DETERMINATION REPORT

JSC "POBUZHSKIY FERONIKELEVIY KOMBINAT"

DETERMINATION OF THE MODERNISATION OF AN ENTERPRISE REGARDING FUEL SWITCHING FROM FUEL OIL TO NATURAL GAS AT PFC, LTD

REPORT NO. UKRAINE/0068/2009

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BUREAU VERITAS CERTIFICATION

DETERMINATION REPORT

Date of first issue:	Organizational unit:
03/02/2010	Bureau Veritas Certification Holding SAS
Client: JSC "Pobuzhskiy feronikeleviy kombinat"	Client ref.: Victor Khalabuzar

Summary:
Bureau Veritas Certification has made the determination of the "Modernisation of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD" project of JSC "Pobuzhskiy feronikeleviy kombinat" located in Urban settlement Pobugskoye, Golovanivskyi District of Kirovohrad 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 Executive Board, as well as the host country criteria.

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.

The first output of the determination process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology ACM0009 "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas" (Version 3.2) 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/0068/2009	JI
Project title: "Modernisation of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD"	
Work carried out by: Nadiia Kaiiun – Team leader , Lead Verifier Kateryna Zinevych – Team member, Verifier Denis Pishchalov – Team member, Financial specialist	
Work verified by: Ivan Sokolov – Internal Technical Reviewer	

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Indexing terms

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

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Abbreviations

CAR	Corrective Action Request
JI	Joint Implementation
ERU	Emission Reduction Unit
CL	Clarification Request
CO_2	Carbon Dioxide
IE	Independent Entity
GHG	Green House Gas(es)
I	Interview
IETA	International Emissions Trading Association
MoV	Means of Verification
NGO	Non Government Organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change

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1 INTRODUCTION

JSC “Pobuzhskiy feronikeleviy kombinat” has commissioned Bureau Veritas Certification to determinate its JI project “Modernisation of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD” (hereafter called “the project”) at Urban settlement Pobugskoye, Golovanivskyi District of Kirovohrad 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 meet 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 12 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Executive Board, 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

PFC, LTD is the first enterprise in the former Soviet Union, which produces ferronickel from oxidised base in production quantities.

The principal activity of PFC, LTD is provision of services for processing of nickel raw materials produced on commission, production of ferronickel, solid furnace and

granulated slag. Ferronickel is produced for the needs of enterprises in Ukraine and abroad.

The proposed project is related to the Fuel Combustion category and includes emissions from carbon fossil fuel combustion. Fuel combustion includes fuel oxidation processes for electric power generation for its further direct use or for transformation into mechanical power.

The main sources of emissions in this category in Ukraine are the Energy sector, Industry and Construction, and Transport, the share of which is nearly 85%[2] of the total emissions in the Fuel Combustion category. Chemical industry is among the biggest industrial fuel consumers in Ukraine after heat energy and iron-and-steel industry. Chemical industry differs by a greater percentage of use of raw fuel.

The technology of production of product on PFC, LTD includes roasting of ore charge in the tubular furnaces, melting the hot cinder on a ferronickel and refining an electro ovens ferronickel. Fuel oil was used for the production purposes according to the baseline scenario. The main consumers of fuel are 4 tubular furnaces of roasting workshop that require the use of substantial volumes of fuel. The emissions of greenhouse gases in the atmospheric air take place due to the incineration of fuel oil in stoves.

Project was initiated in 2004. The primary purpose of the project is to reduce greenhouse gas emissions by switching from fuel oil to natural gas. Reduction of greenhouse gas emissions can be achieved by modernisation of a fuel system.

To fulfill this project the enterprise constructed a gas pipeline connected to the public gas transmission system, which provided use of natural gas instead of fuel oil for combustion in the respective production. To increase efficiency of natural gas using the enterprise replaced gas burners.

Due to the absence of the project for production at the enterprise fuel oil was used as fuel, and the main greenhouse gas emissions from fuel combustion are CO_2 emissions. The proposed project allowed the enterprise to switch from oil fuel to another one – natural gas. Greenhouse gas emissions will be reduced at the expense of the fact that carbon content in fuel oil is much higher than in natural gas, and the lower combustion value of fuel oil is much higher compared to natural gas.

1.4 Determination team

The determination team consists of the following personnel:

Nadiia Kaiiun
Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Kateryna Zinevych
Bureau Veritas Certification Climate Change Verifier

Denis Pishchalov
Financial Specialist

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/PCF). 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.

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, 3 and 4 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-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 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 2/3**	**Summary of project owner response**	**Determination conclusion**
If the conclusions from the Determination are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 2, 3 and 4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the determination team should be summarized in this section.	This section should summarize the determination team's responses and final conclusions. The conclusions should also be included in Tables 2, 3 and 4, under "Final Conclusion".

Figure 1 Determination protocol tables

2.1 Review of Documents

The Project Design Document (PDD) version 04 dated 8 of December 2009 submitted by Raiden Ventures and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for Completing the Project Design Document (JI-PDD), Approved methodology, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by a Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests Raiden Ventures revised the PDD to the version 05 and resubmitted it on 27 of January 2010.

The determination findings presented in this report relate to the project as described in the PDD version 04.

2.2 Follow-up Interviews

On 28/12/2009 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of JSC "Pobuzhskiy feronikeleviy kombinat" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
JSC PFK, Raiden Ventures	➢ Additionality of the project, ➢ Emission factor of the project, ➢ EIA and its approval, ➢ Project design, ➢ Consulting process for stakeholder's comments , ➢ Approval status by the host country, ➢ Applicability of methodology, ➢ Monitoring Plan, ➢ QA issues, ➢ Baseline calculations.

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.

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 15 Corrective Action Requests and 2 Clarification Requests.

3) The conclusions for determination subject are presented.

3.1 Project Design

The project is expected to be in line with host-country specific JI requirements because it is aimed to reduce GHG emissions to the atmosphere by means of switching from fuel oil to natural gas.

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 (Urban settlement Pobugskoye, Golovanivskyi District of Kirovohrad region, Ukraine) and temporal (20 years) boundaries of the project are clearly defined.

Corrective Action Request (CAR) 1
Please include short description of the baseline scenario.

Response
The technology of production of product on PFC, LTD includes roasting of ore charge in the tubular furnaces, melting the hot cinder on a ferronickel and refining an electro ovens ferronickel. For the production of product of PFC, LTD for the baseline in the capacity of fuel used fuel oil. The main consumer of fuel are 4 tubular furnaces of roasting workshop that require the use of substantial volumes of fuel. The emissions of greenhouse gases in the atmospheric air take place due to incineration of fuel oil in stoves.

Conclusion of the determination team
Issue is closed.

