DETERMINATION REPORT

LLC "ENERGY TECHNOLOGY COMPANY "ENERGOALIANS"

DETERMINATION OF THE REDUCTION OF NATURAL GAS EMISSIONS AT PJSC "CREAMGAS"

REPORT NO. UKRAINE-DET/0642/2012

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BUREAU VERITAS CERTIFICATION

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DETERMINATION REPORT

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Client:	**Client ref.:**
LLC «Energy Technology Company «ENERGOALIANS»	Kardash Yuriy

Summary:

Bureau Veritas Certification has made the determination of the project “Reduction of natural gas emissions at PJSC "Creamgas" of company «LLC «Energy Technology Company «ENERGOALIANS»» is located in the AR Crimea (except for Sevastopol, Feodosiya and Kerch towns), 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/0642/2012	JI

Project title:
“Reduction of natural gas emissions at PJSC "Creamgas"

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1 INTRODUCTION

LLC «Energy Technology Company «ENERGOALIANS» has commissioned Bureau Veritas Certification to determine its JI project “Reduction of natural gas emissions at PJSC "Creamgas" (hereafter called “the project”) is located in the AR Crimea (except for Sevastopol, Feodosiya and Kerch towns), 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:

Oleg Skoblyk
Bureau Veritas Certification Team Leader, Climate Change Verifier

Volodymyr Kulish

Bureau Veritas Certification Climate Change Verifier

This determination report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal 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 LLC «Energy Technology Company «ENERGOALIANS» 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, LLC «Energy Technology Company «ENERGOALIANS» revised the PDD version 03 and resubmitted it on 19/09/2012.

The determination findings presented in this report relate to the project as described in the PDD version(s) 01, 02 and 03.

2.2 Follow-up Interviews

On 23/08/2012 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 PJSC "Creamgas" and LLC "Energy Technology Company "ENERGOALIANS" ltd. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
PJSC "Creamgas"	➢ Project history ➢ Project approach ➢ Project boundary ➢ Implementation schedule ➢ Organizational structure ➢ Responsibilities and authorities ➢ Training of personnel ➢ Quality management procedures and technology ➢ Rehabilitation/Implementation of equipment (records) ➢ Metering equipment control ➢ Metering record keeping system, database ➢ Technical documentation ➢ Monitoring plan and procedures ➢ Permits and licenses ➢ Local stakeholder's response.
CONSULTANT: LLC "Energy Technology Company "ENERGOALIANS"	➢ Baseline methodology ➢ Monitoring plan ➢ Additionality proofs ➢ Calculation of emission reduction.

2.3 Resolution of Clarification and Corrective Action Requests

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

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 determination process, the concerns raised are documented in more detail in the determination protocol in Appendix A.

3 PROJECT DESCRIPTION

The purpose of the project is reduction of the natural gas emissions at gas-transport and gas-distributing infrastructure of PJSC "Creamgas", which are the result of leakage from gas equipment and gas armature. The basic sources of emissions, included into the project scope are:

- gas equipment (reducing gears, valves, filters, turning off devices and others like that), flanged and screw-thread connections which are in gas-distributing plants (GDP) and cabinet-type gas-distributing plants (CGDP) PJSC "Creamgas";
- gas armature (faucets, bolts, valves and others like that), screw-thread and flanged connections located on gas pipelines PJSC "Creamgas".

General quantity of GDP included into the boundary of the project is 357 units, CGDP – 1 118 units, number of gas armature on gas pipelines is 14 690 units.

Main reason of natural gas emissions is death of sealing elements of equipment as a result of action of temperature vibrations and moisture. Basic component of natural gas, methane (92 - 95%), is greenhouse gas. In result of natural gas sources removal will reductions of greenhouse gases emission. In future, for determination of natural gas emissions sources «emissions of methane» is used, as instrumental measurings of emissions refer to methane directly.

Situation before the start of project

PJSC "Creamgas" is an enterprise that provides transporting and supply of natural gas for industrial (226 enterprises), public-service (3 545 economies) and population (650 357 apartments and individual estate owners) in towns and villages of AR Crimea (except for Sevastopol, Feodosiya and Kerch towns), Ukraine.

The structure of existent gas transportation cost, which are regulated by the state, does not take into account the depreciation and investment necessities of gas-distributing enterprises. It results in the finances shortage for repair works and modernization of gas networks, purchase of the proper technological equipment and component parts, and, as a result, influences on the increase of natural gas emissions at PJSC "Creamgas" facilities.

Before the beginning of this project realization application of Joint Implementation mechanism was foreseen, stipulated by Kyoto Protocol. March, 2004 the JI Project implementation's and own resources investment decision was signed by the Board of PJSC "Creamgas" (№149 at 15/3/2004).

Baseline scenario

Before the Project start (2004) PJSC "Creamgas" carried out only the detection of methane emissions by gas detectors in accordance with Ukrainian Gas Supply System Safety Rules1, with the purpose of avoidance of emergency and explosive situations. Measurings of methane emissions volumes, their registration and accounting were not conducted, and the proper measuring devices were absent. Theoretical calculations of methane emissions volumes on the basis of the conducted base measurings of natural gas emissions as a result of equipment, gas armature, flanged and screw-thread connected gas pipelines leakages, PJSC "Creamgas" amounted in about 65 million m^3 per year.

Project scenario

Project activities consist in reductions of methane leaks on the GDP (CGDP) gas equipment and on the gas pipelines armature of PJSC "Creamgas" in its consequence not tightness.

Within the framework of JI Project with the aim of elimination of methane emissions on gas equipment and on the gas armature there are three types of repairs used:

1. Complete substitution of old gas equipment and gas armature by new units.
2. Repair of gas equipment components and gas armature;
3. Replacement of pressure-sealing elements with the modern sealing materials using, changing of service and repair practice, that has become common, on the basis of paronite gaskets, and also sealing stuffing of cotton fibres with fatty impregnation and asbestos-graphite filler.

The existent practice of service and repair that has become common, on the basis of paronite gaskets, and also the sealing stuffing of cotton fibres with fatty impregnation and asbestos-graphite filler does not give long-lasting effect of methane emissions reduction. As a result of activities due to JI Project in addition to methane emissions reduction there will be natural gas technical losses reduced and contribution to ecological situation improvement, the risk of emergency and explosive situations will be reduced.

Project activities include:

- Introduction of Purposeful Examination and Technical Maintenance (PETM) of GDP (CGDP) gas equipment and gas armature flanged and threaded joints - modern and most economically-effective practice, that allows not only to find out the emissions places but also to determine their volumes (i. e. potential volume of gas losses reductions). This key information is necessary for grounding of repairs efficiency and priority choice of its objects, which is important at the insufficient financing for the removal of all emissions. This activity will include purchasing and calibration of modern measuring equipment, corresponding studies of workers, monitoring of every gas equipment and gas armature, flanged and threaded connection, creation of the methane sources' collection and storage system and also implementation the Plan of monitoring and system of methane emissions volumes' account.

