Verification Report
VEMA S.A.

Verification of the project:

Reduction of Methane Emissions at Flanged, Threaded Joints and Shut-down Devices of OJSC “Kyivgas” Equipment»

(SECOND PERIODIC FOR THE PERIOD OF 2009)

REPORT NO. UKRAINE 0128/2010

REVISION NO. 01

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE 0128/2010

VERIFICATION REPORT

Date of first issue: 03.08.2010.	Organizational unit: Bureau Veritas Certification Holding
Client: VEMA S.A.	Client's representative: Fabian Knodel

Summary:
Bureau Veritas Certification has made the verification of the project "Reduction of Methane Emissions at Flanged, Threaded Joints and Shut-down Devices of OJSC "Kyivgas" Equipment" implemented in Kyiv city, Ukraine on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for due project's exploitation, its monitoring and reporting, as well as the host country criteria.
The verification scope is defined as a periodic independent review and post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) review of the Monitoring Report, Project Design Document and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.
The first output of the verification process is a list of Clarification Requests, Corrective Actions Requests, Forward Actions Requests (CL, CAR and FAR), presented in Appendix A.
Verification was conducted on the ground of the monitoring report (for the period from January 1, 2009 till December 31, 2009), monitoring plan, determined PDD, edition 3 as of 07.07.2010 and other accompanying documents produced to the representatives of the Bureau Veritas Certification by the project participants.
In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is ready to generate GHG emission reductions. The GHG emission reduction is calculated without material misstatements.
Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on information seen and evaluated we confirm that the implementation of the project has resulted in 1 123 423,94 t CO2e reductions during period from 01/01/2009 up to 31/12/2009.
On the behalf of verification team, Flavio Gomes, the Bureau Veritas Certification Holding SAS Global Product Manager for Climate Change.

Report No: UKRAINE/0128/2010	Subject Group: JI
Project title: «Reduction of Methane Emissions at Flanged, Threaded Joints and Shut-down Devices of OJSC "Kyivgas" Equipment»	
Work was carried out by: Team Leader, leading verifier: Flavio Gomes Team Member, verifier: Oleg Skoblyk	
Work was verified by: Ivan Sokolov – Internal Technical Reviewer	

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Key words

Climate Change, Kyoto Protocol, JI, Emission Reduction, Verification

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Abbreviations

AIE	НАО	**Accredited Independent Entity**
CAR	ЗКД	**Corrective Action Request**
CL	ЗР	**Clarification Request**
CO_2	CO_2	**Carbon Dioxide**
ERU	ОСВ	**Emission Reduction Unit**
FAR	ЗПД	**Forward Action Request**
GHG	ПГ	**Green House Gas(es)**
GDP	ГРП	**Gas Distribution Post**
IETA	АМТВ	**International Emissions Trading Association**
JI	СВ	**Joint Implementation**
JISC	КНСВ	**Joint Implementation Supervisory Committee**
MoV	ЗВ	**Means of Verification**
MP	МП	**Monitoring Plan**
OJSC	ВАТ	**Open Joint-Stock Company**
PCF	ПВФ	**Prototype Carbon Fund**
PDD	ПТД	**Project Design Document**
UNFCCC	РКЗК ООН	**United Nations Framework Convention for Climate Change**

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1. INTRODUCTION

VEMA S.A. has commissioned Bureau Veritas Certification Holding SAS to verify the emissions reductions of its JI project "Reduction of Methane Emissions at Flanged, Threaded Joints and Shut-down Devices of OJSC “Kyivgas” Equipment" in Kyiv city, Ukraine, according to the UNFCCC requirements of host party.
This report summarizes the findings of the verification of the project, performed on the basis of criteria given to provide for consistent project operations, monitoring and reporting, and contains a statement for the verified emission reductions. The order includes the initial and first periodic verification of the project.
This report is based on requirements as to the Initial Verification Report Template (Version 3.0, December 2003) and Periodic Verification Report Template (Version 3.0, December 2003), both part of the Validation and Verification Manual (VVM) published by International Emission Trading Association (IETA).
Initial verification and verification of reductions for 2005-2007 has been performed as one integrated activity. It consisted of review of the project documents including PDD, monitoring plan, determination report, monitoring report and further documentation.Project determination was conducted by Bureau Veritas Certification Holding SAS. Determination results are given in the report No. 0125/2010: Determination of the project “Reduction of Methane Emissions at Flanged, Threaded Joints and Shut-down Devices of OJSC “Kyivgas” Equipment", Ukraine, as of July 7, 2010. The results of early credits verification are presented in the report No. 0126/2010: Determination of the project “Reduction of Methane Emissions at Flanged, Threaded Joints and Shut-down Devices of OJSC “Kyivgas” Equipment", Ukraine, as of August 3, 2010 and results of the verififcation for 2008 – report No. 0127/2010: Determination of the project “Reduction of Methane Emissions at Flanged, Threaded Joints and Shut-down Devices of OJSC “Kyivgas” Equipment", Ukraine, as of August 3, 2010. The project was approved by the National Environmental Investment Agency of Ukraine and Swiss Federal Office for the Environment.