Corrective Action Request (CAR) 2
Please provide the table in the section A.3 in the format presented in the JI PDD template.

Response
See PDD version 05 page 3 section A.3.

Conclusion of the determination team

Issue is closed.

Corrective Action Request (CAR) 3
Please provide information if project requires extensive initial training and maintenance efforts in order to work as presumed during the project period.

Response
The operational group PFC, LTD passed special training from exploitation of the fuel system on natural gas and leading through of the relevant preventive actions of the fuel system.
The personnel of the enterprise are subject to the periodic testing for knowledge of the requirements of safety and accident prevention during work with the fuel system.

Conclusion of the determination team
Issue is closed.

Corrective Action Request (CAR) 4
No provisions for meeting training and maintenance needs are mentioned in the given part.

Response
The operational group PFC, LTD passed special training from exploitation of the fuel system on natural gas and leading through of the relevant preventive actions of the fuel system.
The personnel of the enterprise are subject to the periodic testing for knowledge of the requirements of safety and accident prevention during work with the fuel system.

Conclusion of the determination team
Issue is closed.

Corrective Action Request (CAR) 5
Please provide the table in the section A.4.3.1. in the format of JI PDD form presented in the Guidelines for users of JI PDD form version 04. Please also provide tables for each period: AAU, actual crediting period and post crediting period (each in the requested format with all the underlining, fonts etc)

Response
See PDD version 05 page 4-6 section A.4.3.1.

Conclusion of the determination team
Issue is closed.

Corrective Action Request (CAR) 6

The estimated annual reduction for the chosen credit period is provided in tonnes while it should be provided in tCO_2e. Please clarify and correct. See table A.4.3.1.

Response
It is considered under all text of PDD version 5.

Conclusion of the determination team
Issue is closed.

Corrective Action Request (CAR) 7
No proof of the project approval by the Parties involved.

Response
After completion of the procedure of determination of the project the final version of documentation and report on determination will be provided to the National Environmental Investment Agency of Ukraine to obtain.

Conclusion of the determination team
Issue will be closed during first verification.

Corrective Action Request (CAR) 12
Please provide the confirmation of starting date of the project.

Response
Upon completion of the building of gas pipeline according to the order of Ministry of Fuel and Energy Ukraine from 04.07.2005, № 293 was created the State Commission of the adoption in exploitation of gas pipeline.
As a result of work of the State Commission the company was granted an act of the State Commission from 05.07.2005, "About readiness of a complete construction of the facility for production of the State Commission".

Conclusion of the determination team
Issue is closed.

Corrective Action Request (CAR) 16
There is no information about sponsor Party in PDD. Pending till 1st verification.

Response
Currently negotiations with few banks are in the process.

Conclusion of the determination team
Issue will be closed during first verification.

3.2 Baseline and Additionality

The "Modernisation of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD" project uses the approved consolidated baseline methodology ACM0009 ("Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas",Version 3.2).

This methodology is intended for the projects providing for switching from coal or fuel oil to natural gas in heat generation processes related to production. The proposed project assumes switching from fuel (fuel oil) to natural gas, so fuel is used for combustion in 4 pipe furnaces of a roast workshop of the enterprise for production.

The alternatives considered for determination of the baseline scenario in the context of the project activity include consideration of 4 following steps:

1. Determination of realistic and effective alternative fuel uses;
2. Recall of alternatives not consistent with the current laws and regulations;
3. Recall of alternatives, for which there are excessive obstacles;
4. Comparison of economic attractiveness of the remaining alternatives.

The possible alternative baseline scenarios are the following:

(a) Proposed project activity without JI;
Switching to natural gas under the conditions of absence of a joint implementation project is economically unsound for the enterprise. Realisation of the modernisation above requires considerable investment. The financial condition of the company does not allow to implement the project without attracting investment, and the joint implementation project provides the mechanisms allowing to attract financial resources for respective modernisation of the enterprise. In consideration of the current fuel prices expenses for natural gas are higher compared with fuel oil. Switching to natural gas and difficult situation with this fuel in Ukraine forces the enterprise to provide proper conditions for storage of a reserve supply of fuel oil to allow operation of the enterprise under the conditions of absence of natural gas.
(b)Continuation of use of fuel oil as fuel
The enterprise cannot carry out modernisation and correspondingly construction a gas pipeline connected to the public has transportation system. The enterprise will continue purchasing fuel oil for use as fuel.
(c)Switching to other alternative fuel not being natural gas, e.g. biomass
Switching to an alternative fuel, such as biomass is quite problematic. Measures for use of alternative fuel in industry is practically not realised in Ukraine. Biomass production in Ukraine has not reached the volume sufficient enough to satisfy the needs of the enterprise in fuel completely.

There are also great difficulties in organisation of biomass supply to the enterprise.

(d) Switching to natural gas over the period following expiry of the crediting period

Switching to natural gas after expiry of the crediting period will also likely be economically unsound. Practicality of implementation of the project after expiry of the crediting period greatly depends on the fuel price difference in Ukraine. For the project to become economically attractive natural gas prices, compared with fuel oil prices shall be reduced greatly, which is nearly impossible.

The most economically attractive alternative among the alternatives mentioned above has been selected as the baseline scenario, since such alternative is not expected to face any prohibitive barriers that could have prevented it from being taken up as the project activity. Continuation of use of fuel oil as fuel (alternative (b)) was chosen as the baseline scenario for the proposed joint implementation project.

Corrective Action Request (CAR) 8

Please provide the key information and data used to establish the baseline (variables, parameters, data sources etc.) in tabular form presented in the Guidance for JI PDD users version 04.

Response

See PDD version 05 page 38-41 Annex 2.

Conclusion of the determination team

Issue is closed.

Corrective Action Request (CAR) 9

Please provide the information why the emissions in the baseline scenario would likely exceed the emissions in the project scenario.

Response

Emission reductions will take place due to replacement of fuel from fuel oil on natural gas. The anthropogenic emissions of greenhouse gases by sources will be reduce in relation to those that would have occurred in the absence of project of general introduction, due to the fact that the oil in relation to natural gas is significantly higher net calorific value and coefficient of emission of $CO2_{equ}$ during combustion. Content of carbon in fuel oil almost on 25% higher than in the natural gas that is why the emissions of greenhouse gases in the atmosphere will be reduced by replacing fuel.

Conclusion of the determination team

Issue is closed.

Corrective Action Request (CAR) 10
Please provide the summary of national policies and circumstances relevant to the baseline of the proposed project activity.