- Exposure and methane emissions measuring: monitoring system of emissions on all GDP (CGDP) gas equipment, on gas armature (bolts, faucets, valves), on flanged and threaded connections, including the removed methane emissions (on the repaired

components of equipment). Monitoring will be performed on regular basis by the specially taught personnel. The found out emissions will be properly marked by individual numbers, the volumes of methane emissions will be measured and registered in a database.

- Elimination of all found out methane leaks: repairs of GDP (CGDP) gas equipment and gas pipelines armature on with emissions within the framework of this Project will be varied from replacement of sealing elements or pressure-sealing, to major repairs and replacement of gas equipment and gas armature by a new, modern equipment. The repaired components of GDP (CGDP) gas equipment and gas pipelines armature will be inspected regularly, as component part of standard monitoring activity, to ascertain, that they did not become the source of emissions again.

History of the project

- The Project was initiated in April 2004;
- In April-May 2004 the inspection of GDP (CGDP) gas equipment and armature, gas pipelines' flanged and threaded joints of PJSC "Creamgas" was performed and primary measuring of emissions done, the results of which made the basis for setting the project baseline;
- April 09, 2004 - the Working group was organized with the basic tasks of JI project implementation provision;
- April 21, 2004 the Methodology of Measuring and Program of Emissions Monitoring was approved by order №228 of PJSC "Creamgas" administration;
- April 2004 – the inspection and May 2004 – repairing works was begun on thr GDP (CGDP) gas equipment and armature, flanged and threaded joints on the PJSC "Creamgas" gas-distributing networks;
- January 11, 2005, January 6, 2007 and December 6, 2011 - in the order of changes in organizational structure, the composition revision of the working group was approved;
- April 05, 2012 was signed the Emission Reductions Purchase Agreement for of JI Project between Biotehnoloogia OÜ (Estonia) and PJSC "Creamgas". Financing of JI Project's PDD design is responsibility of Biotehnoloogia OÜ.

The identified areas of concern as to the Project description, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 01 –CAR 17).

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 39 Corrective Action Requests and 2 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 already been supported by the Government of the host Party (Ukraine), namely by the State Environmental Investment Agency of Ukraine, which has issued a Letter of Endorsement for the Project (Letter of Endorsement №2133/23/7 dated 06/08/2012). Bureau Veritas Certification received this letter from the project participants and does not doubt its authenticity.

As for the present moment no written approvals of the project by Parties involved are available. 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.

As the project has no approvals by the Parties involved, CAR10 remain pending (refer to the Appendix A).

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).

4.3 Baseline setting (22-26)

With the aim of quantitative estimation and preparation of reports on reduction of methane emissions on the basis of baseline and project

activity JI Specific Approach on the basis of the approved baseline methodology of CDM AM0023 " Leak detection and repair in gas production, processing, transmission, storage and distribution systems and in refinery facilities", version 4.0 is used with modification improving correctness of methane leakage volume measurements.

Baseline was chosen according to the requirements of "Guidance on criteria for baseline setting and monitoring", version 03, according to Guidance for users of Project Design Document forms for Joint Implementation projects, version 04.

Methodology AM0023 version 4.0 is applicable for the projects wich concern of natural gas emissions reduction on the compressor, gas-distributing stations on the gas pipelines, as well as for the gas-distributing systems' equipment.

Conventional activity existed at PJSC "Creamgas" before the Project implementation met the requirements of Ukrainian Gas Supply System Safety Rules and included leakage detection by means of gas detectors, which fixed only presence or absence of natural gas leakages in order to avoid emergency and explosive situations.

In the course of Project realization PETM program concerning GDP (CGDP) gas equipment and gas armature of PJSC "Creamgas" gas-distribution networks, as it described in paragraph "Project scenario" of section A.2 of PDD, in substance, is corresponded to the methodology AM0023 version 4.0 requirements.

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:

   a. Continuation of the existing situation without implementation of JI Project (business-as-usual); and
   b. The proposed project activity without JI component;

(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:

a. Under the existing market model for the supply of fossil fuels, the effective competition among producers and suppliers of fuel could not be achieved, neither did the fuel pricing, which would stimulate providers to improve efficiency and increase investment in energy sector. Neither existing market mechanisms, nor administrative measures provided the necessary modernization of existing energy source transportation systems. The situation becomes particularly critical given the growth of the need for fossil fuel, the lack of which represents a threat to safe operation of local heating and hot water supply systems, electricity generation systems etc.
b. The structure of existing tariffs for natural gas distribution is regulated by the state; the tariffs do not take into account amortization and investment needs of natural gas suppliers. This situation leads to a constant shortage of funds and inability to timely complete major repairs, provide equipment operation and invest in modernization and development of infrastructure.
c. The current Ukrainian system of tariff establishment for natural gas does not include an investment component for the development of gas distribution networks. At the same time, state investment programs in most cases are directed only at the administrative and organizational implementation.
d. The implementation of the project scenario requires substantial additional investment. Such investment has a very big payback period and high investment risks; therefore it is not attractive for investors.

All explanations, descriptions and analyses pertaining to the baseline in the PDD were found adequate 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, Table 2 (refer to CAR 12 – CAR 17, CL 01).

4.4 Additionality (27-31)

The most recent version of the "Tool for the demonstration and assessment of additionality" (Additionality Tool) approved by the CDM Executive Board was used, in accordance with the JI specific approach, defined in paragraph 2(c) of the Annex I to the "Guidance on criteria for baseline setting and monitoring". All explanations, descriptions and analyses are made in accordance with the selected tool.

The PDD provides a justification of the applicability of the approach with a clear and transparent description, as per item 4.3 above. With a purpose of demonstration and assessment of the project's additionality the Additionality Tool was used which is considered as a good practice for additionality justification.

The identified areas of concern as to the additionality, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 18 – CAR 22, CL 02).

4.5 Project boundary (32-33)

The project boundary defined in the PDD encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

(i) Under the control of the project participants (such as CO_2 emissions due to methane leakage at technological equipment);

(ii) Reasonably attributable to the project (such as CH_4 emissions when transporting gas by gas transportation networks); and

(iii) Significant, i.e., as a rule of thumb, would by each source account on average per year over the crediting period for more than 1 per cent of the annual average anthropogenic emissions by sources of GHGs, or exceed an amount of 2,000 tonnes of CO_2 equivalent, whichever is lower.

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

AIE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

The identified areas of concern as to the project boundary, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 23).

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 09/04/2004, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 13 years and 9 months.

The PDD states the length of the crediting period in years and months, which is 13 years and 8 months, and its starting date as 01/05/2004, which is after the date the first emission reductions are generated by 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 crediting period, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR24 - CAR27).

4.7 Monitoring plan (35-39)

The PDD, in its monitoring plan section, explicitly indicates that JI specific approach was 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, such as statistics reporting forms; quality control (QC) and quality assurance (QA) procedures; the operational and management structure that will be applied in implementing the monitoring plan.

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

The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC, such as BE (baseline emissions), PE (project emissions), GWP (global warming potential) and others.

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 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 which, are absent.