1.1 Objective

Verification is the periodic independent review and ex post determination by the AIE of the monitored reductions in GHG emissions during defined verification period.
The objective of verification can be divided in Initial Verification and Periodic Verification.
Initial Verification: The objective of an initial verification is to verify that the project is implemented as planned, to confirm that the monitoring system is in place and fully functional, and to assure that the project will generate

verifiable emission reductions. A separate initial verification prior to the project entering into regular operations is not a mandatory requirement.
Periodic Verification: The objective of the periodic verification is to verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan; furthermore the periodic verification evaluates the GHG emission reduction data and express a conclusion with a high, but not absolute, level of assurance about whether the reported GHG emission reduction data is free of material misstatements; and verifies that the reported GHG emission data is sufficiently supported by evidence, i.e. monitoring records. If no prior initial verification has been carried out, the objective of the first periodic verification also includes the objectives of the initial verification.

The verification follows UNFCCC criteria referring to the Kyoto Protocol criteria, the JI/CDM rules and modalities, and the subsequent decisions by the JISC, as well as the host country criteria.

1. 2 Scope

Verification scope is defined as an independent and objective review and ex post determination by the AIE of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report and the determinated project design document including 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. Bureau Veritas Certification uses the recommendations stated in the Validation and Verification Manual for assessment of the project implementation risks and generation of emission reduction units (ERUs).
The verification is meant to check the project monitoring for accurate assessment towards reductions in the GHG emissions.
The verification team has been provided with a Monitoring Report version 1 (as of 17.06.2010) and version 2 (as of 29.07.2010) for the period from January 1, 2009 to December 31, 2009 inclusive.

1.3 Project description

OJSC "Kyivgas" is the company providing natural gas transportation and supply to industrial and domestic consumers as well as to population in the city of Kyiv.
The structure of current gas transport rates regulated by the government does not include depreciation and investment needs of gas distribution enterprises, which does not ensure receipt of funds for performance of necessary repair works and modernization of gas networks, purchase of appropriate engineering equipment and components, and also results in increase of natural gas leakage at the objects of OJSC "Kyivgas".

Application of JI project mechanisms provided by Kyoto Protocol was planned before the beginning of implementation of this project.
Project activities include reduction of methane leakage which is the result of faulty sealing of ground and underground fittings implemented at the switch mechanisms (bolts, cocks, valves), flange and threaded joints of gas pipelines of OJSC “Kyivgas” in the amount of 60 613pieces.
Types and quantity of fittings are given in the Table 1:

No.	Type of devices (type of joint)	Quantity of devices, pcs.
1.	Shut-down devices in gas wells– block valves (flanged joint)	6447
2.	Ground shut-down devices – block valves (flanged joint)	10451
3.	Electrical insulating flanges (flanged joint)	22120
4.	Underground shut-down devices of well-less plant - block valves (flanged joint)	3739
5.	Ground shut-down devices - cocks (threaded joint)	17856
In total		**60613**

Table 1. Quantity of fittings by type involved in the Project
Within the scope of the project for repair of equipment, for the purpose of methane leakage elimination, modern compacting materials will be used, replacing service and repair practice based on rubberized asbestos fabric and rubber gaskets, and compacting padding made of cotton fibre with fat soakage and asbestos graphite filler. This practice does not give long-term effect, which leads to additional methane leakage. In addition to reduction of methane leakage, the project activity will lead to reduction of technical leaks of natural gas (and thus, to reduction of financial costs), and will contribute to improvement of environmental situation, to reduction of the risk of accidents, especially for in-house gas pressure regulators and overland gas pipelines.
The project activity includes:

- Implementation of purposeful examination and technical maintenance (PETM) of all switch mechanisms (bolts, cocks, valves), flange and threaded joints – modern and the most economically effective practice, which allows not only detection of leaking areas, but also determination of leakage volume (i.e., potential volume of gas leakage reduction). This key information is required for substantiation of efficiency of repair works and priority choice of its objects, which is important under short financing for elimination of all leakages. This activity will include purchase and calibration of modern measuring equipment, appropriate training of employees, development of monitoring map for each switch mechanism, flange and threaded joint of gas distribution network, with the list of all equipment components to be regularly examined, creation of leakage data collection and storage system, and implementation of internal audit and quality system for elimination and accounting of methane leakage.

