DETERMINATION REPORT
CEP CARBON EMISSIONS PARTNERS S.A.

DETERMINATION OF THE
Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska"

REPORT NO. UKRAINE-DET/0599/2012

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DETERMINATION REPORT

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20/08/2012	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
CEP CarbonEmissionsPartners S.A.	Fabian Knodel

Summary:

Bureau Veritas Certification has made the determination of the "Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska" project of CEP CarbonEmissionsPartners S.A. located in Rodynske town, Donetsk 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 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 Action 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 Guidance on criteria for baseline setting and monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.:	Subject Group:
UKRAINE-det/0599/2012	JI

Project title:
"Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska"

Work carried out by:
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1 INTRODUCTION

CEP CarbonEmissionsPartners S.A. has commissioned Bureau Veritas Certification to determine its JI project “Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska" (hereafter called “the project”) at Rodynske town, Donetsk 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 Determination team

The determination team consists of the following personnel:

The determination team consists of the following personnel:

Vyacheslav Yeriomin

Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Vasiliy Kobzar
Bureau Veritas Certification Technical specialist

This 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 version 01 of the Joint Implementation Determination and Verification Manual, issued by the Joint Implementation Supervisory Committee at its 19 meeting on 04/12/2009. The protocol shows, in a transparent manner, criteria (requirements), means of determination 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 determiner will document how a particular requirement has been determined and the result of the determination.

The completed determination protocol is enclosed in Appendix A to this report.

2.1 Review of Documents

The Project Design Document (PDD) submitted by CEP CarbonEmissionsPartners S.A. and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Approved CDM methodology and/or Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, CEP CarbonEmissionsPartners S.A. revised the PDD and resubmitted it on 17/08/2012.

The determination findings presented in this report relate to the project as described in the PDD version(s) 1.0 dated 14/06/2012 and 2.0 dated 17/08/2012.

2.2 Follow-up Interviews

On 14/08/2012 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of CEP CarbonEmissionsPartners S.A. and SE "CC "Krasnolimanska" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
SE "CC "Krasnolimanska"	➢ Implementation schedule ➢ Organizational structure ➢ Responsibilities and authorities ➢ Data collection and processing responsibilities and authorities ➢ Equipment installation ➢ Data recording, archiving and reporting system ➢ Rehabilitation/Implementation of equipment (records) ➢ Metering equipment control ➢ Metering record keeping system, database ➢ IT control ➢ Training of personnel ➢ Quality management procedures and technology ➢ Internal audits and checks
CONSULTANT CEP CarbonEmissions Partners S.A.	➢ Baseline methodology ➢ Applicability of methodology ➢ Monitoring plan ➢ Conformity of PDD to JI requirements

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.

If the determination team, in assessing the PDD and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to JI project requirements, it will raise these issues and inform the project participants of these issues in the form of:

(a) Corrective action request (CAR), requesting the project participants to correct a mistake in the published PDD that is not in accordance with the

(technical) process used for the project or relevant JI project requirement or that shows any other logical flaw;

(b) Clarification request (CL), requesting the project participants to provide additional information for the determination team to assess compliance with the JI project requirement in question;

(c) Forward action request (FAR), informing the project participants of an issue, relating to project implementation but not project design, that needs to be reviewed during the first verification of the project.

The determination team will make an objective assessment as to whether the actions taken by the project participants, if any, satisfactorily resolve the issues raised, if any, and should conclude its findings of the determination.

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

3 PROJECT DESCRIPTION

The main purpose of the Joint Implementation Project “Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska” is improvement of energy efficiency and safety of operations (coal mining), as well as improvement of environmental situation in the region by complex modernization of operations, implementation of colliery gas (CG) recovery technology, as well as implementation of waste heap monitoring program and urgent extinction technology at Krasnolimanska Mine.

Modernization of coal mining process at Krasnolimanska Mine is achieved by implementation of innovative, energy-efficient, energy-saving equipment taking account of the latest trends in the manufacturing industry, aimed at higher efficiency of consumption of electricity, fossil fuel as well as at greenhouse gas emission reductions.

CMM recovery, which substituted the previous mine gas drainage technology, which involved release of colliery gas directly into the atmosphere, provides for its combustion in high-efficient boiler equipment to generate energy for on-site needs. The implementation of the CMM recovery technology provides for gas pipeline reconstruction, installation of vacuum pumping plants, commissioning of high-precision gas analysers, installation of compressor plants, CMM-fuelled boiler equipment, drilling of operational wells for breakage faces gas drainage.

Implementation of waste heap monitoring system and urgent extinction system provides for monthly temperature surveys to monitor waste heap condition change. For this purpose, waste heap temperature is measured using thermocouples at different levels: 0.1 m, 0.5 m, and 2.5 m. If the temperature increases in the depth of 2.5 m, which indicates the hot spot in a waste heap, the latter is classified as a burning waste heap and urgent extinction activities take place with the use of innovative technologies and materials. According to the project urgent extinction programme, vermiculite is used as necessary along with/instead of previously used pulp or burned-out rock. Vermiculite is a hydrated mica phyllosilicate, which expands by 10-15 times when heated to 300-1000^{0}C. Air layers in vermiculite structure ensure heat and sound insulation. Concrete pumps pump vermiculite under pressure into a hot spot of a waste heap, barring it from oxygen and stopping the burning process.

Main activities within the boundary of the project follow; more details on JI project “Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise “Coal Company “Krasnolimanska” activities will be provided at the monitoring stage:

Implementation of GBH-1/89/12 drilling rig with seam gas drainage. Implementation of GBH-1/89/12 drilling rigs is part of CMM recovery activities; the rigs help to pump part of CMM to boiler equipment for further combustion (against the old practice of CMM release into the atmosphere), which reduces GHG emissions into the atmosphere. Heat generated during CMM combustion will substitute the same amount of heat generated during coal combustion, which was common practice in the company, while causing less GHG emissions into the atmosphere.

Implementation of movable PDU-50M gas drainage units.

The unit is designed for:

- coal seam gas drainage and containing rock during stoping and mine opening at mines under construction, in operation and at the stage of decommissioning;
- removal of gas (methane, hydrogen sulphide, carbon dioxide, etc.) from mining, tectonic disturbances
- ensuring of forced aeration of blind drifts.

Implementation of GBH-1/89/12 drilling rigs and PDU-50M movable gas drainage unit will improve the safety of mining operations, reduce accident and injury rate, increase the mine administration rating, raise coal production by minimizing idle periods due to dangerous methane concentration. Due to the implementation of GBH-1/89/12 drilling rigs and PDU-50M movable gas drainage unit, part of methane from the mine is

drained out directly to the air-shaft. The next stage is combustion of methane in boiler equipment, causing GHG emission reduction against the previous practice of methane release into the atmosphere and using coal for heating.

Implementation of waste heap monitoring and urgent extinction programmes.

Waste heap monitoring takes place monthly when specially trained people measure waste heap temperature at the following depths: 0.1 m, 0.5 m, and 2.5 m. If the temperature increases in the depth of 2.5 m, which indicates the hot spot in a waste heap, the latter is classified as a burning waste heap and urgent extinction activities are carried out. Monitoring results are fixed in monthly temperature survey reports stored in electronic form at the enterprise. If force majeure prevents from the measurement, the results of temperature surveys for the skipped month are taken from the month when the surveys resume.

The project program of waste heap No.2 monitoring enables quick and correct identification of waste heap dynamics and extinction method efficiency.

The project program of waste heap extinction will be carried out using the following technology:

Prior to extinction activities pathways and working sites are formed from non-flammable material (burned-out rock, boiler slag) to create access for the machinery to the waste heap. While carrying out these activities, wind direction is taken into account and the following equipment is used: concrete pump trucks designed to discharge working liquids while grouting wells in the course of drilling and overhauling; concrete mixer trucks for concrete mixture transportation and unloading it directly to the site; pumping units used for solution preparation and pumping thereof under the pressure to the wells; autonomous drilling rig; underground drilling workbench.

The rear and frontal part of waste heap channels are treated with vermiculite mud powder, by means of replacement of automatic concrete pump and mixer. Vermiculite is a hydrated mica phyllosilicate with laminal structure. Vermiculite expands by 15-30 times when heated to 300-1000^{0}C. Air layers in vermiculite structure ensure low density and great heat and sound insulation. Apart from vermiculite, clay-based grout mixtures can be used to create the surface layer over the hot spots by pumping the mixtures through up to 2.0-meter-deep wells.

The mixture is supplied via a hinged concrete carrier of a concrete pump truck in several stages. The mixture is applied in the areas with burning rock, heated rock and rock that is not burning, including slopes. After it

stops steaming and the temperature falls in the burning areas of the waste heap, works to estimate how deep the hot spots are located are to be done so that the height of heap lowering can be known which is needed for the operation safety and effective extinction.