(iii) Data and parameters that are monitored throughout the crediting period, such as Ti, GWP_{CH4}, $F_{CH4,i}$, t_i, P_i, URi, $w_{sampleCH4,i}$, τ_i.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording, such as direct measurement with appropriately calibrated measuring equipment (natural gas meters); calculations based on officially approved data from the National Inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases in Ukraine; data processing by the electronic accounting systems; reporting using special reporting forms, with different recording frequency such as monthly or annually and electronic or paper recording method. The respective information for each monitoring parameter is sufficiently described in the section D and Annex 3 of the PDD.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions, such as:

Project emissions

Using the method of measuring of emissions volume by means of leakage-proof tank, the volume of project methane emissions (after repair, replacement) from one gas equipment (armature) is possible to calculate according to the formula:

$$F^{+}_{CH4,i} = Vbag * w_{sampleCH4,i} * 3600 / \tau_i \quad ,$$

$F^{+}_{CH4,i}$ - measured rate of Project methane emissions through leaking *i*-equipment and after the repair (replacment) (m^3/hour);

Vbag - leakage-proof tank volume for measuring (m^3);

$w_{sampleCH4,i}$ - methane concentration in the emission sample, which is the difference of concentrations at the beginning and the end of measuring (%);

τ_i - average duration of filling the tank for emission and up to the determined concentration (seconds).

Adjustment of methane emissions speed till normal* conditions:

* Standard DSTU 4313:2004 "Natural flammable gas. Measuring of consumptions. Terms and definition of notions"

Received as the result of measuring the speed (volume) of methane emissions is adjusted to the normal[13] conditions (P_H = 0,1013 MPa, T_H = 0°C) as per the formula:

$$F_{CH_{4,i,P}} = \frac{F^{+}_{CH_{4,i}} \cdot 273 \cdot P}{0{,}1013 \cdot (273+t)} \quad ,$$

$F_{CH_{4,i,P}}$ – flow rate of project methane emission (after repair, replacment) for *i*- equipment, adjusted to the normal[13] conditions (m^3/hour);

$F^{+}_{CH4,i}$ - measured speed of project methane emission (after repair, replacment) for *i*- equipment, (m^3/hour);

P – gas pressure in the tank, MPa;

t – temperature of gas in the tank, °C.

Annual project methane emissions (emissions after repair, equipment substitution) are calculated as per the formula:

$$Q_{yP} = ConvFactor * \Sigma[F_{CH_{4,i,P}} * Ti,y * URi] * GWP_{CH4} * 0.9$$

Q_{yP} - project methane emissions during the period y, for equipment, which was repaired (substituted) (tCO_2e);

ConvFactor - coefficient of transformation m^3CH_4 in tCH_4. Under normal[13] conditions (0 °C and 0.1013 MPa) it equals 0.0007168 tCH_4/m^3CH_4;

$F_{CH_{4,i,P}}$ – flow rate of project methane emission (after repair, replacment) for *i*- equipment, adjusted to the normal[13] conditions (m^3/hour);

URi - coefficient which takes into account the uncertainty range for the flow rate measurement method applied to physical leak *i* (equals to 95%);

Ti,y - time for *i*-equipment, which functioned during period y (period of monitoring) being repaired (substituted) (hours);

GWP_{CH4} - Global Warming Potential for methane (equals to 21 tCO_2e/tCH_4);

0.9 - coefficient which takes into account the error of measuring devices.

Baseline emissions

Using the method of measuring of volume of emissions by means of impermeable capacity, the volume of baseline methane emissions from one equipment is calculated by the formula:

$$\bar{F}_{CH_{4,i}} = Vbag * w_{sampleCH4,\,i} * 3600 / \tau_i$$

$\bar{F}_{CH_{4,i}}$ - measured speed of baseline methane emissions through leaking equipment and before repair (m³/hour);

Vbag - volume of impermeable tank for measure (m³);

$w_{sampleCH4,\,i}$ - concentration of methane in the sample of emission *i* that is the difference of concentrations at the beginning and at the end of measuring (%);

τ_i - average duration of filling to the tank for emissions i before its repair (seconds).

The speed of methane emissions got as the result of measuring is corrected to the normal* conditions ($P_н$ = 0, 1013 MPa, $T_н$ = 0 °C) as per the formula:

$$F_{CH_{4,i,B}} = \frac{\bar{F}_{CH_{4,i}} \cdot 273 \cdot P}{0{,}1013 \cdot (273 + t)},$$

$F_{CH_{4,i,B}}$ - flow rate of baseline (before repair, replacment) methane emission for i -element, corrected to the normal[14] conditions (m³/hour);

$\bar{F}_{CH_{4,i}}$ - measured speed of baseline (before repair, replacment) methane emission for *i*- equipment, (m³/hour);

P – gas pressure in the tank, MPa;

t – temperature of gas in the tank, °C.

The annual baseline methane emissions are calculated as per the formula:

$$Q_{yB} = ConvFactor * \Sigma [F_{CH_{4,i,B}} * Ti, y * URi] * GWPCH4 * 0.9,$$

Q_{yB} - baseline methane emissions on gas equipment for the period y (before repair, replacement) (tCO_2 equivalents);

ConvFactor - coefficient of counting of m³of CH_4 in tCH_4 at the normal† terms (0 degrees celsius and 101.3 kPa). It equals 0,0007168 tCH_4/m^3 CH_4;

* Standard DSTU 4313:2004 "Natural flammable gas. Measuring of consumptions. Terms and definition of notions"

† Standard DSTU 4313:2004 "Natural flammable gas. Measuring of consumptions. Terms and definition of notions"

$F_{CH_{4,i,B}}$	– flow rate of baseline (before repair, replacment) methane emission for *i*- equipment, adjusted to the normal[15] conditions (m^3/hour.);
URi	- coefficient that takes into account the uncertainty range for the flow rate measurement method applied to physical leak *i* (95%);
Ti, y	- time (in hours) for the equipment of i that functioned during the considered period y (monitoring period) before its repair (replacements);
GWP_{CH4}	- Global Warming Potential for methane (/equals 21 tCO_2e/tCH_4);
0.9	- coefficient that take into account the measurement error of devices.

Emission reductions

$$ERU = \sum[Q_{yB} - Q_{yP}],$$
$$AAU = \sum[Q_{yB} - Q_{yP}]$$

ERU – Emission Reduction Units, t CO_2e;
AAU - Assigned Amount Units, t CO_2e;
Q_{yP} – Project emissions, t CO_2e;
Q_{yB} – Baseline emissions, t CO_2e.

The monitoring plan presents the quality assurance and control procedures for the monitoring process which are described in the section D.2 and Annex 3 of the PDD. This includes information on calibration and on how records on data and 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.

On the whole, the monitoring plan 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, expert judgment, proprietary data, 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 BVC's conclusion are described in Appendix A, Table 2 (refer to CAR28 - CAR36).

4.8 Leakage (40-41)

The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains which sources of leakage are to be calculated, and which can be neglected.