- Detection and measurement of leakage: Monitoring system of leaks at all switch mechanisms (bolts, cocks, valves), flange and threaded joints, including eliminated leaks (repaired components of equipment). Monitoring will be done on a regular basis (once in four days or once per week – depending on the type of equipment) by specially trained staff. Each component will be checked according to the monitoring map, and detected leakage will be duly marked with individual number; gas leakage volumes will be measured and registered in the database.
- Elimination of all detected leakages: repairs of leaking equipment under this project will vary from replacement of gaskets and wedge valves, use of new compactors or sealing materials, to capital repairs and replacement of the equipment. Repaired equipment components will be regularly checked as a part of a standard monitoring program (see above) to make sure they have not become the source of leakage again.

2 METHODOLOGY

The verification is as a preliminary review of the documents, field visit including discussions and interviews with selected experts and stakeholders. Verification protocol is used as part of the verification. In order to ensure transparency, a verification protocol was customized for the project, according to the Validation and Verification Manual (IETA/PCF). The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from verifying the identified criteria. It details and clarifies the requirements the project is expected to meet. It ensures a transparent verification process.

The verification protocol consists of one table of Initial Verification and four tables of Periodic verification. The different columns in these tables are described in Figure 1.

The overall verification according to the Contract of Verification was conducted using Bureau Veritas Certification procedures.

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

Initial Verification Protocol Table 1			
Objective	**Reference**	**Comments**	**Conclusion (CARs/FARs)**
The requirements the project must meet	Gives reference to where the requirement is found.	Description of circumstances and further comments on the conclusion	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR). Forward Action Request (FAR) indicates essential risks for further periodic verifications.

Periodic Verification Protocol Table 2: Data Management System/Controls		
Identification of potential reporting risk	**Identification, assessment and testing of management controls**	**Areas of residual risks**
The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table.	A score is assigned as follows: • Full - all best-practice expectations are implemented. • Partial - a proportion of the best practice expectations is implemented • Limited - this should be given if little or none of the system component is in place.	Description of circumstances and further commendation to the conclusion. This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non compliance with stated requirements. The corrective action requests are numbered and presented to the client in the verification report. The Initial Verification has additional Forward Action Requests (FAR). FAR indicates essential risks for further periodic verifications.

Periodic Verification Protocol Table 3: GHG calculation procedures and management control testing		
Identification of potential reporting risk	**Identification, assessment and testing of management controls**	**Areas of residual risks**
Identify and list potential reporting risks based on an assessment of the emission estimation procedures, i.e. ➢ the calculation methods, ➢ raw data collection and sources of supporting documentation, ➢ reports/databases/information systems from which data is obtained. Identify key source data. Examples of source data include metering records, process monitors, operational logs, laboratory/analytical data, accounting records, utility data and vendor data. Check appropriate calibration and maintenance of equipment, and assess the likely accuracy of data supplied. Focus on those risks that impact the accuracy, completeness and consistency of the reported data. Risks are weakness in the GHG calculation systems and may include: ➢ manual transfer of data/manual calculations, ➢ unclear origins of data, ➢ accuracy due to technological limitations, ➢ lack of appropriate data protection measures. For example, protected calculation cells in spreadsheets and/or password restrictions	Identify the key controls for each area with potential reporting risks. Assess the adequacy of the key controls and eventually test that the key controls are actually in operation. Internal controls include (not exhaustive): ➢ Understanding of responsibilities and roles ➢ Reporting, reviewing and formal management approval of data; ➢ Procedures for ensuring data completeness, conformance with reporting guidelines, maintenance of data trails etc. ➢ Controls to ensure the arithmetical accuracy of the GHG data generated and accounting records e.g. internal audits, and checking/ review procedures; ➢ Controls over the computer information systems; ➢ Review processes for identification and understanding of key process parameters and implementation of calibration maintenance regimes ➢ Comparing and analysing the GHG data with previous periods, targets and benchmarks. When testing the specific internal controls, the following questions are considered: 1. Is the control designed properly to ensure that it would either prevent or detect and correct any	Identify areas of residual risks, i.e. areas of potential reporting risks where there are no adequate management controls to mitigate potential reporting risks Areas where data accuracy, completeness and consistency could be improved are highlighted.

	significant misstatements? 2. To what extent have the internal controls been implemented according to their design; 3. To what extent have the internal controls (if existing) functioned properly (policies and procedures have been followed) throughout the period? 4. How does management assess the internal control as reliable?	