Response
According to the Order of Cabinet of Ministers of Ukraine on 25.12.2002 under the number 723-p had received permission on building of gas pipeline for the gasification of settlements Gayvoronsk, Ulyanovsk regions and Golovanevsk of districts to the Kirovograd area. Providing the population of these areas by natural gas was adopted on the proposal of Kirovograd regional state administration, in consultation with the Ministry of Finance, Ministry of Energy, Ministry of Economy and State Property Fund of Ukraine.

Conclusion of the determination team
Issue is closed.

Corrective Action Request (CAR) 11
Please provide the date of the baseline setting presented in DD/MM/YYYY format.

Response
Please see PDD version 05.

Conclusion of the determination team
Issue is closed.

3.3 Monitoring Plan

The Project uses the approved consolidated monitoring methodology ACM0009 ("Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas", (Version 3.2)). Refer discussions on the validity of the methodology at section 3.2 above.

The adopted monitoring methodology has been chosen based on the following reasons:

- Prior to the implementation of the project activity, only coal or petroleum fuel (but not natural gas) have been used in the element processes;
- Regulations/programs do not constrain the facility from using the fossil fuels being used prior to fuel switching;
- Regulations do not require the use of natural gas or any other fuel in the element processes;
- The project activity does not increase the capacity of thermal output or lifetime of the element processes during the crediting period (i.e. emission reductions are only accounted up to the end of the lifetime of the relevant element process), nor is there any thermal capacity expansion planned for the project facility during the crediting period;

- The proposed project activity does not result in integrated process change.

Corrective Action Request (CAR) 13
Please provide reference to the relevant host party regulations.

Response
According to the order of Ministry of Fuel and Energy of Ukraine from 04.07.2005, № 293 was created the State Commission of the adoption in exploitation of the gas pipeline. As a result of work of the State Commission the company was granted an act of the State Commission from 05.07.2005, "About readiness of a complete construction of the facility for production of the State Commission", that allowed an enterprise to carry out a transition from fuel oil on natural gas.
For monitoring use facilities of measuring technique, which are included in the State register of facilities of measuring technique of Ukraine and which are subject to a periodic check of state.
PFC, LTD has the proper certificate to carry out measurements which are included in the sphere of state supervision.

Conclusion of the determination team
Issue is closed.

3.4 Calculation of GHG Emissions

As per "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas", the baseline emission sources considered are flared fuel oil and flared natural gas.

As required under "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas", the baseline emissions are calculated by

$BE_y = FF_{baseline, BO, y} \cdot NCV_{BO} \cdot EF_{BO, co2}$,

where:

$FF_{baseline, BO, y} = FF_{project, NG, y} \cdot (NCV_{NG} \cdot \varepsilon_{NG} / NCV_{BO} \cdot \varepsilon_{BO}$
where:

BE_y – annual baseline emissions, tons of $CO_{2\ equ}$;
$FF_{baseline, BO, y}$ – annual volume of flared fuel oil in case of absence of the project, thousand tons;
NCV_{BO} – lower combustion temperature of fuel oil, TJ/thousand tons;
$EF_{BO, co2}$ – $CO_{2\ equ}$ emission factor for fuel oil, t/TJ;
$FF_{project, NG, y}$ – annual volume of flared natural gas, million m^3;
NCV_{NG} – lower combustion temperature of natural gas, TJ/million m^3;
ε_{NG} – energy efficiency of a system fired with natural gas;

ε_{BO} – energy efficiency of a system fired with fuel oil.
The detailed algorithms are described later under sections D of the PDD.

As described in "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas", the project emissions result due to natural gas flaring.
The projectline emissions are calculated by
$PE_y = FF_{project, NG, y} \cdot NCV_{NG} \cdot EF_{NG, co2}$,

where:
PE_y – annual emissions under the project scenario, tons of $CO_{2\ equ}$;
$FF_{project, NG, y}$ – annual volume of flared natural gas, million m^3;
NCV_{NG} – lower combustion temperature of natural gas, TJ/million m^3;
$EF_{NG, co2}$ – $CO_{2\ equ}$ emission factor for natural gas, t/TJ.
With reference to this methodology, project does not lead to any leakage.

The estimated annual average of approximately 99251 tCO2e over the crediting period of emission reduction represents a reasonable estimation using the assumptions given by the project.

Corrective Action Request (CAR) 14
Please provide the table providing values of total CO_2 in the format of the JI PDD form template.

Response
See PDD version 05 page 29-30 section E.6.

Conclusion of the determination team
Issue is closed.

3.5 Environmental Impacts

The proposed interference into the existing production scheme has a positive environmental impact owning to switching of PFC, LTD from fuel oil to natural gas and will correspondingly lead to greenhouse gas air emissions reduction.

Emissions reduction will occur as a result of realisation of this project, namely: at the expense of the fact that carbon content in fuel oil is much higher than in natural gas.

Emissions reduction achieved as a result of implementation of this project has environmental impact in Ukraine and does not impact greenhouse gas emissions abroad Ukraine.
Within the framework of this joint implementation project the enterprise constructed a gas pipeline connected to the public gas transmission system in accordance with the current laws of Ukraine. Construction of the gas pipeline allowed the enterprise to switch from fuel oil to natural gas.

Within the procedures made on request of the respective public services the enterprise regularly reports on environmental performance. According to the Order of the Ministry of Ecology and Natural Resources of Ukraine of 09.03.2006 No. 108, the State Administration of Environmental Resources in Kirovohrad Region granted to the enterprise permit for emissions after substantiation of the contaminant emission volume, prepared in accordance with the instruction approved by this Order.
The documents and permits for contaminants emission shall be archived and stored by the principal ecologist of PFC, LTD.
Implementation of the proposed project allowed to reduce contaminant air emissions. According to the permits granted by the State Administration of Environmental Resources in Kirovohrad Region, environmental effect is small-scale, but, in general, is positive.
For the proposed project an environmental impact assessment (EIA) was completed.

Corrective Action Request (CAR) 15
Please provide information considering environment impact assessment (EIA).

Response
For the proposed project was completed an environmental impact assessment (EIA). Description of environment and estimation of influence on him, according to the EIA, are listed below.
1. Climate and microclimate.
The transition of the fuel system of enterprise from fuel oil on natural gas will entail no considerable additional excretions of heat, moisture, greenhouse gases and other substances, whose emissions can make impact on the climate and microclimate in the area adjacent to the company.
2. Air environment.
To identify the impact of emissions of fuel aggregates on an air pool were made calculations pollutants in the atmosphere. All sources of plant, which throw out NO_x and CO, were taken into account in calculations. According to the calculations maximal concentrations for all substances were below the limits and not render significant environmental impact.
3. Water environment.
The proposed by project activity measures do not lead to contamination or exhaustion of superficial and underground waters. The development of special water protection measures is not needed.
4. Geological environment.
The proposed by project activity measures do not render any negative impact on the geological environment.
5. Soil.
The proposed by project activity measures do not render an impact on the ground and does not change the mechanical, water-physical and other its properties.