It is told in Methodology AM0023 version 4 that no significant leakage is expected to occur in these types of projects. Therefore they can be neglected.

4.9 Estimation of emission reductions (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 the ex ante estimates of:

(a) Emissions or net removals for the project scenario (within the project boundary), which are:

Year	Estimated project emissions (tons CO_2 equivalent)
2004	17 243
2005	51 112
2006	79 439
2007	92 986
Total 2004 - 2007	**240 780**
Annual average estimated emission reductions	60 195
2008	104 687
2009	119 466
2010	129 935
2011	137 324
2012	144 714
Total 2008 - 2012	**636 126**

Annual average estimated emission reductions	127 225
2013	147 793
2014	147 793
2015	147 793
2016	147 793
2017	147 793
Total 2013 - 2017	**738 965**
Annual average estimated emission reductions	147 793
Total (tons CO_2 equivalent)	**1 615 871**

(b) Leakage, as applicable, which are:

Not available

(c) Emissions or net removals for the baseline scenario (within the project boundary), which are:

Year	**Estimated baseline emissions (tons CO_2 equivalent)**
2004	116 162
2005	344 337
2006	535 175
2007	626 445
Total 2004 - 2007	**1 622 119**
Annual average estimated emission reductions	*405 530*
2008	705 269
2009	804 836
2010	875 363
2011	925 147
2012	974 931
Total 2008 - 2012	**4 285 546**
Annual average estimated emission reductions	*857 109*
2013	995 674
2014	995 674
2015	995 674
2016	995 674
2017	995 674

Total 2013 - 2017	**4 978 370**
Annual average estimated emission reductions	*995 674*
Total (tons CO_2 equivalent)	**10 886 035**

(d) Emission reductions or enhancements of net removals adjusted by leakage (based on (a)-(c) above), which are:

Рік	**Оцінені базові викиди (тонн CO_2 еквіваленту)**	**Очікувані витоки(тонн CO_2 еквіваленту)**	**Очікувані проектні викиди(тонн CO_2 еквіваленту)**	**Очікуване скорочення викидів (тонн CO_2 еквіваленту)**
2004	116 162	0	17 243	98 919
2005	344 337	0	51 112	293 225
2006	535 175	0	79 439	455 736
2007	626 445	0	92 986	533 459
Разом 2004-2007	**1 622 119**	**0**	**240 780**	**1 381 339**
2008	705 269	0	104 687	600 582
2009	804 836	0	119 466	685 370
2010	875 363	0	129 935	745 428
2011	925 147	0	137 324	787 823
2012	974 931	0	144 714	830 217
Разом 2008-2012	**4 285 546**	**0**	**636 126**	**3 649 420**
2013	995 674	0	147 793	847 881
2014	995 674	0	147 793	847 881
2015	995 674	0	147 793	847 881
2016	995 674	0	147 793	847 881
2017	995 674	0	147 793	847 881
Разом 2013–2017	**4 978 370**	**0**	**738 965**	**4 239 405**
Разом (тонн CO_2 еквіваленту)	**10 886 035**	**0**	**1 615 871**	**9 270 164**

The estimates referred to above are given:

(a) On an annual basis;

(b) From 01/05/2004 to 31/12/2017, covering the whole crediting period;

(c) On a source-by-source basis;

(d) For each GHG gas, which are CO_2 and CH_4;

(e) In tonnes 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;

The formula used for calculating the estimates referred above, which are (mention here the formula), are consistent throughout the PDD.

For calculating the estimates referred to above, key factors, e.g. (mention here those factors) influencing the baseline emissions the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating the estimates referred to above, are clearly identified, reliable and transparent.

Emission factors, 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 annual average of estimated emission reductions or enhancements of net removals over the crediting period is 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.

The identified areas of concern as to the estimation of emission reductions, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR37 - CAR39).

4.10 Environmental impacts (48)

The PDD indicates that there are no harmful environmental impacts within the project.

4.11 Stakeholder consultation (49)

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

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) (write "Not applicable" in this session if the project is programme of activities)

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 "Reduction of natural gas emissions at PJSC "Creamgas" 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 participants used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides barriers 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 two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party. 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 03 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (version 03) 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 LLC "Energy Technology Company "ENERGOALIANS" that relate directly to the GHG components of the project.

/1/ PDD "Reduction of natural gas emissions at PJSC "Creamgas", version 01 dated 20/07/2012
/2/ Directory dated 21/04/2004 on approval registry GDP/CGDP, gas valves gas distribution networks of OJSC "Creamgas" and monitoring plan of objects included in the boundary the project "Reduction of natural gas emissions at OJSC "Creamgas" file Супровідний_документ-1_к_ПТД_Кримгаз v1.21.doc
/3/ PDD "Reduction of natural gas emissions at PJSC "Creamgas", version 02 dated 28/08/2012
/4/ PDD "Reduction of natural gas emissions at PJSC "Creamgas", version 03 dated 19/09/2012
/5/ Calculation of natural gas emissions in the gas equipment of GDP (CGDP) on gas fittings, flange and threaded joints gas distribution networks of PJSC "Creamgas" file Супровідний_документ-2_к_ПДД_КримГаз_v.1.21.xls
/6/ Letter of Endorsement №2133/23/7 on the JI project "Reduction of natural gas emissions at PJSC "Creamgas" dated 26 July, 2011, issued by 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/ Photo - A general view of GDP #22 from outside
/2/ Photo - General view of equipment for the measurement of natural gas
/3/ Photo - A general view of GDP #22 from the inside
/4/ Schematic diagram of the GDP #22
/5/ Photo - Ball valve 11s67p
/6/ Photo - Preparing for measuring the amount of leakage of equipment GDP #22
/7/ Photo - Stopwatch
/8/ Photo - prepared for measurement of leakage volume node input valves GDP #22
/9/ Photo - The process of measuring the amount of leakage from the input node fittings GDP #22
/10/ Photo - Minutes measuring natural gas leakage at GDP #22 of 23/08/2012
/11/ Photo - The process of measuring purging capacity after a measurement

