PDD Form.	A.4.1.4.	The project is located on the territory of the JSC "Zaporizhstal", city of Zaporizhzhya, Zaporizhzhya region, Ukraine. The relevant information is provided in the section A.4.1. of the PDD.	PDD version 02 was checked. The issue is closed.
CL 02. Please clarify in PDD if the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country.	A.4.2.2.	The detailed information of the project's technologies is provided in the section A.4.2. of the PDD.	PDD version 02 was checked; the information provided is exhaustive. The issue is closed.
CL 03. Please clarify if the project requires extensive initial training and maintenance	A.4.2.4.	The necessary training of CHPP's staff in JSC "Zaporizhstal" is provided because of new	PDD version 02 and supporting documentation were checked; the

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
efforts in order to work as presumed during the project period.		equipment installation and their operation. The supporting documentation is attached.	information provided is exhaustive. The issue is closed.
CL 04. As it appears from the PDD as for the sub-project "Blast-furnace gas utilization" the system is to generate some amount of process steam as well. Please clarify this issue for two alternatives. Please note that in this case the levelised cost of heat generation shall be estimated as well.	B.2.1.	Investment analysis for the sub-project "Blast-furnace gas utilization" based on the comparison of the specific cost of the consumed electric power. The sub-project is implemented for increase of electricity production in the own CHPP by blast-furnace gas utilization and not for heat power production (the heat power demand in the enterprise was fully covered before project implementation). The heat power supply from the CHPP is the same in both alternative scenarios; the supply of the heat power from the CHPP to the third party doesn't take place. Therefore the calculation of financial indicators includes only the electricity production and steam generation used for electricity generation only. The investment analysis including operational cost of electricity calculation is attached.	PDD version 02 and supporting documentation were checked. The issue is closed.
CL 05. In Excel file 2009-11-16-Investment_Analysis _Waste GAS ver_01.xls it is assumed that both installations of 18MW and 35MW would generate the same amount of electrical power 200000 MWh per year while 18MW turbogenerator obviously is not able to produce so much energy. In addition	B.2.1	The new installed equipment (turbogenerator with capacity 35 MW) generates about 200,000 MWh/year (based on actual data for 2008). The turbogenerator 18 MW can generate about 150,000 MWh (based on available capacity * time of operation in hours per year). Because of the turbogenerator 18 MW cannot	Excel file was checked; the information provided is exhaustive. The issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
on the page 2 of the PDD it is stated that 18 MW turbogenerator is able to produce up to 150 000 MWh per year. Please clarify this issue.		generate the same amount of electricity like the turbogenerator 35 MW is considered the additional supply of electricity from the power grid in amount of 50,000 MWh (200,000 MWh/year - 150,000 MWh). So it will be considered by investment comparison analysis two alternative scenarios with comparable quantity. As quantity parameter is used the electricity consumption in amount of 200,000 MWh/year (not electricity generation). The relevant explanations are provided in excel files where investment analysis is provided.	
CL 06. Please clarify the nature of the "Cost of waste heat" item (see Excel file 2009-11-16-Investment_Analysis _WASTE HEAT ver_01.xls)	B.2.1	The cost of the waste heat includes costs for maintenance, repair and operation of the evaporation cooling systems and of the waste-heat boilers of the blast-furnaces and the open-hearth furnaces. The cost of waste heat is determined in accordance with "Methodic recommendation for planning, registration and calculation of product's net cost for ferrous metallurgy enterprises", developed by Institute of economics CNII of ferrous metallurgy named I.P.Bardina, Moscow, 1992. The cost of the waste heat does not include other costs used by investment analysis (electricity, chemical cleaned water, depreciation, etc.) as they are determined for new installed equipment. The relevant information is provided in excel files	Excel file was checked; the information provided is exhaustive. The issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		where investment analysis is provided.	
CL 07. Please specify why the emissions in the baseline scenario would likely exceed the emissions in the project scenario.	B.2.4.	The project scenario based on production of electricity by blast-furnace gas utilization which is flared in the absence of the project and production of heat power by waste heat utilization. In the absence of the project electricity and heat power will be produced by fossil fuel combustion. Therefore the baseline emissions would exceed the project emissions. Detailed information is provided in the section A.4.3. of the PDD.	The information provided is exhaustive. The issue is closed.
CL 08. Please specify the data source for parameters: maximal electrical load of the turbogenerator in the baseline scenario and conversion factor of natural fuel into standard fuel with clear references (if applicable) (see Annex 3 of the PDD).	D.1.3.	The data source for parameters (maximal electrical load of the turbogenerator in the baseline scenario and conversion factor of natural fuel into standard fuel) is provided in the Annex 3 of the PDD.	PDD version 02 was checked. The issue is closed.
CL 09. Please clarify what kind of methodology is implied for QC/QA in the table of section D.2.	D.2.1	The procedures using for quality control and quality assurance in the monitoring of the measured data are provided in the section D.2. of the PDD.	PDD version 02 was checked. The issue is closed.
CL 10. Please clarify environmental impacts of the project more precisely.	F.1.1.	The environmental impacts of the project are provided in the section F.1. The results of the project's EIA show that the project implementation will not bring to a significant	PDD version 02 was checked. The issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		impact on the environment.	
CL 11. There is no information about transboundary effects. Please clarify.	F.1.5.	The project has not the transboundary effects. The supporting information is provided in the section F.1. of the PDD.	PDD version 02 was checked. The issue is closed.
CL 12. Please clarify if the project is in line with relevant legislation and plans in the host country.	Table 4, 1.3	The project is in line with relevant legislation and plans in the host country. The relevant information is provided in the section A.2. of the PDD.	PDD version 02 was checked. The issue is closed.