6. Flora and Fauna.
The proposed by project activity measures in the whole as an anthropogenic process render on flora and fauna negative impact as a result of noise, air pollution. Impact of emissions in the atmospheric air, based on the size of the boundary concentrations of pollutants on flora and fauna virtually no area is essential and will not lead to depletion or degradation of plant and animal communities as a result of such activities.
Conclusion.
Changing the fuel on an enterprise will significantly reduce emissions of pollutants from the fuel system that will make a positive impact on the population living in the area.

Conclusion of the determination team
Issue is closed.

Clarification Request (CL)1

Please clarify environmental impacts of the project more precisely.

Response
See PDD version 05 page 31-32 section F.2.

Conclusion of the determination team
Issue is closed.

Clarification Request (CL)2

Please clarify if the project is in line with relevant legislation and plans in the host country.

Response
See PDD version 05 page 31-32 section F.2

Conclusion of the determination team
Issue is closed.

3.6 Comments by Local Stakeholders

The host Party does not require consultations with stakeholders for joint implementation projects.
Stakeholders' comments will be collected in the process of public of this project within the determination procedure.

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 Bureau Veritas Certification website (http://bureauveritas.com.ua) on 21/12/2009 and invited comments within 19/01/2010 by Parties, stakeholders and non-governmental organizations. Comments were not received.

5 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the "Modernisation of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD" Project 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.

Project participant used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides analysis of investment, technological and other barriers to determine that the project activity itself is not the baseline scenario.

By the construction of a gas pipeline connected to the public gas transmission system, which provided use of natural gas instead of fuel oil for combustion in the respective production, the project is likely to result in reductions of GHG emissions. An analysis of the investment and technological barriers demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The determination revealed two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party (Ukraine). If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 5 dated 27/01/2010 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 that relate directly to the GHG components of the project.

/1/ PDD version 1 created 10th of November 2009

/2/ PDD version 2 created 25th of November 2009

/3/ PDD version 3 created 2nd of December 2009

/4/ PDD version 4 created 8th of December 2009

/5/ PDD version 5 created 27th of January 2010

/6/ Letter of Endorsement No. 1382/23/7. dated 19th November 2009

/7/ Environmental Impact assessment

/8/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.

/9/ Glossary of JI terms/Version 01, JISC.

/10/ Guidance on criteria for baseline setting and monitoring. Version 01. JISC.

/11/ Tool for the demonstration and assessment of additionality. Version 05.2. EB 39, Annex 10.

/12/ JISC "Clarification regarding the public availability of documents under the verification procedure under the Joint Implementation Supervisory Committee." Version 02.

/13/ 2006 IPCC Guidelines for National Greenhouse Inventories, v.2, Energy.

/14/ Operational Guidelines for Project Design Documents of Joint Implementation Projects. Volume 1. General Guidelines. Version 2.3. Ministry of Economic Affairs of the Netherlands. May 2004.

Category 2 Documents:

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

/1/ Allowable emissions of pollutants, which belong to the main sources of emissions.

/2/ Statement #65 dated 01.12.2009 on instrumental testing of work efficiency of aspiration and gas cleaning units. Boier shop ЭНЦ. Department of Central boiler house.

/3/ Statement #68 dated 08.12.2009 on instrumental testing of work efficiency of aspiration and gas cleaning. Boiler shop ЦХЛ. Depatment of facilities Fe Ni.

/4/ Statement of service performance of natural gas transportation dated 30.04.2008 according to the Contract #02/08-г (dated 01.12.2007).

/5/ Statement of service performance of natural gas transportation dated 30.04.2008 according to the Contract #1014/07-р (dated 06.12.2007).

/6/ Statement of service performance of natural gas transportation dated 31.05.2008 according to the Contract #02/08-г (dated 01.12.2007).

/7/ Statement of service performance of natural gas transportation dated 31.05.2008 according to the Contract #1014/07-р (dated 06.12.2007).

/8/ Certificate of unserviceability ТМЦ № п-00000357 for 4.02.2009.

/9/ Certificate of unserviceability ТМЦ № п-00000358 for 4.02.2009.

/10/ Certificate of unserviceability ТМЦ № п-00000174 for 30.11.2009.

/11/ Certificate of unserviceability ТМЦ № п-00000175 for 30.11.2009.

/12/ Emissions of pollutants into the atmosphere from power plants. Methodology. #86 dated 10.07.2002.

/13/ Information on the type and amount of emissions of pollutants into the atmosphere by stationary sources.

/14/ Permit #3521455500-25 on emissions of pollutants into the atmosphere by stationary sources dated 31.12.2008.

/15/ Allowable emissions of pollutants, which belong to the main sources of other sources of emissions.

/16/ Documents that justify the amount of emissions for receiving of the permit on emissions of pollutants into the atmosphere by stationary sources for LLC "Pobuzkyi ferronickel plant". Part 1.

/17/ Journal of chemical gas composition. Started on 03.01.2006.

/18/ Measures of implementation of best available technologies that do not require excessive costs and best available technologies and management methods.

/19/ Measures of air protection in the case of emergency technogenic and natural, consequences of air pollution.

/20/ Measures of pollutants emissions reduction.

/21/ Report on air protection for the III quarter 2009. #350699 dated 15.03.2004.

/22/ Information on measurements of emissions of pollutants into the atmosphere at the LLC "ПФК" for the III quarter 2009.

/23/ Passport. Turbine gas meters TZ/FLUXI. Information of periodic verification #6459706002. Verification date 26.08.2009. Information of periodic verification of the meter #6459706001. Verification date 24.03.2009.

/24/ Schedule chart of metering emissions for the IV quarter, 2009.

/25/ Project of the nickel production plan for 2010 (work РТП №1 и2 + РКЗ-4,5) dated 24.11.2009.

/26/ Calculation of the nickel production plan for August 2009.

/27/ Calculation of the nickel production plan for April 2009.

/28/ Calculation of the nickel production plan for December 2009.