/12/ Photo - General view CGDP Blvd. Franko from outside
/13/ Photo - General view CGDP Blvd. Franko from the inside
/14/ Photo - log review CGDP Blvd. Franko
/15/ Regime Card CGDP Blvd. Franko
/16/ Photo - The process of measuring the amount of leakage from the input node fittings CGDP Blvd. Franko
/17/ Photo - Protocol for measuring natural gas leakage CGDP Blvd. Franko on 23/08/2012
/18/ Photo - General view of House Connection
/19/ Photo - The process of measuring the amount of leakage from the valve assemblies and threaded connection House Connection
/20/ Photo - The process of measuring the amount of leakage nodes fittings and threaded connections
/21/ Photo - Protocol measuring natural gas leakage at the nodes fittings and threaded connections dated 23/08/2011
/22/ Order № 706 dated 06/12/2012 amending the working group to monitor gas leaks at the equipment distribution networks and their removal within the JI project
/23/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI project dated 26/12/2011
/24/ Order № 216 dated 09/04/2004 to establish a working group to monitor gas leaks at the equipment distribution networks and their removal within the JI project
/25/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI project dated 25/05/2004
/26/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI project dated 24/12/2004
/27/ Order # 2 dated 11/01/2005 amending the working group to monitor gas leaks at the equipment distribution networks and eliminate them within the JI projects
/28/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI projects dated 29/12/2005
/29/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI projects dated 28/12/2006
/30/ Order # 25 dated 06/01/2007 amending the working group to monitor gas leaks at the equipment distribution networks and their removal within the JI projects
/31/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI projects dated 25/12/2007
/32/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI projects

dated 26/12/2008
/33/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI projects dated 29/12/2009
/34/ Protocol of the meeting of the Working Group on Reduction of natural gas equipment distribution networks within the JI projects dated 27/12/2010
/35/ Order #228 dated 21/04/2004 on approval registry GDP/CGDP, gas valves gas distribution networks of PJSC "Creamgas" and monitoring of objects included in the limits of the project “Reduction of natural gas emissions at PJSC "Creamgas"
/36/ Order #215 of 23/04/2004 on the appointment of the personal staff of measuring teams for implementation of the project "Reduction of natural gas at" Creamgas "and training in accordance with the methods of measurement of natural gas leaks
/37/ Order #149 of 15/03/2004 on the participation of OJSC "Creamgas" in the implementation of Kyoto Protocol to the Framework Convention of the United Nations Climate Change
/38/ Plan monitoring sites included within the scope of the project "Reduction of natural gas on the open joint stock company on gas supplies "Creamgas"
/39/ Photo - database records robot project reduction of natural gas equipment distribution networks within the JI projects
/40/ Photo - database report "Protocol for measurement of leakage of methane gas fixture, for the period 06/01/2004
/41/ Log bypass routes of gas distribution and inputs (section 22)
/42/ The investment program for 2011
/43/ Report on the implementation of the "Investment Program for 2011"
/44/ Operating magazine GDP-39
/45/ Protocol of 23/04/2004, the results of measuring the volume of containers for measuring methane leaks
/46/ Protocol measuring methane leakage of GDP Dzhankoy str. Lenina 36 dated 27/04/2004
/47/ Protocol measuring methane leakage of GDP Dzhankoy str. Moscow (steam) dated 27/04/2004
/48/ Protocol measuring methane leakage of GDP Dzhankoy str. Sovetskaya 15, dated 13/05/2004
/49/ Protocol measuring methane leakage of GDP Dzhankoy, trans. Factory 7 dated 24/04/2004
/50/ Protocol for measuring methane leaks CGDP Kolchuhino str. Kirova 78 dated 30/04/2004
/51/ Protocol for measuring methane leaks CGDP Kolchuhino str. Jubileina 56 dated 30/04/2004
/52/ Protocol for measuring methane leaks CGDP p. The new measures, st. Lenina 25 dated 06/05/200
/53/ Protocol for measuring methane leaks CGDP Simferopol, str.

Crymska 47/5 dated 12/05/2004
/54/ Protocol for measuring methane leaks CGDP Simferopol, str. Luhova 91st dated 29/04/2004
/55/ Protocol for measuring methane leaks CGDP Simferopol, str. Malorechynska / Griboyedova 25 dated 06/05/2004
/56/ Protocol for measuring methane leaks CGDP Simferopol, str. Mramorna 46 dated 29/04/2004
/57/ Protocol for measuring methane leaks CGDP md. Meadow, pos. Chukurcha str. Sheftellylyk 4 dated 29/04/2004
/58/ Kinnoi Armii for measuring methane leaks CGDP Simferopol, str. 1st Cavalry 19 dated 28/04/2004
/59/ Protocol for measuring methane leaks CGDP Simferopol, str. Highway 19/1 dated 05/05/2004
/60/ Protocol for measuring methane leaks CGDP Simferopol, str. Borodin 2 dated 26/04/2004
/61/ Protocol for measuring methane leaks CGDP Simferopol, str. Zhelyabova 37 dated 05/05/2004
/62/ Protocol for measuring methane leaks CGDP Simferopol, str. Zaleski 81 dated 26/04/2004
/63/ Protocol for measuring methane leaks CGDP Simferopol, str. Kievskaya 137 (Moskoltso) dated 07/05/2004
/64/ Protocol for measuring methane leaks CGDP Simferopol, str. Leksina 11 dated 28/04/2004
/65/ Protocol for measuring methane leaks CGDP Simferopol, str. Luhova 89 dated 07/05/2004r.
/66/ Protocol for measuring methane leaks CGDP Simferopol, str. Nesterova 36 dated 11/05/2004
/67/ Protocol for measuring methane leaks CGDP Simferopol lane. Spartacus 45 dated 11/05/2004
/68/ Protocol measuring methane leaks on gas fixture dated 30/04.2004
/69/ Protocol measuring methane leaks on gas fixture dated 29/04/2004
/70/ Protocol measuring methane leaks on gas fixture dated 27/04/2004
/71/ Protocol measuring methane leaks on gas fixture dated 14/05/2004
/72/ Protocol measuring methane leaks on gas fixture dated 13/05/2004
/73/ Protocol measuring methane leaks on gas fixture dated 06/05/2004
/74/ Protocol measuring methane leaks on gas fixture dated 28/04/2004
/75/ Protocol measuring methane leaks on gas fixture dated 12/05/2004
/76/ Protocol measuring methane leaks on gas fixture dated 11/05/2004
/77/ Protocol measuring methane leaks on gas fixture dated 07/05/2004
/78/ Protocol measuring methane leaks on gas fixture dated 05/05/2004
/79/ Protocol measuring methane leaks on gas fixture dated 26/04/2004
/80/ Passport EX-TEC HS 660 serial number # 06411001355
/81/ List of measuring instruments (MI), which is in operation and should be entrusted in 2004

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/ Horobets Zoya - Chief Engineer
/2/ Prudnikova Svetlana - Head of production management
/3/ Gnatko Oksana - leading engineer of production management
/4/ Olonov Igor - chief mechanic
/5/ Chichkanov Alexander - Head of operation of computer hardware and software
/6/ Sergey Lukyanenko - Head of the Department of Energy Technology Company Ltd.
/7/ Kardash Yuriy - Deputy Head of the Department of Energy Technology Company Ltd. energy alliance

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APPENDIX A: DETERMINATION PROTOCOL