To this end, drilling works are carried out and clay-based grout mixtures (vermiculite) are applied. Drilling works are aimed to reach the hottest spots. The number of the drilling workbench being reinstalled is to be minimal taking into account drilling of well ring in opposite directions from the axis of the heap towards the hottest spots. One third of the length of the well (pipe column) is measured, and there casing pipes are perforated.

Fluids can be pumped simultaneously via several pipes joined with high-pressure flexible hoses with pipe manifold valves.

To prevent antipyrogen emission along the outer walls of the casing pipe, equipment that seals the top of the well is used. Radiation levels are reduced in the heap by digging trenches of a particular size with bulldozers; filling the trenches with antipyrogen so that it can freely filter into the heap until the rock absorbs it all.

The bulldozer pushes the cooled rock layer into crest splits with extra antipyrogen hydrating (the spraying method), increasing the density to the level at which air is as permeable as to exclude the possibility of ignition. In case rock amount is not enough to fill the space between the crests, trenches are dug and filled with antipyrogen repeatedly until a horizontal site is created.

The site, which covers the three waste heap channels, is made denser after antipyrogen is sprayed.

The last phase is to seed perennial cereals and legumes. Per 1 hectare of land, 20-30% more seeds are planted than normal for the zone.

Implementation of KDK 500 cutter-loader.

The cutter-loader is intended for the extraction of coal in the breakage faces advancing along the course of bed with the thickness of 1.35-3.2 m with the angle of dip up to 35° as well as along the pitch or rise of the seam up to 10° at the coal cuttability up to 360 kN/m. Key specifications are as follows:

- body of the machine is designed as a boxlike power frame with the compartments for the allocation of the independent blocks;
- the main units of the machine are made as block structures;
- availability of the cooling system for the reducers of the cutting point and electrical equipment;

- load-carrying elements of the gear group are estimated to have a 15,000-hour lifetime;

the machine can be controlled from the remote gangway console or by means of the wireless portable control console. It is equipped with the diagnostic and control system for the monitoring of the state of the main units, indication of the process and diagnostic information on the display.

Implementation of SP 326 conveyor

SP 326 series movable mining drag conveyor is intended for the coal transportation from the breakage faces from the seams with thickness of over 0.85 m during operations in course of bed with the angle of bedding up to 35° and in gradient or rise up to 10°.
The conveyor can be used with all types of support and combines that correspond to the seam thickness and are produced in Ukraine and abroad.

Implementation of 3KD-90 power roof support

It is intended for the mechanization of the processes of support and roof control in the working area of the longwall and advancing of the drag conveyor during the extraction of the flat-lying seams with the thickness of 0.85-2.0 m complete with the mining machine, SP326.

Implementation of KTPV-1000/6 transformer plant

The transformer plant is intended for the power supply of the electric receivers installed in the underground openings dangerous in gas (methane) and (or) powdered coal with the three-phase current as well as for the protection against the leakage current and maximum current protection of the low-voltage lines. KTPV-1000/6 transformer plant shows much lower electricity consumption and improved effectiveness as compared with the previous plant.

Implementation of SND 300/40 pump unit

SND 300/40 pump units are intended for the pumping of working liquid into hydrosystems of refining equipment, power supports and other machinery in mines of any gas and powdered coal mines. Plants include two autonomous pump units with five plunger pumps and a tank. A plant with one pump unit can also be assembled. Pump units can work both independently (each works for its consumer) and simultaneously (for general consumers; when high-efficiency mechanical complexes are serviced, or as part of central pump plants).

Implementation of LV-45 winch

The winch is intended for the transportation of materials along straightways of the coal mines, including mines dangerous in gas and dust.

The winch has a drum and a reducer, two hand brakes (brakes and friction) and a power brake, installed at the general frame. Drum rotation can be controlled with the help of friction at a planet gear carrier and a hand brake at the drum. Speed adjustment, smooth start. The winch is equipped with a double-reduction speed reducer. The high-speed stage is a helical double-reduction speed cylindrical reducer in an integral body.

Implementation of energy-efficient technological equipment will cause an increase in production efficiency and in mining capacity, which will lead to a drop in the volume of energy resources used during production, and thus to a GHG emission reduction.

Replacement of meters with lower accuracy class by meters with higher accuracy class.

Application of new meters with higher accuracy class will reduce electricity consumption by meters and improve the monitoring of electricity consumption; this will reduce GHG emissions into the atmosphere.

The identified areas of concern as to the project description, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 01 – CAR 04, CL 01 - CL02).

4 DETERMINATION CONCLUSIONS

In the following sections, the conclusions of the determination are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Determination Protocol in Appendix A.

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 24 Corrective Action Requests and 05 Clarification Requests.

The number between brackets at the end of each section corresponds to the DVM paragraph

4.1 Project approvals by Parties involved (19-20)

The project has been officially presented for endorsement to the Ukrainian authorities. State Environmental Investments Agency of Ukraine has issued a Letter of Endorsement for the project #1996/23/7 dated 26/07/2012.

Bureau Veritas Certification received this letter from the project participants and does not doubt its authenticity.

As for the time being no written approval for the project was issued by Ukrainian Party. After receiving Determination Report from the Accredited Independent Entity the project documentation will be submitted to the Ukrainian Designated Focal Point (DFP) which is State Environmental Investment Agency of Ukraine, for receiving a Letter of Approval.

Bureau Veritas Certification considers the letters to be unconditional in accordance with paragraphs 19-20 of the DVM.

The identified areas of concern as to the project approvals by Parties involved, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 05).

4.2 Authorization of project participants by Parties involved (21)

The official authorization of each legal entity listed as project participant in the PDD by Parties involved will be provided in the written project approvals (refer to 4.1 above).

The identified areas of concern as to the authorization of project participants by Parties involved, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 05).

The project has not been approved by the parties involved thus CAR 05 is pending. The issue will be closed after the Letter of Approval is issued by the Host Party.

4.3 Baseline setting (22-26)

The PDD explicitly indicates that using a methodology for baseline setting and monitoring developed in accordance with appendix B of the JI guidelines (hereinafter referred to as JI specific approach) was the selected approach for identifying the baseline.

The PDD provides a detailed theoretical description in a complete and transparent manner, as well as justification, that the baseline is established:

(a) By listing and describing the following plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one (alternative a):

a. Continuation of the current situation, without the JI project implementation.
b. Proposed project activity without the use of the JI mechanism.
c. Partial project activities (some of the project activities are implemented) without the use of the Joint Implementation Mechanism.

(b) Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. In this context, the following key factors that affect a baseline are taken into account:

- Complexity of production process
- Permanent change in price of coal, electricity and natural gas in Ukraine.
- Long payback period.
- Implementation of proposed project requires significant annual capital investments and human resources.
- Ukraine has one of the lowest electricity tariffs in Europe. Therefore, it is really hard to invest the cost for the reconstruction or the rehabilitation of the equipment.

JI specific approach and “Guidance on criteria for baseline setting and monitoring” were chosen by the project participants for setting the baseline.

All explanations, descriptions and analyses pertaining to the baseline in the PDD are made in accordance with the referenced approved CDM methodology and the baseline is identified appropriately.

The identified areas of concern as to the baseline setting, project participants’ response and BVC’s conclusion are described in Appendix A (refer to CAR 06 - CAR 08).

4.4 Additionality (27-31)

The PDD provides a justification of the applicability of the approach with a clear and transparent description.

The developer of the project proved that anthropogenic emissions under the project are lower than the emissions that would take place in the absence of the project activity.

Additionality proofs are provided. Three plausible and realistic alternative scenarios were identified for each type of modernization identified in the project:

- Continuation of the current situation, without the JI project implementation
- Proposed project activity without the use of the JI mechanism
- Partial project activities (some of the project activities are implemented) without the use of the Joint Implementation Mechanism.

Additionality is demonstrated appropriately as a result of the analysis using the approach chosen.

The identified areas of concern as to the additionality, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 09).

4.5 Project boundary (32-33)

The project boundary defined in the PDD, which in accordance with the specific approach is delineated by the physical site of the entire technological complex, encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

(i) Under the control of the project participants such as
- GHG emissions from electricity consumption for production needs in the course of coal mining
- GHG emissions from natural gas consumption for production needs in the course of coal mining
- GHG emissions from CMM release into the atmosphere
- GHG emissions from waste heap combustion;

(ii) Reasonably attributable to the project such as
- GHG emissions from coal combustion for heat generation in an amount equivalent to the amount of heat obtained from CMM combustion in the project scenario;

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD

Based on the above assessment, the AIE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

No outstanding issues concerning the Project boundary were raised.

4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began, and the starting date is 21/07/2003, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 17 years or 204 months.

The PDD states the length of the crediting period in years and months, which is 17 years and 0 months, and its starting date as 01/01/2004, which is after the date the first emission reductions or enhancements of net removals are generated by the project.

The PDD states that the crediting period for the issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project.