/29/ Calculation of the nickel production plan for July 2009.
/30/ Calculation of the nickel production plan for June 2009.
/31/ Calculation of the nickel production plan for May 2009.
/32/ Calculation of the nickel production plan for March 2009.
/33/ Calculation of the nickel production plan for November 2009.
/34/ Calculation of the nickel production plan for October 2009.
/35/ Calculation of the nickel production plan for September 2009.
/36/ Calculation of the nickel production plan for February 2009.
/37/ Calculation of the nickel production plan for January 2009.
/38/ Summary table of the pollutants for the III quarter 2009.
/39/ Note of information #572 dated 28.12.2009.
/40/ Note of information on mazut consumption for 2004.
/41/ Total emissions of the pollutants and greenhouse gases by the enterprise.
/42/ Photo - ТВП-1 inv. #14009.
/43/ Photo - Meter Actaris D-76161 Kartsruhe.01/2004.
/44/ Photo - Meter Actaris D-76161 Kartsruhe.11/2003.
/45/ Photo - Meter Actaris TZ/FLUXI2150.

Persons interviewed:

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

/1/ Khalabuzar Victor – financial management, " RAIDEN VENTURES LIMITED"
/2/ Kolesnikov Victor – consultant-specialist JSC “Centre TEST”
/3/ Beznoshchenko Sergiy – head of the village hall v.Pobuzke
/4/ Novikov Mykyta – general director PFK
/5/ Sergeyev Oleg – head energetic PFK
/6/ Romanenko Victor – head engineer PFK
/7/ Lisnevskiy Alexander – head of the gas system PFK

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APPENDIX A: COMPANY JI PROJECT DETERMINATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

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)	Letters of approval will be issued by the Parties involved upon submission of Determination Report with CARs and CLs clarified except CAR7. Remaining CAR7 will be closed after the issuance of the LoA by the Parties involved.	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)	CAR16: There is no information about sponsor Party in PDD. Pending till 1st verification.	
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	Marrakech Accords,	Both countries have	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
procedures for the approval of JI projects	JI Modalities, §20 \	designated their Focal Points. 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 Phone: +380 44 594 91 11 Fax: +380 44 5949115 Email: info.neia@gmail.com 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,	In the Initial Report submitted by Ukraine on 29. Dec. 2006 the AAUs are quantified with:	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
	§21(b)/24	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	
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 will be made publicly available trough AIE website.	
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	Marrakech Accords,	OK	Table 2, Section B

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
and/or sectoral policies and circumstances	JI Modalities, Appendix 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)	OK	Table 2, Section D
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 until written approval authorizing the project participants by Parties involved will be issued. See CAR 7 and CAR16.	Table 2, Section A