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?	The title of the project is provided in the section A.1. of the PDD. Reduction of Natural Gas Emissions at PJSC "Creamgas"	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Scope 10. Fugitive emissions from fuels (solid, oil and gas) **CAR01** Please, correctly define sectoral scope to which project pertains and provide this information in the section A.1. of the PDD.	**CAR01**	OK
-	Is the current version number of the document presented?	Version of Project Design Documentation: 03	OK	OK
-	Is the date when the document was completed presented?	Date: 19/09/2012.	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)?	No, the information regarding baseline scenario is missing. **CAR02** Please attach description of the baseline scenario and the theoretical basis its choice. **CAR03** Please, provide the interpretation for abbreviations and abridgments in the PDD when first mentioned in the text.	**CAR02** **CAR03**	OK
-	Is the history of the project (incl. its JI	**CAR04**	**CAR04**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	component) briefly summarized?	Please, add to the PDD description of history the project including its JI component, and documented evidence of start the project.		
Project participants				
-	Are project participants and Party(ies) involved in the project listed?	Yes, project participants and Parties involved are provided in the corresponding sections of the PDD.	OK	OK
-	Is the data of the project participants presented in tabular format?	Yes. See section A.3. of the PDD.	OK	OK
-	Is contact information provided in Annex 1 of the PDD?	The contact information is provided in the Annex 1 of the PDD	OK	OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	It is indicated in the PDD that Ukraine is a host Party.	OK	OK
Technical description of the project				
Location of the project				
-	Host Party(ies)	The PDD states that the project is located in Ukraine	OK	OK
-	Region/State/Province etc.	The Project is located on the territory of the AR Crimea (except for Sevastopol, Feodosiya and Kerch towns)	OK	OK
-	City/Town/Community etc.	Complete list and addresses of distribution points (357 units), cabinet gas distribution points (1,118 units), gas valves (14,690 units), which are included in the project boundary are shown in Accompanying document 1 "Registry distribution points and gas valves JI Project “Reduction of Natural Gas Emissions at PJSC "Creamgas" **CAR05** Please, add the information concerning project location	**CAR05**	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	The geographical location of the head office: Latitude: 44 ° 57' N Longitude: 34 ° 06' S.	OK	OK
Technologies to be employed, or measures, operations or actions to be implemented by the project				
-	Are the technology(ies) to be employed, or	**CAR06**	**CAR06**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described?	Please, add to the PDD information on implementation schedule for each type of measures envisaged by the project. **CAR07** Please attach the PDD information about materials used for repairs.	**CAR07**	
Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances				
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	Project activity includes: • repair (replacement) of gas equipment GDP (CGDP), gas armature, pressurizing of the threaded and flanged connections of gas pipelines of PJSC «Creamgas» with the using of modern equipment of the European producers and their analogues of domestic productions, by the using of modern sealing materials; • monitoring of emissions aimed at the exposure of methane emissions through the non-tightness; • next renewal of tightness of gas equipment GDP (CGDP), gas armature, threaded and flanged connections of gas pipelines. Reduction of natural gas emissions will result in reduction of methane that is greenhouse gas.	OK	OK
-	Is it provided the estimation of emission reductions over the crediting period?	**CAR08** Please provide a reference to the accompanying Excel file with the calculation of emission reductions and specify the correct values obtained by calculations in the PDD including rounding.	**CAR08**	OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO2e?	Calculations of average annual amount of emission reductions over the chosen crediting period is given in tonnes of CO_2 equivalent	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
-	Are the data from questions above presented in tabular format?	**CAR09** Please, correct formatting table in section A.4.3.1. as per Guidelines for users of the JI PDD form (version 04).	**CAR09**	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period Indicated?	Yes, the crediting period - 13 years 8 months or 164 months.	OK	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided?	Yes, calculations average and total amount of emission reductions over the chosen crediting period are provided in tonnes of CO_2 - equivalent	OK	OK
Project approvals by Parties				
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	**CAR10** The project has no approval of the host Party and the sponsor Parties. Please submit corresponding approvals to AIE.	**CAR10**	Pending resolution
19	Does the PDD identify at least the host Party as a "Party involved"?	Ukraine is identified as the Host Party.	OK	OK
19	Has the DFP of the host Party issued a written project approval?	See CAR 10 above.	OK	OK
20	Are all the written project approvals by Parties involved unconditional?	See CAR 10 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 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?	See CAR 10 above.	OK	OK
Baseline setting				
22	Does the PDD explicitly indicate which of the	**CAR11**	**CAR11**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	following approaches is used for identifying the baseline? − JI specific approach − Approved CDM methodology approach	Please clearly indicate in the PDD which approach was chosen. **CAR12** Please, indicate in the PDD if the elements of any approved CDM methodology were used for baseline establishment. **CL01** It seems unlikely that an alternative which provides a partial implementation of project activities may be considered in the context of the present project. Please, provide evidence that the alternative 1.3. can be considered as the plausible scenario to establish the baseline for the project.	**CAR12** **CL01**	
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	A satisfactory description is provided in the section B.1. of the PDD in a complete manner. **CAR13** Please, add to the Annex 2 of the PDD all key elements used to establish baseline (in a tabular form).	**CAR13**	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	**CAR14** Please specify a data source ConvFactor, and make the appropriate corrections according to the source. **CAR15** Please, for each of the key parameters indicated in the section B.1 provide clear justification of the choice of data or description of measurement methods and procedures (to be) applied. **CAR16** Please clearly specify how to monitor the observing norm ratios (Step 1b - Compliance with applicable Ukrainian laws	**CAR14** **CAR15** **CAR16**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	key factors? (d) Taking into account of uncertainties and 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?	and regulations).		
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?	JI specific approach are used to establish a baseline. The additional elements developed by the project participants are clearly justified and sufficiently described in the section B of the PDD.	OK	OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	N/A	N/A	N/A
Approved CDM methodology approach only_Paragraphs 26(a) – 26(d)_Not applicable				
Additionality				
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;	It is stated in the PDD that that the project scenario is not a part of the identified baseline scenario and that the project will lead to emission reductions. Tool for the demonstration and assessment of additionality was used for demonstrating of the project additionality. **CAR17** Please specify applied version of "Tool for the demonstration and assessment of additionality".	**CAR17** **CAR18** **CL02**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(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".	**CAR18** Please provide explanation why the barrier analysis was chosen to demonstrate the principle of additionality. **CL02** Please indicate how to is carried out evaluation of the effectiveness addressing the identified leaks.		
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	**CAR19** Please justify the chosen approach to demonstrate additionality.	**CAR19**	OK
29 (b)	Are additionality proofs provided?	**CAR20** Please specify in detail what expenses were taken into account in the analysis conducted by financial barriers.	**CAR20**	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	**CAR21** Please provide evidence or reference to the percentage of households in which the available gas flow meter, as well as regulations which set the rate of payment of bills for gas.	**CAR21**	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	**CAR22** Please describe in step 1a the PDD applicability AM0023 methodology for determining of probable variant initial conditions.	**CAR22**	OK
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	The review of emission sources in the project scenario is demonstrated in the PDD. The respective information is provided in the PDD, section B.3.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	participants? (ii) Reasonably attributable to the project? (iii) Significant?			
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?	**CAR23** The GHG emission sources listed in the section B.3. do not coincide with those provided by the methodology of baseline emissions calculation. Please, make corrections.	**CAR23**	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?	See CAR 23 above.	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?	See CAR 23 above.	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?	**CAR24** Please correct the project start date, according to the decision about start the project which was given the determination group during site visit.	**CAR24**	OK
34 (a)	Is the starting date after the beginning of 2000?	Yes. The starting date is after the beginning of 2000.	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	**CAR25** Please, indicate in the section C the expected operational lifetime of the project in years and months.	**CAR25**	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	**CAR26** Please, provide the length of the crediting period taking into account the project starting date and the crediting period length stated in the section A of the PDD.	**CAR26**	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	See CAR 26 above.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the project?			
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?	See CAR 26 above.	OK	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?	**CAR27** The necessary information as to emission reductions before 2012 and after 2012 must been added to the section C of the PDD.	**CAR27**	OK
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	The own developed JI specific on the basis of the elements of approved CDM methodology was used to establish the monitoring plan. **CAR28** All equations in the section D of the PDD must be numbered. Please, make corresponding corrections.	**CAR28**	OK
JI specific approach only				
36 (a)	Does the monitoring plan describe: − All relevant factors and key characteristics that will be monitored? − The period in which they will be monitored? − All decisive factors for the control and reporting of project performance?	**CAR29** Pease, for each of the parameters listed in Tables section D, specify the actual value of the period and frequency of monitoring, and Justification of the choice of data or description of measurement methods and procedures (to be) applied.	**CAR29**	OK
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?	**CAR30** All the monitored baseline and project parameters must be added to the monitoring plan in the sections D.1.1.1 and D.1.1.3. of the PDD	**CAR30**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	**CAR31** In the PDD need to specify for the parameter GWP_{CH4} data source.	**CAR31**	OK
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?	See CAR 29 above.	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?	See CAR 29 above.	OK	OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	See CAR 29 above.	OK	OK
36 (b) (iv)	Are International System Unit (SI units) used?	The International System Unit is used for some parameters.	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?	See CAR 31 above.	OK	OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	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	Some variables contained in appendix B of “Guidance on	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	criteria for baseline setting and monitoring" were included in the monitoring plan.		
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 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?	**CAR32** Please, after making alteration of the monitoring plan and adding of all necessary parameters to be monitored, explicitly 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 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 available at the stage of determination; (iii) Data and parameters that are monitored throughout the crediting period.	**CAR32**	OK
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	Yes. This information is included in the monitoring plan.	OK	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?	**CAR33** Please add describe normal conditions for parameter $F_{CH4,i,P}$ in section D 1.1.2.	**CAR33**	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	See CARs in the items 35 (a) - 36 (f) above.	OK	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	See CARs in the items 35 (a) - 36 (f) above.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (f) (iii)	Are all equations numbered?	See CAR 28 above.	OK	OK
36 (f) (iv)	Are all variables, with units indicated defined?	See CARs in the items 35 (a) - 36 (f) above.	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	Yes, algorithms/procedures used are in line with the state norms and used in conservative manner.	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	The uncertainties for the parameters used are generally low taking into account monitoring algorithm.	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?	See CARs in the items 35 (a) - 36 (f) above.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	All algorithms and formulas are clearly explained.	OK	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	The procedure is consistent with standard technical procedures in the relevant sector and is well justified.	OK	OK
36 (f) (vii)	Are references provided as necessary?	All necessary references are provided.	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	All implicit and explicit assumptions are explained in a transparent manner.	OK	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	**CAR34** Please, include all key monitored parameters to the table D.2, describe uncertainties and quality assurance procedures associated with them.	**CAR34**	OK
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?	See CAR 34 above.	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?	The monitoring plan is in line with the relevant national standards.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?			
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	N/A	N/A	N/A
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?	See CAR form the item 36 (f) (vii) above.	OK	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	**CAR35** Please, add to the PDD (section D.3.) scheme identifying the responsibilities and roles establishing in the context project of monitoring plan.	**CAR35**	OK
36 (k)	Does the monitoring plan, on the whole, reflect 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 monitoring plan reflects good monitoring practices appropriate to the project type.	OK	OK
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. The appropriate information is indicated in the section D 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?	**CAR36** Please, provide to AIE documented instruction indicating that the data monitored are to be kept for two years after last ERUs transfer	**CAR36**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	Yes. The selected elements of the applied approved CDM methodology together with elements supplementary developed by the project participants are in line with the item 36 above.	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 assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	Leakage on this project is not expected	OK	OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	Leakage on this project is not expected	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	The assessment of emissions in the baseline scenario and in the project scenario was used.	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	The amount of electricity losses is established on the basis of statistical dependence of actual volumes of losses. Calculations are provided in the Supporting Excel files. The estimation of GHG emissions for the project, baseline scenario and emission reductions ex ante is provided in the section E of the PDD.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?			
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?	N/A	N/A	N/A
45	For both approaches in 42 (a) Are the estimates in 43 or 44 given: (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	**CAR37** Algorithm of project and baseline emissions estimation for each gas and emission source must be clearly indicted in the section E of the PDD. Please, explain which data (actual or historical) were used for ERUs estimation. **CAR38** The amounts of ERUs estimates in the Excel file and in the PDD are not equal. Please, make corresponding corrections. **CAR39** Information concerning emission sources in the project is missing in the section E. Please, add the appropriate information to the PDD.	**CAR37** **CAR38** **CAR39**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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? (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 illustrative ex ante emission calculations are presented in the PDD.	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?	According to the ecological norms of Ukraine the natural gas emissions to the atmosphere are not pollutants (The Decree of the Cabinet of Ministers of Ukraine №1598 dated 29.2001 "About the statement of the list of the most widespread and dangerous polluting substances which emissions get to atmosphere is under regulation").	OK	OK
48 (b)	If the analysis in 48 (a) indicates that the	The project activity does not cause harmful influence to the	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?	environment		
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, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	Comments from local Stakeholders were not received, expected after PDD publication on the site.	OK	OK
Determination regarding small-scale projects (additional elements for assessment)_Paragraphs 50 - 57_Not applicable				
Determination regarding land use, land-use change and forestry projects _Paragraphs 58 – 64(d)_Not applicable				
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
CAR01 Please, correctly define sectoral scope to which project pertains and provide this information in the section A.1. of the PDD.	-	The corresponding corrections were made in the PDD version 03.	The issue is closed