The PDD states that the extension of its crediting period beyond 2012 is subject to the host Party approval, and the estimates of emission reductions or enhancements of net removals are presented separately for those until 2012 and those after 2012 in all relevant sections of the PDD.

The identified areas of concern as to the Project boundary, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 10 – CAR 12, CL 03- CL 04).

4.7 Monitoring plan (35-39)

The PDD, in its monitoring plan section, explicitly indicates that JI specific approach was the selected.

The monitoring plan describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance.

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. are clearly connected with the effect to be measured), and that provide a

transparent picture of the emission reductions or enhancements of net removals to be monitored.

The monitoring plan draws on the list of standard variables indicated in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC, as appropriate.

The monitoring plan explicitly and clearly distinguishes:

(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination.

(ii) Data and parameters that are monitored throughout the crediting period.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording depending on its kind. It is provided in comprehensive manner in Tables for the key-parameters in Section B.1 of the PDD.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate, such as:

Project emissions

$$PE^{y} = PE^{y}_{M,coal} + PE^{y}_{CH_4} + PE^{y}_{PO};$$

PE^{y} - total GHG emissions in monitoring period *y* of the project scenario, t CO_2eq;

$PE^{y}_{M,coal}$ - GHG emissions from electricity consumption in the course of coal mining in monitoring period *y* of the project scenario, t CO2eq;

$PE^{y}_{CH_4}$ - total GHG emissions in the course of CMM recovery in monitoring period *y* of the project scenario, t CO_2eq;

PE^{y}_{PO} - GHG emissions from repeated waste heap ignition after activities on its extinction took place in period *y* of the project scenario, t CO_2eq;

y - index for monitoring period;

M - index for coal mining procedures at SE "CC "Krasnolimanska";

$coal$ - index for coal mining;

CH_4 - index for methane recovery technology;

PO - index for waste heaps.

$PE^{y}_{M,coal} = EC^{y}_{p,M} * EF^{y}_{p,CO2,ELEC}$,

$PE^{y}_{M,coal}$ - GHG emissions from electricity consumption in the course of coal mining in monitoring period *y* of the project scenario, t CO2eq;

$EC^{y}_{p,M}$ - electricity consumption in the course of coal mining in monitoring period *y* of the project scenario, MWh;

$EF^{y}_{p,CO2,ELEC}$ - carbon dioxide emission factor for electricity consumption by consumers, in monitoring period *y* of the project scenario, t CO_2/MWh;

y - index for monitoring period;

p - index for project scenario;

M - index for coal mining technological procedures;

$ELEC$ - index for electricity.

Since implementations of energy-efficient equipment aimed at the increase of coal mining efficiency, are planned for 2012, as shown in the project implementation schedule, the results of the 2012 complex modernization of equipment are not full as of the date of PDD development; taking account of the frequency of data monitoring, the results are difficult to be calculated for a several-months period. Pursuant to conservative principles, the calculation of GHG emission reductions from equipment modernization will be performed after all project implementations are completed, i.e. starting 2013, which will be reflected in monitoring reports for the project.

$PE^{y}_{CH_4} = PE^{y}_{p,ME} + PE^{y}_{p,MD} + PE^{y}_{p,UM}$,

$PE^{y}_{CH_4}$ - GHG emissions generated in the course of CMM recovery in monitoring period *y* of the project scenario, t CO_2eq;

$PE^{y}_{p,ME}$ - GHG emissions from energy consumption in the course of CMM recovery in monitoring period *y* of the project scenario (for CMM capturing and utilization), t CO_2eq;

$PE^{y}_{p,MD}$ - GHG emissions from CMM combustion for generation of heat or other energy in monitoring period *y* of the project scenario, t CO_2eq;

$PE^{y}_{p,UM}$ - GHG emissions from incomplete CMM combustion in the course of CMM recovery in monitoring period *y* of the project scenario, t CO_2eq;

y - index for monitoring period;

p - index for project scenario;

CH_4 - index for CMM recovery technology;

ME - index for CMM recovery technology (capturing and further utilization);

MD - index for methane combustion for on-site needs;

UM - index for incomplete methane combustion.

$$PE^{y}_{p,ME} = CONS^{y}_{p,ELEC} \cdot EF^{y}_{p,CO_2,ELEC},$$

where:

$PE^{y}_{p,ME}$ - GHG emissions from energy consumption in the course of CMM recovery in monitoring period *y* of the project scenario (for CMM capturing and utilization), t CO_2eq;

$CONS^{y}_{p,ELEC}$ - electricity consumption in the course of CMM recovery in monitoring period *y* of the project scenario, MWh

$EF^{y}_{p,CO_2,ELEC}$ - carbon dioxide emission factor for electricity consumption by consumers, in monitoring period *y* of the project scenario, t CO_2/MWh;

y - index for monitoring period;

p - index for project scenario;

ME - index for CMM capturing and further utilization;

$Elec$ - index for electricity.

Methane will be combusted in boilers. Flaring is not applied.

Ratio of non-methane hydrocarbons is below 1%, so they can be excluded from the calculation. However, the content of non-methane hydrocarbons will be analysed on the periodic basis and if the content is high they will be included into project emissions. Thus:

$$PE^{y}_{p,MD} = MD^{y}_{p} * EF_{CH4};$$

$PE^{y}_{p,MD}$ - GHG emissions from CMM combustion for generation of heat or other energy in monitoring period *y* of the project scenario, t CO_2eq;

MD^{y}_{p} - CMM combustion in the course of its recovery in monitoring period *y* of the project scenario, t CH_4;

EF_{CH4} - CO_2 emission factor for CMM combustion, t CO_2/t CH_4.

y - index for monitoring period;

p - index for project scenario;

CH_4 - index for methane;

MD - index for methane combustion for industrial needs;

$$PE^{y}_{p,UM} = GWP_{CH_4} \cdot MD^{y}_{p,} \cdot \ 1 - Eff_{heat} \ ,$$

GWP_{CH_4} - Global warming potential of methane (21 t CO_2eq/t CH_4)

MD^{y}_{p} - CMM combustion in the course of its recovery in monitoring period *y* of the project scenario, t CH_4;

Eff_{heat} - CMM combustion efficiency factor in heating equipment in the course of CMM recovery, %;

y - index for monitoring period;

p - index for project scenario;

UM - index for incomplete methane combustion.

CH_4 - index for methane;

$heat$ - index for heat generation.

$$MD^{y}_{p} = Q^{y}_{real} \cdot \rho_{real},$$

MD^{y}_{p} - CMM combustion in the course of its recovery in monitoring period *y* of the project scenario, t CH_4;

Q^{y}_{real} - measured CMM volume collected in the course of recovery in monitoring period *y* of the project scenario, m^3;

ρ_{real} - coal mine methane density under standard conditions, t/ths m^3;

$real$ - index for standard conditions;

p - index for project scenario;

y - index for monitoring period.

According to the research, the period of waste heap combustion is 15 years, which means that the entire amount of coal in a waste heap can burn down over this period. Waste heap monitoring programme provides an opportunity to control the heap condition and prevent its inflammation, and if the latter occurs, to take measures for its rapid extinction. It also provides for monthly monitoring of waste heap. Based on the conditions of the waste heap monitoring programme, the formula for the calculation of GHG emissions from waste heap combustion in the baseline was adjusted to the monthly waste heap monitoring activities.

$$PE^{y}_{PO} = \sum_{i=1}^{12} \frac{FC_{p,PO,coal} \cdot NCV^{y}_{p,coal} \cdot k^{p}_{m,y} \cdot EF^{y}_{p,CO2,coal}}{180} + PE^{y}_{p,PO,disel},$$

PE^{y}_{PO} - GHG emissions from repeated waste heap ignition after activities on its extinction took place in period *y* of the project scenario, t $CO2_{eq;}$

$PE^{y}_{p,PO,disel}$ - GHG emissions from diesel fuel combustion in the course of waste heap extinction in monitoring period *y* of the project scenario, t CO_2eq;

$FC_{p,PO,coal}$ - total amount of coal in a waste heap as of the beginning of extinction works, ths t;

$NCV^{y}_{p,coal}$ - net calorific value of coal in monitoring period *y* of the project scenario, TJ/ths t;

$EF^{y}_{p,CO_2,coal}$ - default carbon dioxide emission factor for stationary coal combustion in monitoring period *y* of the project scenario, t CO_2/TJ;

$k^{p}_{m,y}$ - waste heap combustion factor for month *m* of year *y* of the project scenario (if waste heap combustion was detected in the reporting month, it is assumed that k=1, if the combustion was not detected, as provided by the project, it is assumed that k=0);

180 - number of months in a 15-year period (15 years is the period of total combustion of a waste heap);

$disel$ - index for diesel fuel;

y - index for monitoring period;

i - index for the sequence number of month, year *y*.

p - index for project scenario;

n - index for waste heap density;

$coal$ - index for coal;

PO - index for waste heaps.