Table 2Requirements 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 presented?		DR	Yes, the title is presented. See part A.1.	OK	OK
A.1.2. Is the current version number of the document presented?		DR	Yes, the current version number of the document as well as the scope of the project activity is presented. See part A.1.	OK	OK
A.1.3. Is the date when the document was completed presented?		DR	Yes, the date when the project was completed is presented. See part A.1.	OK	OK
A.2. Description of the project					
A.2.1. Is the purpose of the project included?		DR I	The primary purpose of the project is to reduce greenhouse gas emissions by way of switching from oil fuel to natural gas. CAR1 Please include short description of the baseline scenario.	CAR1	OK
A.2.2.Is it explained how the proposed project reduces greenhouse gas emissions?		DR	Reduction of greenhouse gas emissions can be achieved by way of modernisation of the fuel system.	OK	OK
A.3. Project participants					
A.3.1. Are project participants and Party(ies) involved in the project listed?		DR	Yes, project participants are listed. See part A.3.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.3.2. Are project participants authorized by a Party involved?		DR	Please see CAR7	-	
A.3.3. The data of the project participants are presented in tabular format?		DR	Yes, the data of the project participants are presented in tabular format. CAR2 Please provide the table in the section A.3 in the format presented in the JI PDD template.	CAR2	OK
A.3.4. Is contact information provided in annex 1 of the PDD?		DR	Yes, see Annex 1.	OK	OK
A.3.5. Is it indicated, if it is the case, if the Party involved is a host Party?		DR	Yes, 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)		DR	Ukraine is indicated as a Host Party.	OK	OK
A.4.1.2. Region/State/Province etc.		DR	Golovanivskyi District of Kirovohrad region	OK	OK
A.4.1.3. City/Town/Community etc.		DR	Urban settlement Pobugskoye	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)		DR	See part A.4.1.4. of the PDD version 4.	OK	OK
A.4.2. Technology(ies) to be employed, or measures, operations or actions to be implemented by the project					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.4.2.1. Does the project design engineering reflect current good practices?		DR	The project design engineering includes the description of the present situation and reflects current good practices.	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?		DR	The project does not use state of the art technology.	OK	OK
A.4.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?		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
A.4.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?		DR	CAR 3 Please provide information if project requires extensive initial training and maintenance efforts in order to work as presumed during the project period	CAR3	OK
A.4.2.5. Does the project make provisions for meeting training and maintenance needs?		DR	CAR4 No provisions for meeting training and maintenance needs are mentioned in the given part.	CAR4	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					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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)		DR	Emissions reduction occurs as a result of replacement of fuel from fuel oil to natural gas. Emissions are reduced at the expense of the fact that carbon content in fuel oil is much higher than in natural gas, and the lower combustion value of fuel oil is much higher compared with natural gas. Implementation of the project will allow reducing air emissions of greenhouse gas, which cannot be achieved under the conditions of absence of this project. CAR5 Please provide the table in the section A.4.3.1. in the format of JI PDD form presented in the Guidelines for users of JI PDD form version 04. Please also provide tables for each period: AAU, actual crediting period and post crediting period (each in the requested format with all the underlining, fonts etc)	CAR5	OK
A.4.3.2. Is it provided the estimation of emission reductions over the crediting period?		DR	Yes, the estimation of emission reductions over the crediting period is provided in the table A.4.3.1.	OK	OK
A.4.3.3. Is it provided the estimated annual reduction for the chosen credit period in tCO_2e?		DR	CAR6 The estimated annual reduction for the	CAR6	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			chosen credit period is provided in tonnes while it should be provided in tCO_2e. Please clarify and correct. See table A.4.3.1.		
A.4.3.4. Are the data from questions A.4.3.2 to A.4.3.4 above presented in tabular format?		DR	See table A.4.3.1.	OK	OK
A.5. Project approval by the Parties involved					
A.5.1. Are written project approvals by the Parties involved attached?		DR	LoA's will be issued after the complete determination report is presented to the NFP's. CAR7 No proof of the project approval by the Parties involved.	CAR7	
B. Baseline					
B.1. Description and justification of the baseline chosen					
B.1.1. Is the chosen baseline described?		DR	The baseline was determined in accordance with the requirements of ACM0009 "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas" (Version 3.2). Continuation of use of fuel oil as fuel (alternative 1.1.) is chosen as the baseline scenario for the proposed joint implementation project	OK	OK
B.1.2. Is it justified the choice of the applicable baseline for the project category?		DR	Yes, the choice of the applicable baseline scenario is justified by means of the investment and technological barriers as well as with the use of application of	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			Ukrainian laws and regulations.		
B.1.3. Is it described how the methodology is applied in the context of the project?		DR	The project uses an approved consolidated methodology ACM0009 "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas" (Version 3.2).	OK	OK
B.1.4. Are the basic assumptions of the baseline methodology in the context of the project activity presented (See Annex 2)?		DR	Yes, the basic assumptions of the baseline methodology in the context of the project activity are presented. CAR8 Please provide the key information and data used to establish the baseline (variables, parameters, data sources etc.) in tabular form presented in the Guidance for JI PDD users version 04.	CAR8	OK
B.1.5. Is all literature and sources clearly referenced?		DR	Yes, all literature and sources are clearly referenced and defined.	OK	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?		DR	Yes, the project activity is additional, which was demonstrated with the help of investment and common practice analyses. The financial indicators (IRR and NPV) reflected that the project activity without JI incentive would be absolutely unprofitable.	OK	OK
B.2.2. Is the baseline scenario described?		DR	The baseline scenario (continuation of use	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			of fuel oil as fuel) is described. See section B.1.		
B.2.3. Is the project scenario described?		DR	The project scenario (fuel switch from oil fuel to natural gas) is properly described in the section A.4.3.	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?		DR	CAR9 Please provide the information why the emissions in the baseline scenario would likely exceed the emissions in the project scenario.	CAR9	OK
B.2.5. Is it demonstrated that the project activity itself is not a likely baseline scenario?		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?		DR	CAR10 Please provide the summary of national policies and circumstances relevant to the baseline of the proposed project activity.	CAR10	OK
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?		DR	Yes, the project's spatial (geographical) boundaries are clearly defined.	OK	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)?		DR	CAR11 Please provide the date of the baseline	CAR11	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			setting presented in DD/MM/YYYY format.		
B.4.2. Is the contact information provided?		DR	Yes, the contact information is provided. Please see Annex 1 as well.	OK	OK
B.4.3. Is the person/entity also a project participant listed in Annex 1 of PDD?		DR	Yes, see Annex 1.	OK	OK
C. Duration of the small-scale project and crediting period					
C.1. Starting date of the project					
C.1.1. Is the project's starting date clearly defined?		DR	CAR12 Please provide the confirmation of starting date of the project.	CAR12	OK
C.2. Expected operational lifetime of the project					
C.2.1. Is the project's operational lifetime clearly defined in years and months?		DR	The project's operational lifetime is clearly defined in years and months	OK	OK
C.3. Length of the crediting period					
C.3.1. Is the length of the crediting period specified in years and months?		DR	The length of the crediting period is specified in years and months.	OK	OK
D. Monitoring Plan					
D.1. Description of monitoring plan chosen					
D.1.1. Is the monitoring plan defined?		DR	The object of the monitoring plan chosen for the proposed joint implementation project is to provide availability of all data required for determination of emission levels under the baseline and project scenarios, and	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			correspondingly the emission reduction volume as a result of realisation of the proposed joint implementation project, information about which is given in the sections above. The monitoring plan applied to this project corresponds to the approved consolidated methodology ACM0009 "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas" (Version 3.2).		
D.1.2. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario.		DR	Refer to item D.1.1.	OK	OK
D.1.3. Data to be collected in order to monitor emissions from the project, and how these data will be archived.		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 version 4 This data will be archived both in electronic and paper way.	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).		DR	See Section D.1.1.2. of the PDD version 4	OK	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.		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 version 4 This data will be archived both in electronic and paper	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			way.		
D.1.6. Description of the formulae used to estimate baseline emissions (for each gas, source etc,; emissions in units of CO2 equivalent).		DR	See Section D.1.1.4. of the PDD version 4	OK	OK
D.1.7. Option 2 – Direct monitoring of emissions reductions from the project (values should be consistent with those in section E)		DR	Not applicable. See section D.1.2.	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.		DR	Not applicable. See section D.1.2.1	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).		DR	Not applicable. See section D.1.2.2	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.		DR	No leakage has been identified within the project.	OK	OK
D.1.11. Description of the formulae used to estimate leakage (for each gas, source etc,; emissions in units of CO2 equivalent).		DR	Not applicable. See section D.1.3.2	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).		DR	See section D.1.4. of the PDD version 4	OK	OK
D.1.13. Is information on the collection and archiving of information on the environmental impacts of the project provided?		DR, I	Within the procedures made on request of the respective public services the enterprise regularly reports on environmental performance. The enterprise reports on	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			NOx, SOx and dust emissions. These data will become a part of the monitoring report. According to the Order of the Ministry of Ecology and Natural Resources of Ukraine of 09.03.2006 No. 10811, the State Administration of Environmental Resources in Kirovohrad Region grants to the enterprise permit for emissions after substantiation of the contaminant emission volume, prepared in accordance with the instruction approved by this Order.		
D.1.14. Is reference to the relevant host Party regulation(s) provided?		DR, I	The reference to the relevant host Party regulations is not provided. Corrective Action Request (CAR) 13 Please provide reference to the relevant host party regulations.	CAR13	OK
D.1.15. If not applicable, is it stated so?		DR, I	See section D.1.13 Table 2 of this protocol.	OK	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?		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 version 4.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
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		DR	Monitoring of the data defined in the previous section is carried out within general use of the interpose modernisation project regarding fuel switching from fuel oil to natural gas at PFC, LTD. Director General of PFC, LTD appoints personnel of the enterprise, whose obligations include operation and maintenance of a fuel system, and provision of stable and efficient operation of the system. These functions provide, among other things, for registration of all data required for monitoring. The personnel of the enterprise will also be responsible for maintenance of an optimum operating regime. The fuel system performance monitoring group will be headed by Chief Engineer of PFC, LTD. Monitoring will be conducted in close contact with the operating group and will include monitoring itself, as well as analysis and archiving of all data defined in the previous section. Calculation of the emission reduction volume will also be an obligation of the monitoring group. Periodical data on natural gas consumption will be analysed in respect	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			of the respective registered factors provided by the operating group to confirm their consistency.		
D.4. Name of person(s)/entity(ies) establishing the monitoring plan					
D.4.1. Is the contact information provided?		DR	The contact information is provided in the Annex 1 of the PDD version 4.	OK	OK