CAR02 Please attach description of the baseline scenario and the theoretical basis its choice.	-	The description of baseline scenario was added to the section A.2 of the PDD version 03.	The issue is closed
CAR03 Please, provide the interpretation for abbreviations and abridgments in the PDD when first mentioned in the text.	-	The corresponding interpretation for abbreviations and abridgments are provided in the PDD version 03.	The issue is closed
CAR04 Please, add to the PDD description of history the project including its JI component, and documented evidence of start the project.	-	The respective information was added to the PDD version 03.	The issue is closed
CAR05 Please, add the information concerning project location	-	The respective information was added to the PDD version 03.	The issue is closed
CAR06 Please, add to the PDD information on implementation schedule for each type of measures envisaged by the project.	-	The yearly implementation schedule for each type of measures including quantitative characteristics are provided in the PDD version 03.	The issue is closed
CAR07 Please attach the PDD information about materials used for repairs.	-	The respective information was added to the PDD version 03.	The issue is closed
CAR08 Please provide a reference to the accompanying Excel file with the calculation of emission reductions and specify the correct values obtained by calculations in the PDD including rounding.	-	The values of ERUs were recalculated taking into account the issued request.	The issue is closed
CAR09 Please, correct formatting table in section A.4.3.1. as per Guidelines for users of the JI PDD form (version 04).	-	Formatting of the Table A.4.3.1 was corrected as per Guidelines for users of the JI PDD form (version 04).	The issue is closed
CAR10 The project has no approval of the host Party and the sponsor Parties. Please submit corresponding approvals to AIE.	19	After determination the project, the PDD and Determination report will be submitted to the State Environmental Investment Agency of Ukraine to obtain a Letter of Approval.	The conclusion is pending written approvals by the Parties involved.