Emissions from diesel fuel consumption by technological equipment in the course of waste heap extinction occur only if repeated ignition takes place; these emissions constitute for less than 1% of the total emissions from waste heap burning, so they can be neglected in the calculation. Thus:

$$PE^{y}_{PO} = \sum_{i=1}^{12} \frac{FC_{p,PO,coal} \cdot NCV^{y}_{p,coal} \cdot k^{p}_{m,y} \cdot EF^{y}_{p,CO2,coal}}{180},$$

$$FC_{p,PO,coal} = \frac{V_{PO} \cdot \rho_n \cdot C_{coal}}{1000000},$$

$FC_{b,PO,coal} = FC_{p,PO,coal}$ - total amount of coal in a waste heap as of the beginning of extinction works, ths t;

V_{PO} – waste heap volume, m^3;

C_{coal} - coal content in a waste heap, %;

ρ_n - waste heap density, kg/m^3;

PO - index for waste heap;

n - index for waste heap density;

$\left[\frac{1}{1000000}\right]$ - index for kilogrammes to thousand tonnes conversion factor.

$coal$ - index for coal.

$$EF^y_{p,CO2,coal} = EF^y_{p,C,coal} \cdot OXID^y_{p,coal} \cdot 44/12,$$

$EF^y_{p,C,coal}$ - carbon emission factor for coal combustion in monitoring period *y* of the project scenario, t C /TJ;

$OXID^y_{p,coal}$ - carbon oxidation factor for coal combustion in monitoring period *y* of the project scenario, relative units;

$44/12$ - stoichiometric *ratio* of carbon dioxide and carbon molecular weight, t CO_2/t C;

y - index for monitoring period;

p - index for project scenario;

$coal$ - index for coal.

Baseline emissions

$$BE^y = BE^y_{M,coal} + BE^y_{CH_4} + BE^y_{PO};$$

BE^y - total GHG emissions in monitoring period *y* of the baseline scenario, t CO_2eq;

$BE^y_{M,coal}$ - GHG emissions from electricity consumption in mining process in monitoring period *y* of the baseline scenario, t CO_2eq;

$BE^y_{CH_4}$ - GHG emissions from CMM recovery technology in monitoring period *y* of the baseline scenario, t CO_2eq;

BE^{y}_{PO} - GHG emissions from waste heap combustion in monitoring period *y* of the baseline scenario, t CO_2eq;

y - index for monitoring period;

$coal$ - index for coal mining procedures at SE "CC "Krasnolimanska";

M - index for technological equipment modernization;

CH_4 - index for methane recovery technology;

PO - index for waste heaps.

$$BE^{y}_{M,coal} = N^{y}_{p} * BPER_{coal}$$

$BE^{y}_{M,coal}$ - GHG emissions from electricity consumption in the course of coal mining in monitoring period *y* of the baseline scenario, t CO_2eq;

N^{y}_{p} - coal production in monitoring period *y* of the project scenario, t;

$BPER_{coal}$ - pre-project coal mining efficiency factor, t CO_2eq/t.

y - index for monitoring period;

b - index for project scenario;

M - index for coal mining technological procedures;

$coal$ - index for coal mining.

$$BPER_{coal} = \frac{\sum_{i=1}^{3} \frac{BE^{j}_{b,ELEC}}{N^{j}_{b}}}{3},$$

$BPER_{coal}$ - pre-project coal mining efficiency factor, t CO_2eq/t;

$BE^{j}_{b,ELEC}$ - total GHG emissions from electricity generation in the course of coal mining in historical period *j* of the baseline scenario, t CO_2eq;

N^{j}_{b} - total coal production in historical period *j* of the baseline scenario, t;

3 – years in historical period, 2009-2011;

i - index for historical period;

b - index for baseline scenario;

$ELEC$ - index for electricity;

j - index for three years of historical period.

$$BE^{j}_{b,ELEC=}\sum_{i=1}^{3}\left(EC^{j}_{b},_{M}*EF^{j}_{b},_{CO2,ELEC}\right)$$

$BE^{j}_{b,ELEC}$ - total GHG emissions from electricity generation in the course of coal mining in historical period *j* of the baseline scenario, t CO_2eq;

$EC^{j}_{b,M}$ - electricity consumption in the course of coal mining in historical period *j* of the baseline scenario, MWh;

$EF^{j}_{b,CO2,ELEC}$ - carbon dioxide emission factor for electricity consumption by consumers in historical period *j* of the baseline scenario, t CO_2/MWh;

[illegible] - index for historical period;

[illegible] - index for baseline scenario;

[3] – number of years in the historical period;

$ELEC$ - index for electricity.

Since implementations of energy-efficient equipment aimed at the increase of coal mining and heat generation efficiency, are planned for 2012, as shown in the project implementation schedule, the results of the 2012 complex modernization of equipment are not full as of the date of PDD development; taking account of the frequency of data monitoring, the results are difficult to be calculated for a several-months period. Pursuant to conservative principles, the calculation of GHG emission reductions from equipment modernization will be performed after all project implementations are completed, i.e. starting 2013, which will be reflected in monitoring reports for the project.

$$BE^{y}_{CH_4}=BE^{y}_{b,MR}+BE^{y}_{b,heat},$$

$BE^{y}_{CH_4}$ - GHG emissions from previous mine gas drainage technology in monitoring period *y* of the baseline scenario, t CO_2eq;

$BE^{y}_{b,MR}$ - GHG emissions from previous mine gas drainage technology in monitoring period *y* of the baseline scenario, t CO_2eq;

$BE^{y}_{b,heat}$ - GHG emissions from combustion of coal natural gas by boiler modules for heat generation in monitoring period *y* of the baseline scenario, t CO_2eq;

$heat$ - index for heat generation;

y - index for monitoring period;

[illegible] - index for baseline scenario;

MR - index for the previous mine gas drainage technology;

CH_4 - index for methane recovery technology.

$$BE^{y}_{b,MR} = GWP_{CH_4} \cdot MD^{y}_{p},$$

$BE^{y}_{b,MR}$ - GHG emissions from previous mine gas drainage technology in monitoring period *y* of the baseline scenario, t CO_2eq;

GWP_{CH_4} - Global Warming Potential of methane, 21 t CO2eq/t CH4;

MD^{y}_{p} - CMM combustion in the course of its recovery in monitoring period *y* of the project scenario, t CH_4;

y - index for monitoring period;

MR - index for the previous mine gas drainage technology;

b - index for baseline scenario;

p - index for project scenario;

CH_4 - index for methane.

$$MD^{y}_{p} = Q^{y}_{real} \cdot \rho_{real},$$

MD^{y}_{p} - CMM combustion in the course of its recovery in monitoring period *y* of the project scenario, t CH_4;

Q^{y}_{real} - measured CG volume collected in the course of recovery in monitoring period *y* of the project scenario, ths m^3;

ρ_{real} - coal mine methane density under standard conditions, t/ths m^3;

$real$ - index for standard conditions;

p - index for project scenario;

y - index for monitoring period.

$$BE^{y}_{b,heat} = HEAT^{y}_{p,CH_4} \cdot EF^{y}_{b,heat,coal},$$

$BE^{y}_{b,heat}$ - GHG emissions from combustion of coal natural gas by boiler modules for heat generation in monitoring period *y* of the baseline scenario, t CO_2eq;

$HEAT^{y}_{p,CH_4}$ - heat generation within the project activity by CMM combustion in monitoring period *y* of the project scenario, GJ;

$EF^{y}_{heat,coal}$ - carbon dioxide emission factor for heat generation at the mine in monitoring period *y* of the baseline scenario, t CO2/TJ;

y - index for monitoring period;

b - index for baseline scenario;

$heat$ - index for fuel consumption for heat generation;

$coal$ - index for coal.

$$HEAT^{y}_{p,CH_4} = Q^{y}_{real} * NCV^{y}_{p,NG},$$

$HEAT^{y}_{p,CH_4}$ - heat generation within the project activity by CMM combustion in monitoring period *y* of the project scenario, TJ;

Q^{y}_{real} - measured CMM volume collected in the course of recovery in monitoring period *y* of the project scenario, ths m^3;

$NCV^{y}_{p,NG}$ - net calorific value of natural gas in monitoring period *y* of the project scenario, TJ/ths m^3;

$real$ - index for standard conditions;

p - index for project scenario;

y - index for monitoring period;

NG - index for natural gas.

$$EF^{y}_{b,heat,coal} = EF^{y}_{b,CO2,coal} = EF^{y}_{b,C,coal} \cdot OXID^{y}_{b,coal} \cdot 44/12,$$

$44/12$ - stoichiometric *ratio* of carbon dioxide and carbon molecular weight, t CO_2/t C;

$EF^{y}_{b,C,coal}$ - carbon emission factor for coal combustion in monitoring period *y* of the baseline scenario, t C /TJ;

$OXID^{y}_{b,coal}$ - carbon oxidation factor for coal combustion in monitoring period *y* of the baseline scenario, relative units;

y - index for monitoring period;

b - index for baseline scenario;

$coal$ - index for coal.