D.4.2. Is the person/entity also a project participant listed in Annex 1 of PDD?		DR	The entity is the project participant listed in Annex 1 of the PDD version 4	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?		DR	The formulae used to estimate project emissions is described in the section D.1.1.2 of the PDD version 4. The calculation of GHG project emissions is presented in the section E.1 of the PDD version 4	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?		DR	All the calculations are provided in the Excel file “Calculations of emission reductions”.	OK	OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?		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?		DR	Not applicable. See section D.1.3. of the PDD version 4	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.2.2. Is there a description of calculation of leakage in accordance with the formula specified in for the applicable project category?		DR	See section E.2. of the PDD version 4	OK	OK
E.2.3. Have conservative assumptions been used to calculate leakage?		DR	Not applicable	OK	OK
E.3. The sum of E.1 and E.2.					
E.3.1. Does the sum of E.1. and E.2. represent the small-scale project activity emissions?		DR	It is a large scale project	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?		DR	The formulae used to estimate project emissions is described in the section D.1.1.4 of the PDD version 4. The calculation of GHG project emissions is presented in the section E.4 of the PDD version 4.	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?		DR	All the calculations are provided in the Excel file “Calculations of emission reductions”.	OK	OK
E.4.3. Have conservative assumptions been used to calculate baseline GHG emissions?		DR	Not applicable	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?		DR	Difference between E.4. and E.3. represents the emission reductions due to the project during a given period.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.6. Table providing values obtained when applying formulae above					
E.6.1. Is there a table providing values of total CO_2 abated?		DR	See section E.6. of the PDD version 4. Corrective Action Request (CAR) 14 Please provide the table providing values of total CO_2 in the format of the JI PDD form template.	CAR14	OK
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?		DR, I	The proposed interference into the existing production scheme has a positive environmental impact owning to switching of PFC, LTD from fuel oil to natural gas and will correspondingly lead to greenhouse gas air emissions reduction. Implementation of the proposed project allowed reducing contaminant air emissions. CL1 Please clarify environmental impacts of the project more precisely.	CL1	OK
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is and EIA approved?		DR, I	Within the procedures made on request of the respective public services the enterprise regularly reports on environmental		OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			performance. According to the Order of the Ministry of Ecology and Natural Resources of Ukraine of 09.03.2006 No. 108, the State Administration of Environmental Resources in Kirovohrad Region granted to the enterprise permit for emissions after substantiation of the contaminant emission volume, prepared in accordance with the instruction approved by this Order. CAR 15 Please provide information considering environment impact assessment (EIA).	CAR15	
F.1.3. Are the requirements of the National Focal Point being met?		DR, I	Yes, the requirements of the National Focal Point are being met.	OK	OK
F.1.4. Will the project create any adverse environmental effects?		DR, I	No, the project will not create any adverse environmental effects.	OK	OK
F.1.5. Are transboundary environmental considered in the analysis?		DR, I	The project does not have any transboundary effects.	OK	OK
F.1.6. Have identified environmental impacts been addressed in the project design?		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?		DR	The host Party does not require consultations with stakeholders for joint	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			implementation projects. Stakeholders' comments will be collected in the process of public of this project within the determination procedure. During the site visit determination team conducted the interview with the head of the city council, who has confirmed that project has positive effect on the community life.		
G.1.2. The nature of comments is provided?		DR	See section G.1. of the PDD version 4.	OK	OK
G.1.3. Has due account been taken of any stakeholder comments received?		DR	See section G.1. of the PDD version 4.	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?		DR, I	Within the procedures made on request of the respective public services the enterprise regularly reports on environmental performance. According to the Order of the Ministry of Ecology and Natural Resources of Ukraine of 09.03.2006 No. 108, the State Administration of Environmental Resources in Kirovohrad Region granted to the enterprise permit for emissions after substantiation of the contaminant emission volume, prepared in accordance with the instruction approved by this Order. Please see CAR 15	-	OK
1.2. Are there conditions of the environmental permit? In case of yes, are they already being met?		DR, I	See CL1 of this protocol	-	OK
1.3. Is the project in line with relevant legislation and plans in the host country?		DR, I	CL2 Please clarify if the project is in line with relevant legislation and plans in the host country.	CL2	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
Corrective Action Request (CAR) 1 Please include short description of the baseline scenario.	A.2.1.	The technology of production of product on PFC, LTD includes roasting of ore charge in the tubular furnaces, melting the hot cinder on a ferronickel and refining an electro ovens ferronickel. For the production of product of PFC, LTD for the baseline in the capacity of fuel used fuel oil. The main consumer of fuel are 4 tubular furnaces of roasting workshop that require the use of substantial volumes of fuel. The emissions of greenhouse gases in the atmospheric air take place due to incineration of fuel oil in stoves.	PDD version 05 was checked. Issue is closed.
Corrective Action Request (CAR) 2 Please provide the table in the section A.3 in the format presented in the JI PDD template.	A.3.3.	See PDD version 05 page 3 section A.3	PDD version 05 was checked. Issue is closed.
Corrective Action Request (CAR) 3 Please provide information if project requires extensive initial training and maintenance efforts in order to work as presumed during the project period	A.4.2.4.	The operational group PFC, LTD passed special training from exploitation of the fuel system on natural gas and leading through of the relevant preventive actions of the fuel system. The personnel of the enterprise is subject to	PDD version 05 was checked. 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
		the periodic testing for knowledge of the requirements of safety and accident prevention during work with the fuel system.	
Corrective Action Request (CAR) 4 No provisions for meeting training and maintenance needs are mentioned in the given part.	A.4.2.5.	The operational group PFC, LTD passed special training from exploitation of the fuel system on natural gas and leading through of the relevant preventive actions of the fuel system. The personnel of the enterprise is subject to the periodic testing for knowledge of the requirements of safety and accident prevention during work with the fuel system.	PDD version 05 was checked. Issue is closed.
Corrective Action Request (CAR) 5 Please provide the table in the section A.4.3.1. in the format of JI PDD form presented in the Guidelines for users of JI PDD form version 04. Please also provide tables for each period: AAU, actual crediting period and post crediting period (each in the requested format with all the underlining, fonts etc)	A.4.3.1.	See PDD version 05 page 4-6 section A.4.3.1	PDD version 05 was checked. Issue is closed.
Corrective Action Request (CAR) 6 The estimated annual reduction for the chosen credit period is provided in tonnes	A.4.3.3.	It is considered under all text PDD version 5	PDD version 05 was checked. 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
while it should be provided in tCO_2e. Please clarify and correct. See table A.4.3.1.			
Corrective Action Request (CAR) 7 No proof of the project approval by the Parties involved.	A.5.1.	After completion of the procedure of determination of the project the final version of documentation and report on determination will be provided to the National Environmental Investment Agency of Ukraine to obtain.	Issue will be closed during the verification process.
Corrective Action Request (CAR) 8 Please provide the key information and data used to establish the baseline (variables, parameters, data sources etc.) in tabular form presented in the Guidance for JI PDD users version 04.	B.1.4.	See PDD version 05 page 38-41 Annex 2	PDD version 05 was checked. Issue is closed.
Corrective Action Request (CAR) 9 Please provide the information why the emissions in the baseline scenario would likely exceed the emissions in the project scenario.	B.2.4.	Reducing emissions will take place due to replacement of fuel from fuel oil on natural gas. The anthropogenic emissions of greenhouse gases by sources will be reduce in relation to those that would have occurred in the absence of project of general introduction, due to the fact that the oil in relation to natural gas is significantly higher net calorific value and coefficient of emission of $CO2_{equ}$ during combustion. Content of	PDD version 05 was checked. 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
		carbon in fuel oil almost on 25% higher than in the natural gas, that is why the emissions of greenhouse gases in the atmosphere will be reduced by replacing fuel.	
Corrective Action Request (CAR) 10 Please provide the summary of national policies and circumstances relevant to the baseline of the proposed project activity.	B.2.6.	According to the Order of Cabinet of Ministers of Ukraine on 25.12.2002 under the number 723-p had received permission on building of gas pipeline for the gasification of settlements Gayvoronsk, Ulyanovsk regions and Golovanevsk of districts to the Kirovograd area. Providing the population of these areas by natural gas was adopted on the proposal of Kirovograd regional state administration, in consultation with the Ministry of Finance, Ministry of Energy, Ministry of Economy and State Property Fund of Ukraine.	PDD version 05 was checked. Issue is closed.
Corrective Action Request (CAR) 11 Please provide the date of the baseline setting presented in DD/MM/YYYY format.	B.4.1.	18/09/2009	PDD version 05 was checked. Issue is closed.
Corrective Action Request (CAR) 12 Please provide the confirmation of starting date of the project.	C.1.1.	Upon completion of the building of gas pipeline according to the order of Ministry of Fuel and Energy Ukraine from 04.07.2005, № 293 was created the State Commission of	PDD version 05 was checked. 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
		the adoption in exploitation of gas pipeline. As a result of work of the State Commission the company was granted an act of the State Commission from 05.07.2005, "About readiness of a complete construction of the facility for production of the State Commission".	
<u>Corrective Action Request (CAR) 13</u> Please provide reference to the relevant host party regulations.	D.1.14.	According to the order of Ministry of Fuel and Energy of Ukraine from 04.07.2005, № 293 was created the State Commission of the adoption in exploitation of the gas pipeline. As a result of work of the State Commission the company was granted an act of the State Commission from 05.07.2005, "About readiness of a complete construction of the facility for production of the State Commission", that allowed an enterprise to carry out a transition from fuel oil on natural gas. For monitoring use facilities of measuring technique, which are included in the State register of facilities of measuring technique of Ukraine and which are subject to a periodic check of state. PFC, LTD has the proper certificate to carry out measurements which are included in the	PDD version 05 was checked. 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
		sphere of state supervision.	
Corrective Action Request (CAR) 14 Please provide the table providing values of total CO_2 in the format of the JI PDD form template.	E.6.1.	See PDD version 05 page 29-30 section E.6	PDD version 05 was checked. Issue is closed.
Corrective Action Request (CAR) 15 Please provide information considering environment impact assessment (EIA).	F.1.2.	For the proposed project was completed an environmental impact assessment (EIA). Description of environment and estimation of influence on him, according to the EIA, are listed below. **1. Climate and microclimate.** The transition of the fuel system of enterprise from fuel oil on natural gas will entail no considerable additional excretions of heat, moisture, greenhouse gases and other substances, whose emissions can make impact on the climate and microclimate in the area adjacent to the company. **2. Air environment.** To identify the impact of emissions of fuel aggregates on an air pool were made calculations pollutants in the atmosphere. All sources of plant, which throw out NO_x and CO, were taken into account in calculations. According to the calculations maximal concentrations for all substances were below	PDD version 05 was checked. 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
		the limits and not render significant environmental impact. **3. Water environment.** The proposed by project activity measures do not lead to contamination or exhaustion of superficial and underground waters. The development of special water protection measures are not needed. **4. Geological environment.** The proposed by project activity measures do not render any negative impact on the geological environment. **5. Soil.** The proposed by project activity measures do not render an impact on the ground and does not change the mechanical, water-physical and other its properties. **6. Flora and Fauna.** The proposed by project activity measures in the whole as an anthropogenic process render on flora and fauna negative impact as a result of noise, air pollution. Impact of emissions in the atmospheric air, based on the size of the boundary concentrations of pollutants on flora and fauna virtually no area is essential and will not lead to depletion or	