CAR11 Please clearly indicate in the PDD which approach was chosen.	22	The respective information was added to the PDD version 03.	The issue is closed
CAR12 Please, indicate in the PDD if the elements of any approved CDM methodology were used for baseline establishment.	22	The project applies the JI specific approach to establish baseline on the basis of approved methodology ACM0009 «Consolidated baseline and monitoring methodology for fuel switching from coal or petroleum fuel to natural gas». This information was added to the section B of the PDD version 03.	The issue is closed
CL01 It seems unlikely that an alternative which provides a partial implementation of project activities may be considered in the context of the present project. Please, provide evidence that the alternative 1.3. can be considered as the plausible scenario to establish the baseline for the project.	22	Refer to the section B.1 of the PDD version 03. The mentioned alternative has been excluded from the list of plausible alternatives during the baseline setting	The issue is closed
CAR13 Please, add to the Annex 2 of the PDD all key elements used to establish baseline (in a tabular form).	23	The description of the key elements in the tabular form was added to the Annex 2 of the PDD version 03.	The issue is closed
CAR14 Please specify a data source ConvFactor, and make the appropriate corrections according to the source.	23	The methodology of baseline emissions was appropriately corrected in the PDD version 03.	The issue is closed
CAR15 Please, for each of the key parameters indicated in the section B.1 provide clear justification of the choice of data or description of measurement methods and procedures (to be) applied.	23	The corresponding justification for each of the key parameters was added to the section B.1. of the PDD.	The issue is closed
CAR16 Please clearly specify how to monitor the observing norm ratios (Step 1b - Compliance with applicable Ukrainian laws and regulations).	23	The respective information was added to the PDD version 03.	The issue is closed

CAR17 Please specify applied version of "Tool for the demonstration and assessment of additionality".	28	The respective information was added and correct all text to the PDD version 03.	The issue is closed
CAR18 Please provide explanation why the barrier analysis was chosen to demonstrate the principle of additionality.	28	The respective information was added to the PDD version 03.	The issue is closed
CL02 Please indicate how to is carried out evaluation of the effectiveness addressing the identified leaks.	28	The "efficiency" has been removed, see PDD version 03.	The issue is closed
CAR19 Please justify the chosen approach to demonstrate additionality.	29 (a)	The respective information was added to the PDD version 03.	The issue is closed
CAR20 Please specify in detail what expenses were taken into account in the analysis conducted by financial barriers.	29 (b)	The respective information was added to the PDD version 03.	The issue is closed
CAR21 Please provide evidence or reference to the percentage of households in which the available gas flow meter, as well as regulations which set the rate of payment of bills for gas.	29 (c)	As the parameter "percentage of households in which the available gas meter“ cannot prove it is been removed, see PDD version 03.	The issue is closed
CAR22 Please describe in step 1a the PDD applicability AM0023 methodology for determining of probable variant initial conditions.	30	The respective information was added to the PDD version 03.	The issue is closed
CAR23 The GHG emission sources listed in the section B.3. do not coincide with those provided by the methodology of baseline emissions calculation. Please, make corrections.	32 (b)	The respective information was added to the PDD version 03.	The issue is closed
CAR24 Please correct the project start date, according to the decision about start the project which was given the determination group during site visit.	34 (a)	The respective information was added to the PDD version 03.	The issue is closed

CAR25 Please, indicate in the section C the expected operational lifetime of the project in years and months.	34 (b)	The respective information was added to the PDD version 03.	The issue is closed
CAR26 Please, provide the length of the crediting period taking into account the project starting date and the crediting period length stated in the section A of the PDD.	34 (c)	The respective information was added to the PDD version 03.	The issue is closed
CAR27 The necessary information as to emission reductions before 2012 and after 2012 must been added to the section C of the PDD.	34 (d)	The respective information was added to the PDD version 03.	The issue is closed
CAR28 All equations in the section D of the PDD must be numbered. Please, make corresponding corrections.	35	The respective information was added to the PDD version 03.	The issue is closed
CAR29 Pease, for each of the parameters listed in Tables section D, specify the actual value of the period and frequency of monitoring, and Justification of the choice of data or description of measurement methods and procedures (to be) applied.	36 (a)	Check and correct. See PDD version 03.	The issue is closed
CAR30 All the monitored baseline and project parameters must be added to the monitoring plan in the sections D.1.1.1 and D.1.1.3. of the PDD	36 (b)	Check and correct. See PDD version 03.	The issue is closed
CAR31 In the PDD need to specify for the parameter GWP_{CH4} data source.	36 (b)	The respective information was added to the PDD version 03.	The issue is closed

CAR32 Please, after making alteration of the monitoring plan and adding of all necessary parameters to be monitored, explicitly 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 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 available at the stage of determination; (iii) Data and parameters that are monitored throughout the crediting period.	36 (d)	The respective information was added to the PDD version 03.	The issue is closed
CAR33 Please add describe normal conditions for parameter $F_{CH4,i,P}$ in section D 1.1.2.	36 (f)	Check and correct. See PDD version 03.	The issue is closed
CAR34 Please, include all key monitored parameters to the table D.2, describe uncertainties and quality assurance procedures associated with them.	36 (f) (vii)	The respective information was added to the PDD version 03.	The issue is closed
CAR35 Please, add to the PDD (section D.3.) scheme identifying the responsibilities and roles establishing in the context project of monitoring plan.	36 (j)	The respective information was added to the PDD version 03.	The issue is closed
CAR36 Please, provide to AIE documented instruction indicating that the data monitored are to be kept for two years after last ERUs transfer	36 (m)	See file SF01.doc which provides instruction on what data to be monitored will be kept for two years after the last transfer of ERUs	The issue is closed

CAR37 Algorithm of project and baseline emissions estimation for each gas and emission source must be clearly indicted in the section E of the PDD. Please, explain which data (actual or historical) were used for ERUs estimation.	45	The respective information was added to the PDD version 03.	The issue is closed
CAR38 The amounts of ERUs estimates in the Excel file and in the PDD are not equal. Please, make corresponding corrections.	45	Check and correct. See PDD version 03.	The issue is closed
CAR39 Information concerning emission sources in the project is missing in the section E. Please, add the appropriate information to the PDD.	45	The respective information was added to the PDD version 03.	The issue is closed