According to the research, the period of waste heap combustion is 15 years, which means that the entire amount of coal in a waste heap can burn down over this period. Waste heap monitoring programme provides an opportunity to control the heap

condition and prevent its inflammation, and if the latter occurs, to take measures for its rapid extinction. It also provides for monthly monitoring of waste heap. Based on the conditions of the waste heap monitoring programme, the formula for the calculation of GHG emissions from waste heap combustion in the baseline was adjusted to the monthly waste heap monitoring activities.

$$BE^{y}_{PO} = \sum_{i=1}^{12} \frac{FC_{b,PO,coal} \cdot NCV^{y}_{b,coal} \cdot k^{b}_{m,y} \cdot EF^{y}_{b,CO2,coal}}{180},$$

$FC_{b,PO,coal}$ - total amount of coal in a waste heap as of the beginning of extinction works, ths t;

$NCV^{y}_{b,coal}$ - net calorific value of coal in monitoring period *y* of the baseline scenario, TJ/ths t;

$EF^{y}_{b,CO_2,coal}$ - default carbon dioxide emission factor for stationary coal combustion in monitoring period *y* of the baseline scenario, t CO_2/TJ;

$k^{b}_{m,y}$ - waste heap combustion factor for month *m* of year *y* of the project scenario (if waste heap combustion was detected in the reporting month, it is assumed that k=1, if the combustion was not detected, as provided by the project, it is assumed that k=0. Since the waste heap continues to burn under the baseline scenario, k=1 for all months of the monitoring period);

PO - index for waste heap;

b - index for baseline scenario;

$coal$ - index for coal;

y - index for monitoring period;

i - index for the sequence number of month, year *y*.

$$FC_{b,PO,coal} = \frac{V_{PO} \cdot \rho_{n} \cdot C_{coal}}{1000000},$$

$FC_{b,PO,coal}$ - total amount of coal in a waste heap as of the beginning of extinction works, ths t;

V_{PO} – waste heap volume, m^3;

C_{coal} - coal content in a waste heap, %;

ρ_{n} - waste heap density, kg/m^3;

PO - index for waste heap;

b - index for baseline scenario;

n - index for waste heap density;

$coal$ - index for coal;

$\left[\frac{1}{1000000}\right]$ - index for kilogrammes to thousand tonnes conversion factor.

$$EF^{y}_{b,CO2,coal} = EF^{y}_{b,C,coal} \cdot OXID^{y}_{b,coal} \cdot 44/12,$$

$EF^{y}_{b,C,coal}$ - carbon emission factor for coal combustion in monitoring period *y* of the baseline scenario, t C /TJ;

$OXID^{y}_{b,coal}$ - carbon oxidation factor for coal combustion in monitoring period *y* of the baseline scenario, relative units;

$44/12$ - stoichiometric *ratio* of carbon dioxide and carbon molecular weight, t CO_2/t C;

y - index for monitoring period;

b - index for baseline scenario;

$coal$ - index for coal.

Emission reduction

$$ER^{y} = BE^{y} - PE^{y}$$

ER^{y} – emission reductions due to the project activity in monitoring period *y* of the project scenario, t CO2eq;

BE^{y} - total GHG emissions in monitoring period *y* of the baseline scenario, t CO2eq;

PE^{y} – total GHG emissions in monitoring period *y* of the project scenario, t CO2eq;

y - index for monitoring period;

The monitoring plan presents the quality assurance and control procedures for the monitoring process. This includes, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. The roles and responsibilities of the persons involved to monitoring process are described in full in section D.3 of PDD and demonstrated on the Scheme of data collection for Monitoring Report.

On the whole, the monitoring report reflects good monitoring practices appropriate to the project type.

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources (e.g. official statistics, IPCC, commercial and scientific literature etc.) but not including data that are calculated with equations.

The monitoring plan indicates that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project.

The identified areas of concern as to the monitoring plan, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 13 – CAR 23).

4.8 Leakage (40-41)

No leakage is expected.

No outstanding issues were raised as per leakage.

4.9 Estimation of emission reductions or enhancements of net removals (42-47)

The PDD indicates assessment of emissions in the baseline scenario and in the project scenario as the approach chosen to estimate the emission reductions generated by the project.

The PDD provides estimates of:

(a) Emissions in the project scenario (within the project boundary), which are:

- 40 648 tonnes of CO_2eq in 2004-2007;
- 116 854 tonnes of CO_2eq in 2008-2012;
- 987 680 tonnes of CO_2eq in 2013-2020.

(b) Leakage, which is:

- 0 tonnes of CO_2eq in 2004-2007;
- 0 tonnes of CO_2eq in 2008-2012;
- 0 tonnes of CO_2eq in 2013-2022.

(c) Emissions in the baseline scenario (within the project boundary), which are:

- 624 764 tonnes of CO_2eq in 2004-2007;
- 1 427 099 tonnes of CO_2eq in 2008-2012;

- 3 204 872 tonnes of CO_2eq in 2013-2020.

(d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are:

- 584 116 tonnes of CO_2eq in 2004-2007;
- 1 310 245 tonnes of CO_2eq in 2008-2012;
- 2 217 192 tonnes of CO_2eq in 2013-2020.

The estimates referred to above are given:

(a) On a periodic basis;

(b) From 01/01/2004 to 31/12/2020, covering the whole crediting period;

(c) Based on primary sources;

(d) For each GHG gas, such as CO_2;

(e) In tonnes of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or amended in accordance with Article 5 of the Kyoto Protocol.

Formulae for calculating the above estimations are given in section 4.7. All formulae are in the correct sequence and compliance across the PDD.

For calculating the estimates referred to above, key factors, e.g. energy prices and availability, market development influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.

Emission factors, such as emission factor for electricity consumption, emission factor for diesel fuel and coal, were selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

The estimation referred to above is based on conservative assumptions and the most plausible scenarios in a transparent manner.

The estimates referred to above are consistent throughout the PDD.

The average annual emission reduction estimations over the crediting period are calculated by dividing the total estimated emission reductions over the crediting period by the total number of months of the crediting period, and multiplying by twelve.

Detailed algorithms of calculations and their results are described in section D, E and supporting documents to the PDD.

No outstanding issues concerning the estimated emission reduction were raised.

4.10 Environmental impacts (48)

The PDD lists and attaches documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party.

The PDD provides conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party, if the analysis referred to above indicates that the environmental impacts are considered significant by the project participants or the host Party.

The identified areas of concern as to the estimation of emission reductions, project participants' response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination Report (refer to CAR 24).

4.11 Stakeholder consultation (49)

Stakeholder consultation was not undertaken as it is not required by the host party.

No outstanding issues were raised as per stakeholder consultation.

4.12 Determination regarding small scale projects (50-57)

Not applicable.

4.13 Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64)

Not applicable.

4.14 Determination regarding programmes of activities (65-73)

Not applicable.

5 SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES

No comments, pursuant to paragraph 32 of the JI Guidelines, were received.

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the "Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska" 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/s used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides investment analysis and common practice analysis, 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 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. 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 2.0 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (version 2.0) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the

relevant UNFCCC requirements for the JI and the relevant host country criteria.

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

7 REFERENCES

Category 1 Documents:
Documents provided by CEP CarbonEmissionsPartners S.A. that relate directly to the GHG components of the project.

/1/ Project Design Document “Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska" version 1.0 dated 14/06/2012
/2/ Emissions reduction calculation Excel spreadsheet “Супровідний_документ_1.xls”
/3/ Project Design Document “Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska" version 2.0 dated 17/08/2012
/4/ Investment analysis Excel spreadsheet “Супровідний_документ_2.xls”
/5/ Letter of Endorsement #1996/23/7 dated 26/07/2012 issued by the State environmental Investment Agency of Ukraine

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ Statement on control checking of ordinary coal mining in June 2012
/2/ Statement on control checking of ordinary coal mining in April 2012
/3/ Statement on control checking of ordinary coal mining in March 2012
/4/ Statement on control checking of ordinary coal mining in February 2012
/5/ Statement on control checking of ordinary coal mining in January 2012
/6/ Statement on control checking of ordinary coal mining in December 2012
/7/ Statement on control checking of ordinary coal mining in November 2012
/8/ Statement on control checking of ordinary coal mining in October 2012
/9/ Statement on control checking of ordinary coal mining in September 2012
/10/ Passport of the site of waste disposal №19.02 dated 05.05.2000
/11/ Report on environmental protection for 2011
/12/ Report on environmental protection for 2010
/13/ Report on environmental protection for 2009
/14/ Report on environmental protection for 2008