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
		degradation of plant and animal communities as a result of such activities. **Conclusion.** Changing the fuel on an enterprise will significantly reduce emissions of pollutants from the fuel system that will make a positive impact on the population living in the area.	
Corrective Action Request (CAR) 16 There is no information about sponsor Party in PDD. Pending till 1st verification.	Question 3 of the Table 1	Currently negotiations with few banks are in the process. Also the option of partial project financing by ERUs buyer is under consideration.	Issue will be closed during the verification process.
Clarification Request (CL)1 Please clarify environmental impacts of the project more precisely.	F.1.1.	See PDD version 05 page 31-32 section F.2	PDD version 05 was checked. Issue is closed.
Clarification Request (CL)2 Please clarify if the project is in line with relevant legislation and plans in the host country.	Question 1.3. of the Table 4	See PDD version 05 page 31-32 section F.2	PDD version 05 was checked. Issue is closed.

APPENDIX B: VERIFIERS CV

Nadiya Kaiiun, M. Sci. (environmental science)
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 10 JI projects.

Kateryna Zinevych, M.Sci. (environmental science)

Verifier

Bureau Veritas Ukraine Health, Safety and Environment Project Manager

Kateryna Zinevych 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 undergone a training course on Clean Development Mechanism /Joint Implementation and she is involved in the determination/verification of 26 JI projects.

Denis Pishchalov

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.

Report was reviewed by:
Ivan G. Sokolov, Dr. Sci. (biology, microbiology)

Bureau Veritas Certification Internal Technical Reviewer

Bureau Veritas Ukraine Health, Safety and Environment Department Manager.

Ivan Sokolov 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 Systems (IRCA registered), Quality Management Systems (IRCA registered), Occupational Health and Safety Management Systems, and Food Safety Management Systems. Mr. I.Sokolov has performed over 140 audits since 1999. He is a Lead Tutor of IRCA registered ISO 14000 EMS Lead Auditor Training Course, Lead Tutor of IRCA registered ISO 9000 QMS Lead Auditor Training Course. Ivan Sokolov is also a Tutor of Join Implementation/Clean Development Lead Verifier Training Course and has performed determination/verification of more that 50 JI projects.