APPENDIX B: VERIFIERS CV'S

Work carried out by:

Nadiya Kaiiun, M. Sci. (environmental science)

Team Leader, Climate Change Lead Verifier
Bureau Veritas Ukraine Health, Safety and Environment Department Project Manager

Nadiya Kaiiun has graduated from National University of Kyiv-Mohyla Academy with the Master Degree in Environmental Science. She is a Lead auditor of Bureau Veritas Certification for Environment Management Systems. She has performed over 15 audits since 2008. She has undergone intensive training on Clean Development Mechanism /Joint Implementation and is involved in the determination/verification of 20 JI projects.

Oleg Skoblyk, Specialist (energy management)

Team member, Climate Change Verifier
Bureau Veritas Ukraine Health, Safety and Environmental Project Manager

He has graduated from National Technical University of Ukraine 'Kyiv Polytechnic University" with specialty Power Management. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered). He performed over 10 audits since 2008. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the determination/verification of 11 JI projects.

Victoria Legka, (biology)

Team Member, Verifier
Bureau Veritas Ukraine Health, Safety and Environment Project Manager

Victoria Legka has graduated from National University of Kyiv-Mohyla Academy with the Bachelor Degree in Biology. She has successfully completed IRCA registered Lead Auditor Training Course for Environment Management Systems and Quality Management Systems and participated in 5 audits. Ms. Legka has undergone a training course on Clean Development Mechanism /Joint Implementation. She is involved in the determination/verification of 4 JI projects.

Denis Pishchalov (specialist in economics)

Team member, Financial Specialist
Bureau Veritas Ukraine Specialist in economics

Master of foreign trade, he has more than five year of experience in foreign trade and procurement. In particular one year as foreign trade manager in the Engineering Corporation (manufacturer and contractor in the municipal sector) and one year in the NIKO publishing house, one year as sales manager in the ITALCOM srl. In addition Denis has spent four years working as procurement specialist in Ukrainian Energy Service Company and two years as chief product manager in the Altset JSC. At the moment Denis is deputy director for finance and economy in the SUD of UTEM JSC.

The determination report was reviewed by:

Ivan G. Sokolov, Dr. Sci. (biology, microbiology)

Internal Technical Reviewer, Climate Change Lead Verifier
Bureau Veritas Certification Local Climate Change Product Manager for Ukraine

He has over 25 years of experience in Research Institute in the field of biochemistry, biotechnology, and microbiology. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered), Quality Management System (IRCA registered), Occupational Health and Safety Management System, and Food Safety Management System. He performed over 140 audits since 1999. Also he is Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and Lead Tutor of the IRCA registered ISO 9000 QMS Lead Auditor Training Course. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the determination/verification of 26 JI projects.