/15/ Report on environmental protection for 2005
/16/ Annual statistic report (form 11-MTP) for 2007
/17/ Annual statistic report (form 11-MTP) for 2011
/18/ Annual statistic report (form 11-MTP) for 2010
/19/ Annual statistic report (form 11-MTP) for 2009
/20/ Annual statistic report (form 11-MTP) for 2008
/21/ Annual statistic report (form 11-MTP) for 2006
/22/ Annual statistic report (form 11-MTP) for 2005
/23/ Annual statistic report (form 11-MTP) for 2004
/24/ Report on production of industrial products for 2011
/25/ Passport of gas sensor АГ 0012 reg.№940
/26/ Passport of gas sensor АГ 0012 reg.№880
/27/ Vacuum water-packed pump ВИН2-150М reg.№23010/1. Logbook
/28/ Quality certificate №01280 on vacuum water-packed pump ВИН2-150М.
/29/ Vacuum facility of water-packed pump ВИН2-150 reg.№081. Logbook.
/30/ Vacuum facility of water-packed pump ВИН2-150 reg.№239. Logbook.
/31/ Request on changes in form 1П-НПП for 2004
/32/ Terminate report on production of industrial products. December 2005
/33/ Report on production of industrial products for 2007
/34/ Report on production of industrial products for 2006
/35/ Report on production of industrial products for 2008
/36/ Report on production of industrial products for 2009
/37/ Report on production of industrial products for 2010
/38/ Passport. Ventilator ВЦД 31.5М reg.№030203
/39/ Passport. Hoisting engine reg.№2096.
/40/ Passport. Hoisting engine reg.№26459.
/41/ Information on coal mining dated 20.06.2012
/42/ Information on coal mining dated 17.06.2012
/43/ Information on coal mining dated 15.06.2012
/44/ Permission on the beginning of object exploitation №2244.06.30-29.52.1
/45/ Permission on the beginning of object exploitation №2335.05.30-29.52.1
/46/ Permission on continuation of conduction of operations of an increased danger №0715.07.14-45.21.1
/47/ Conclusion of experts in accordance with the results of technical diagnostics №45807-ДК-06
/48/ Passport of waste heaps №1, 2
/49/ Passport of waste heap №3
/50/ Passport of waste heap №4
/51/ Electronic logbook of waste heaps №2 conditions monitoring for 2009

/52/ Electronic logbook of waste heaps №2 conditions monitoring for 2010
/53/ Electronic logbook of waste heaps №2 conditions monitoring for 2011
/54/ Electronic logbook of waste heaps №2 conditions monitoring for 2012
/55/ Electronic logbook of waste heaps №2 conditions monitoring for 2008
/56/ Logbook of boiler indicators accounting №7 2011-2012

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/ Slipenko Oleg - mechanic area "Maintenance work on safety" degassing "SE "Coal Company "Krasnolimanska"
/2/ Kondratyev Alexander - Chief Energy "SE "Coal Company "Krasnolimanska"
/3/ Letyak Valentin - Deputy Chief Engineer "SE "Coal Company "Krasnolimanska"
/4/ Prokhorov Oksana - Senior Engineer Environmental "SE "Coal Company "Krasnolimanska"

APPENDIX A: DETERMINATION PROTOCOL

Table 1 Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
General description of the project				
Title of the project				
-	Is the title of the project presented?	Implementation of the energy efficiency measures and reduction of greenhouse gas emissions into the atmosphere at State Enterprise "Coal Company "Krasnolimanska"	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Sector 3: Energy demand Scope 8: Mining/mineral production Corrective Action Request 01: The proposed project activity not related to the scope #2. Please correct.	CAR 01	OK
-	Is the current version number of the document presented?	PDD version number: 2.0	OK	OK
-	Is the date when the document was completed presented?	Data of Completion: 17/08/2012	OK	OK
Description of the project				
-	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description)?	Corrective Action Request 02: Please use in the PDD font size provided «JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM» - version 01.	CAR 02	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
-	Is the history of the project (incl. its JI component) briefly summarized?	Yes, brief description of project history provided.	OK	OK
Project participants				
-	Are project participants and Party(ies) involved in the project listed?	Project participants and parties listed in the table in section A.3 of PDD. Parties Project: Ukraine (host country).	OK	OK
-	Is the data of the project participants presented in tabular format?	Corrective Action Request 03: Table A.3 in the PDD must be submitted in a format that provided in the version 04 of the "Guidelines for users of the JI PDD form".	CAR 03	OK
-	Is contact information provided in Annex 1 of the PDD?	Contact information is provided in Annex 1.	OK	OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	Yes, Ukraine is a host Party	OK	OK
Technical description of the project				
Location of the project				
-	Host Party(ies)	Ukraine	OK	OK
-	Region/State/Province etc.	The project is located in Donetsk region	OK	OK
-	City/Town/Community etc.	Rodynske town	OK	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	Clarification Request 01: In PDD indicated only the coordinates of city. Please specify geographic coordinates of mine.	CL 01	OK
Technologies to be employed, or measures, operations or actions to be implemented by the project				
-	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described?	List and brief description of mesures to be implemented by the project provided in section A.4.2 of PDD.	OK	OK
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				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
policies and circumstances				
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	Corrective Action Request 04: Clarification how anthropogenic GHG emission reductions are to be achieved is not provided. Please correct.	CAR 04	OK
-	Is it provided the estimation of emission reductions over the crediting period?	Clarification Request 02: Please number the tables with information of the estimates (calculations) of emission reductions.	CL 02	OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO_2e?	Yes, the estimated annual reduction for the chosen credit period in tCO_2e is provided.	OK	OK
-	Are the data from questions above presented in tabular format?	Yes.	OK	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period Indicated?	Yes, leight of crediting period is 17 years (204 months).	OK	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided?	Yes, estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided in section A.4.3.1 of PDD.	OK	OK
Project approvals by Parties				
19	Have the DFPs of all Parties listed as “Parties involved” in the PDD provided written project approvals?	Corrective Action Request 05: No Letters of Aapproval of the project issued by the parties involved.	CAR 05	OK
19	Does the PDD identify at least the host Party as a “Party involved”?	Yes, Ukraine is the Host Party.	OK	OK
19	Has the DFP of the host Party issued a written project approval?	See CAR 05 above	OK	OK
20	Are all the written project approvals by Parties involved unconditional?	See CAR 05 above.	OK	OK
Authorization of project participants by Parties involved				
21	Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: − A written project approval by a Party	See CAR 05 above.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	involved, explicitly indicating the name of the legal entity? or − Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?			
Baseline setting				
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? − JI specific approach − Approved CDM methodology approach	PDD describes the JI specific approach used to identify the baseline scenario. Corrective Action Request 06: Please provide date of baseline setting according required format DD/MM/YYYY.	CAR 06	OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	Yes, the PDD provide a detailed theoretical description in a complete and transparent manner.	OK	OK
23	Does the PDD provide justification that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? − Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors? (d) Taking into account of uncertainties and	In the PDD in a reasonable way showed that the baseline was determined by compiling a listing and description of real scenarios of future scenarios based on conservative assumptions and subsequent selection the most attractive of these scenarios.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	using conservative assumptions? (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure? (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?			
24	If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above?	To identify the baseline scenario and demonstrate additionality was used "Guidance on criteria for baseline setting and monitoring for Joint Implementation" version 03. Also taken into consideration the recommendations the "Tool for the demonstration and assessment of additionality" (Version 05.2). Corrective Action Request 07: The PDD (section B.1) is given by the reference to "Guidance on criteria for baseline setting and monitoring for Joint Implementation" version 03, but with different names of this document. Please correct. Corrective Action Request 08: Please provide a current link to the document that was used, "Tools for the demonstration and assessment of additionality" (Version 05.2)	CAR 07 CAR 08	OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	For baseline emissions calculations were used CO_2 emission factor for the projects of reducing electricity consumption from Ukraine electricity network, emission factor for natural gas and global warmig potential of methane. All factors are justified.	OK	OK
Approved CDM methodology approach only Paragraphs 26(a) – 26(d)_Not applicable				
Additionality				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
JI specific approach only				
28	Does the PDD indicate which of the following approaches for demonstrating additionality is used? (a) Provision of traceable and transparent information showing 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 emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board".	In section B.1 PDD provides analysis additionality of project whose purpose is to demonstrate that the design scenario is not part of a particular baseline, and that project will reduce GHG emissions compared to baseline. The analysis was performed based on the latest version of the "Tool to identify the baseline scenario and demonstrate additionality", which was approved by the CDM Executive Board and is completely usable for JI.	OK	OK
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	Investment analysis and common practice analysis which applied are widely used for additionality demonstration of the project activity.	OK	OK
29 (b)	Are additionality proofs provided?	Yes, justification of additionality provided in section B.1 of PDD.	OK	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	Corrective Action Request 09: In the PDD does not specify how the registration of this project as JI project will help overcome identified barriers.	CAR 09	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made	All explanations, descriptive materials and analytical conclusions was presented in accordance with the chosen	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	in accordance with the selected tool or method?	method.		
Approved CDM methodology approach only Paragraphs 31(a) – 31(e)_Not applicable				
Project boundary (applicable except for JI LULUCF projects)				
JI specific approach only				
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: (i) Under the control of the project participants? (ii) Reasonably attributable to the project? (iii) Significant?	Yes, project boundary is defined according to the all requirements.	OK	OK
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	Yes, the project boundary is defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above.	OK	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	Yes, the project boundary is provided in the Figure 15 and Figure 16 and in tabular format in Table 15.	OK	OK
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	All gases and sources included are explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified.	OK	OK
Approved CDM methodology approach only Paragraph 33_ Not applicable				
Crediting period				
34 (a)	Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	The starting date of the project is 21/07/2003. <u>Corrective Action Request 10:</u> Please correct the date format of the project. <u>Clarification Request 03:</u> Please provide confirmatory information about the beginning	CAR 10 CL 03	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		of the project.		
34 (a)	Is the starting date after the beginning of 2000?	Yes.	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	17 years (204 months). Clarification Request 04: Please specify the expected term of the project life cycle and provide documented evidence of the term.	CL 04	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	17 years (204 months).	OK	OK
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	The starting date of the crediting period is on the date of the first emission reductions generated by the project.	OK	OK
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	Corrective Action Request 11: Please state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project.	CAR 11	OK
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	Corrective Action Request 12: Please specify that the extension of the crediting period beyond 2012 is subject to the host Party approval.	CAR 12	OK
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	JI specific approach was used.	OK	OK
JI specific approach only				
36 (a)	Does the monitoring plan describe: − All relevant factors and key characteristics	The monitoring plan describes: - Data to be monitored	CAR 13 CL 05	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	that will be monitored? − The period in which they will be monitored? − All decisive factors for the control and reporting of project performance?	- The frequency of monitoring annual / monthly - All important factors for monitoring and reporting on project activities - Reports on project activities, structure control, which will be introduced in implementing the monitoring plan. Corrective Action Request 13: During the inspection of the project have been identified, as well as in PDD that monitoring will occur periodically (smallest interval - monthly). The units for the parameters are to be presented this month, not per year. Please check it out and make the appropriate adjustments. Clarification Request 05: Please explain why the calculations do not take into account emissions by stage of events described in the PDD, for example, emissions of vehicles during stewing waste heap.		
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	Yes, the monitoring plan identifies parameters constant and variables, and whether they are reliable, valid and those that allow to obtain a clear picture of emission reductions that are subject to monitoring.	OK	OK
36 (b)	If default values are used: − Are accuracy and reasonableness carefully balanced in their selection? − Do the default values originate from recognized sources? − Are the default values supported by statistical analyses providing reasonable confidence levels? − Are the default values presented in a transparent manner?	Corrective Action Request 14: For some parameters (for example, $OXID^{y}_{b,coal}$ - Carbon oxidation factor for coal combustion) values used in accordance with the approved CDM methodology ACM0009, but its use in the text of PDD is not justified. Please correct.	CAR 14	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	Yes. All procedures for the selection and justification required values described.	OK	OK
36 (b) (ii)	For other values, − Does the monitoring plan clearly indicate the precise references from which these values are taken? − Is the conservativeness of the values provided justified?	Corrective Action Request 15: Please indicate parameters used from NIR is conservative.	CAR 15	OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	Corrective Action Request 16: Please indicate in the PDD procedure that must be used if the expected data with any source are not available.	CAR 16	OK
36 (b) (iv)	Are International System Unit (SI units) used?	Yes.	OK	OK
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	Yes, the emission factors for projects on power loss reduction in power supply networks of Ukraine are used in calculations and are obtained through monitoring.	OK	OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	Yes, the use of parameters, coefficients, variables, etc. Is consistent between the baseline and monitoring plan.	OK	OK
36 (c)	Does the monitoring plan draw on the list of standard variables contained in appendix B of “Guidance on criteria for baseline setting and monitoring”?	The monitoring plan is developed in accordance with the “Guidance on criteria for baseline setting and monitoring”.	OK	OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are	Yes, all the relevant parameters are described (refer to the Section D.1 of the PDD).	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored throughout the crediting period?			
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	The Table in the Section D.1.1 of the PDD defines the frequency of monitoring and data sources for all parameters and data to be monitored. Corrective Action Request 17: Please provide documented information on how to collect and order of records as well as their storage, archiving and recovery if necessary.	CAR 17	OK
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	The PDD describes all algorithms and formulae used for the calculation of baseline and project emissions.	OK	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	The underlying rationale for the algorithms/formulae is explained.	OK	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Yes, consistent variables, equation formats, subscripts etc. are used. Corrective Action Request 18: Please indicate the source of data for the parameters used	CAR 18	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		for the calculations in these formulas		
36 (f) (iii)	Are all equations numbered?	Corrective Action Request 19: Please correct the numbering above formulas.	CAR19	OK
36 (f) (iv)	Are all variables, with units indicated defined?	Yes.	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	Yes, documentation analysis confirming conservative algorithms / procedures for monitoring	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	The level of data uncertainty is provided in the quality control and assurance table (refer to the section D.2 of the PDD). Taking into account that almost all data and parameters are based on the statistical data and calibrated measuring equipment recordings of a certain class of accuracy and tested by the official energy resources supplier and state bodies, their level of uncertainty is considered as low.	OK	OK
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	Yes.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	Any parts of the algorithms or formulae that are not self-evident are explained.	OK	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	Yes, it is justified that the procedure is consistent with standard technical procedures in the relevant sector.	OK	OK
36 (f) (vii)	Are references provided as necessary?	All the references are provided as necessary.	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Yes.	OK	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty	Used assumptions and procedures do not have any significant uncertainty associated with them.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	associated with them, and how such uncertainty is to be addressed?			
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	Level of uncertainty is indicated as low.	OK	OK
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project? Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?	The monitoring plan identifies national and international monitoring standards used for the proposed project. All relevant references are provided.	OK	OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	n/a	OK	OK
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?	Control procedures and quality assurance monitoring process described in section D.2 of the PDD. <u>Corrective Action Request 20:</u> Please provide documented information about the internal QA/QC Enterprise. <u>Corrective Action Request 21:</u> Please provide AIE schedule calibration of measuring equipment.	CAR 20 CAR 21	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	Yes, the monitoring plan in the Section D.3 of the PDD clearly identifies the responsibilities and authorities regarding the monitoring activities.	OK	OK
36 (k)	Does the monitoring plan, on the whole, reflect	<u>Corrective Action Request 22:</u>	CAR 22	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	The Section D.1.5 of the PDD requires from the project participants to indicate the information on data collection and archivation concerning environmental impact and to provide references on the relevant regulations of the host country. Please provide all the necessary information.		
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?	Yes all the parameters are provided in Sections D.1.1.1 and D.1.1.3 of the PDD.	OK	OK
36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	Methodology the monitoring described in the PDD requires that all information collected during monitoring was for archived electronically and kept at least 2 years after the crediting period. Corrective Action Request 23: Please provide documented information how to store the information collected during monitoring.	CAR 23	OK
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	No elements or combinations of approved CDM methodologies or methodological tools are used in the monitoring plan.	OK	OK
Approved CDM methodology approach only Paragraphs 38(a) – 38(d)_Not applicable				
Applicable to both JI specific approach and approved CDM methodology approach Paragraph 39_Not applicable				
Leakage				
JI specific approach only				
40 (a)	Does the PDD appropriately describe an	No leakage is expected in proposed project activity.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?			
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	No leakage is expected in proposed project activity.	OK	OK
Approved CDM methodology approach only Paragraph 41_Not applicable				
Estimation of emission reductions or enhancements of net removals				
42	Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the baseline scenario and in the project scenario (b) Direct assessment of emission reductions	Emissions baseline scenario and in the project scenario were assessed.	OK	OK
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	The PDD provides ex ante estimates of the project and baseline scenarios, and also emissions reduction. The estimated results are provided in the Section E of the PDD, and also in the Excel spreadsheets.	OK	OK
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	Not applicable	OK	OK
45	For both approaches in 42 (a) Are the estimates in 43 or 44 given:	The estimates are provided on a periodic basis in tones CO_2 equivalent.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(i) On a periodic basis? (ii) At least from the beginning until the end of the crediting period? (iii) On a source-by-source/sink-by-sink basis? (iv) For each GHG? (v) In tones of CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? (b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD? (c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate? (d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent? (e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice? (f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner? (g) Are the estimates in 43 or 44 consistent throughout the PDD?	The formulas used are consistent throughout the PDD.		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(h) Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?			
46	If the calculation of the baseline emissions or net removals is to be performed ex post, does the PDD include an illustrative ex ante emissions or net removals calculation?	Yes, the PDD includes an illustrative ex ante emissions calculation. Preliminary calculations of emission reductions performed in table Excel, which is available to the AIE. Errors in calculations were not found.	OK	OK
Approved CDM methodology approach only Paragraphs 47(a) – 47(b)_Not applicable				
Environmental impacts				
48 (a)	Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	Corrective Action Request (CAR) 24: There is no information on transboundary impacts in the PDD.	CAR 24	OK
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	No significant environmental impacts related to project implementation expected. Therefore separate environmental impact assessment is not required.	OK	OK
Stakeholder consultation				
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects have been received,	Procedures of Ukraine did not require consultations with stakeholders for proposed project. However, information on implementation measures of reducing technological power consumption provided in the media and in electronic media (see section G of PDD). No negative stakeholders'	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	comments were received on company address.		
Determination regarding small-scale projects (additional elements for assessment) Paragraphs 50 - 57_Not applicable				
Applicable to bundled JI SSC projects only				
Determination regarding land use, land-use change and forestry projects Paragraphs 58 – 64(d)_Not applicable				
Approved CDM methodology approach only				
Determination regarding programmes of activities Paragraphs 66 – 73_Not applicable				

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Determination team conclusion
Corrective Action Request 01: The proposed project activity not related to the scope #2. Please correct.	-	Checked and corrected. See PDD version 2.0	The issue is closed
Corrective Action Request 02: Please use in the PDD font size provided «JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM» - version 01.	-	Format checked and corrected. See PDD version 2.0	The issue is closed
Corrective Action Request 03: Table A.3 in the PDD must be submitted in a format that provided in the version 04 of the "Guidelines for users of the JI PDD form".	-	Checked and corrected. Table A.3 in the PDD showed in a format that provided in the version 04 of the "Guidelines for users of the JI PDD form". See PDD version 2.0	The issue is closed

Clarification Request 01: In PDD indicated only the coordinates of city. Please specify geographic coordinates of mine.	-	Geographical coordinates indicated of the mine. See PDD version 2.0	The issue is closed
Corrective Action Request 04: Clarification how anthropogenic GHG emission reductions are to be achieved is not provided. Please correct.	-	Explanation of how is achieved the anthropogenic emissions of GHG added. See PDD version 2.0	The issue is closed
Clarification Request 02: Please number the tables with information of the estimates (calculations) of emission reductions.	-	Tables are numbered. See PDD version 2.0	The issue is closed
Corrective Action Request 05: No Letters of Aapproval of the project issued by the parties involved.	19	Corrected. After determination of the project PDD and Determination Report will be submitted for consideration to the State Environmental Investment Agency of Ukraine in order to obtain a Letter of Approval. See PDD version 2.0	Pending resolution
Corrective Action Request 06: Please provide date of baseline setting according required format DD/MM/YYYY.	22	Format is checked and corrected. See PDD version 2.0	The issue is closed
Corrective Action Request 07: The PDD (section B.1) is given by the reference to "Guidance on criteria for baseline setting and monitoring for Joint Implementation" version 03, but with different names of this document. Please correct.	24	Checked and corrected. The PDD provides a link to the "Guidance on criteria for baseline setting and monitoring for Joint Implementation" version 03. See PDD version 2.0	The issue is closed
Corrective Action Request 08: Please provide a current link to the document that was used, "Tools for the demonstration and assessment of additionality" (Version 05.2)	24	Checked and corrected. Was used "Tools for the demonstration and assessment of additionality" (Version 06.0.0) with true links See PDD version 2.0	The issue is closed

Corrective Action Request 09: In the PDD does not specify how the registration of this project as JI project will help overcome identified barriers.	29 (c)	Checked and corrected. This revised PDD as registration of the project as a JI project will help overcome the identified barriers. See PDD version 2.0	The issue is closed
Corrective Action Request 10: Please correct the date format of the project.	34 (a)	Date format is checked and corrected. See PDD version 2.0	The issue is closed
Clarification Request 03: Please provide confirmatory information about the beginning of the project	34 (a)	Project starting date is 07/21/2003. Document confirming of Act #12 into operation rigs with degassing reservoir GBH-1/89/12. Scan-copy document attached	The issue is closed
Clarification Request 04: Please specify the expected term of the project life cycle and provide documented evidence of the term.	34 (b)	Expected operational lifetime of the project is set based on the lifetime of new and reconditioned equipment. Documented evidence of this was provided under the determination under the site-visit as REPAIR forms and acts of commissioning.	The issue is closed
Corrective Action Request 11: Please state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project.	34 (d)	Checked and corrected. See PDD version 2.0	The issue is closed
Corrective Action Request 12: Please specify that the extension of the crediting period beyond 2012 is subject to the host Party approval.	34 (d)	Production ERUs refers to the first commitment period of 5 years (01/01/2008 - 31/12/2012 g.) Continued crediting period after 2012 subject to approval of the host Party and the calculations of emission reductions are presented separately for the period up to 2012 and for the period after 2012. See PDD version 2.0	The issue is closed

Corrective Action Request 13: During the inspection of the project have been identified, as well as in PDD that monitoring will occur periodically (smallest interval - monthly). The units for the parameters are to be presented this month, not per year. Please check it out and make the appropriate adjustments.	36 (a)	Monitoring waste heap will occur periodically (smallest interval-month). Calculation of GHG emissions resulting from the re-fire waste heap after his stewing measures are calculated for the year. Parameters are for the month indicated in the temperature shooting waste heaps on stage monitoring. Documented evidence of this was provided by determination team during the site-visit in a spreadsheet monitoring the thermal state waste heap.	The issue is closed
Clarification Request 05: Please explain why the calculations do not take into account emissions by stage of events described in the PDD, for example, emissions of vehicles during stewing waste heap.	36 (a)	Emissions from diesel fuel used process equipment in the stewing heap arise only in the event of a re-ignition of satiety, and less than 1% of the emissions generated during combustion waste heap, so they in the process of calculation can be neglected. See PDD version 2.0	The issue is closed
Corrective Action Request 14: For some parameters (for example, $OXID^{y}_{b,coal}$ - Carbon oxidation factor for coal combustion) values used in accordance with the approved CDM methodology ACM0009, but its use in the text of PDD is not justified. Please correct.	36 (b)	Emissions from diesel fuel used process equipment in the stewing heap arise only in the event of a re-fire satiety, and less than 1% of the emissions generated during combustion waste heap, so they in the process of calculation can be neglected. See PDD version 2.0	The issue is closed

Corrective Action Request 15: Please indicate parameters used from NIR is conservative.	36 (b) (ii)	National inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases in Ukraine is the official report submitted to the secretariat of the UN Framework Convention on Climate Change (UNFCCC) Used parameters selected from NIR designed to reflect the situation of Ukraine and selected indicators for Ukraine. See PDD version 2.0	The issue is closed
Corrective Action Request 16: Please indicate in the PDD procedure that must be used if the expected data with any source are not available.	36 (b) (iii)	If due to force majeure to perform temperature measurements are not possible, the results of the temperature shooting missed last month accepted such as in the month recovery measurements of temperatures. In the enterprise under normal operation the measures envisaged to prevent force-majeure circumstances that may affect the production, as well as measures to address the consequences of possible force majeure. See PDD version 2.0	The issue is closed
Corrective Action Request 17: Please provide documented information on how to collect and order of records as well as their storage, archiving and recovery if necessary.	36 (e)	Documents and reports the data to be monitored will be archived and stored by the project participants. This documentation and other monitoring data required for the determination and verification, as well as any other information relevant to the operation of the project must be kept at least two years after the last transfer of ERUs. Scanned copy of the order is attached.	The issue is closed

Corrective Action Request 18: Please indicate the source of data for the parameters used for the calculations in these formulas	36 (f) (ii)	1) Information on the number of extracted coal mines going on every day, on the basis of these data formed annual report. 2) Based on monthly reports formed an annual report on energy consumption. These counters from each mine. 3) Information on the number of generated heat is going to the mines, on the basis of these data formed annual report. Statement on the volume of production 4) Passport waste heap See PDD version 2.0	The issue is closed
Corrective Action Request 19: Please correct the numbering above formulas.	36 (f) (iii)	Checked and corrected. See PDD version 2.0	The issue is closed
Corrective Action Request 20: Please provide documented information about the internal QA/QC Enterprise.	36 (i)	Documented information was provided by group determination during site visit.	The issue is closed
Corrective Action Request 21: Please provide AIE schedule calibration of measuring equipment.	36 (i)	Scanned copy of the schedule of calibration of measuring equipment attached.	The issue is closed
Corrective Action Request 22: The Section D.1.5 of the PDD requires from the project participants to indicate the information on data collection and archivation concerning environmental impact and to provide references on the relevant regulations of the host country. Please provide all the necessary information.	36 (k)	Checked and corrected. See PDD version 2.0	The issue is closed
Corrective Action Request 23: Please provide documented information how to store the information collected during monitoring.	36 (m)	Corrected. See PDD version 2.0	The issue is closed
Corrective Action Request (CAR) 24: There is no information on transboundary impacts in the PDD.	48 (a)	Checked and corrected. See PDD version 2.0	The issue is closed