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Periodic Verification Protocol Table 4: Detailed audit testing of residual risk areas and random testing		
Areas of residual risks	**Additional verification testing performed**	**Conclusions and Areas Requiring Improvement (including Forward Action Requests)**
List the residual areas of risks (Table 2 where detailed audit testing is necessary. In addition, other material areas may be selected for detailed audit testing.	The additional verification testing performed is described. Testing may include: 1. Sample cross checking of manual transfers of data 2. Recalculation 3. Spreadsheet 'walk throughs' to check links and equations 4. Inspection of calibration and maintenance records for key equipment ➢ Check sampling analysis results ➢ Discussions with process engineers who have detailed knowledge of process uncertainty/error bands	Errors and uncertainty can be due to a number of reasons: ➢ Calculation errors. These may be due to inaccurate manual transposition, use of inappropriate emission factors or assumptions etc. ➢ Lack of clarity in the monitoring plan. This could lead to inconsistent approaches to calculations or scope of reported data. ➢ Technological limitations. There may be inherent uncertainties (error bands) associated with the methods used to measure emissions e.g. use of particular equipment such as meters. ➢ Lack of source data. Data for some sources may not be cost effective or practical to collect. This may result in the use of default data which has been derived based on certain assumptions/conditions and which will therefore have varying applicability in different situations. The first and second categories are explored with the site personnel, based on their knowledge and experience of the processes. High risk process parameters or source data (i.e. those with a significant influence on the reported data, such as meters) are reviewed for these uncertainties.

Verification Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	**Ref. to checklist question in tables 2/3**	**Summary of project owner response**	**Verification conclusion**
If the conclusions from the Verification are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 2, 3 and 4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the verification team should be summarized in this section.	This section should summarize the verification team's responses and final conclusions. The conclusions should also be included in Tables 2, 3 and 4, under "Final Conclusion".

Figure 1 Verification protocol tables

2.1 Review of Documents

AIE reviewed Monitoring report, version 1, submitted by the VEMA S.A., and additional documents related to the project design and baseline as to the requirements of Ukrainian Laws, PDD, methodology and Kyoto Protocol.

The verification findings presented in this report relate to the PDD version 03 and Project Monitoring Report version 01.
According to the verification results the project's participants issued the Monitoring report, version 02 as of 29.07.2010, which is final.

2.2 Follow-up Interviews

On 20/07/2010 verifiers of "Bureau Veritas Certification Holding SAS" performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of OJSC «Kyivgas» were interviewed. The main topics of the interviews are summarized in Table 1.1.

Table 1 Interview topics

Interviewed organization	Interviews Topics
OJSC «Kyivgas»	➢ Organizational structure. ➢ Personal responsibility. ➢ Training of personnel. ➢ Quality management procedures. ➢ Repair of the equipment (records). ➢ Metering equipment control. ➢ Metering record keeping system, database.
Local Stakeholder: Heat Network Administration:	Social impacts. Environmental impacts.
Consultant: OJSC «Kyivgas» VEMA S.A.	➢ Baseline methodology. ➢ Monitoring plan. ➢ Monitoring report. ➢ Deviations from PDD.

2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the clarification, corrective and forward action requests and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation. Findings established during the initial verification are also taken into consideration since they have identified criteria ensuring the proper implementation of a project and risks related to quality of emission reductions.

Corrective Action Requests (CAR) are issued, where:

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

ii) requirements set by the MP on have not been met completely; or

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

Forward Action Requests (FAR) are issued, where:

iv) the actual status requires a special focus on this item for the next consecutive verification, or

v) an adjustment of the MP is recommended.

The verification team may also use the term Clarification Request (CL), which would be where:

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

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

3 VERIFICATION FINDINGS FOR 2009

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

1) The findings from the desk review of the original project activity documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Verification Protocol in Appendix A.

2) The conclusion for verification is presented.

Discussions, remarks and conclusions stated in the verification report project are given also in final verification report.

3.1 Remaining issues CLs, CARs, FARs from previous determination.

The task of this verification is to check the remaining issues from the previous determination or issues which are clearly defined for assessment in the PDD. The determination report, prepared by Bureau Veritas Certification, noted the following open issues.

CAR №1:

There is no evidence of written project approvals by the Parties involved.
It remains unsolved till the time of issuance of letters of approval by the Parties involved.

Answer

Letter of Approval was given by the Swiss Federal Office for the Environment J294-0463 as of 23.07. 2010. Letter of Approval No. 1121/23/7 was issued by the National Environmental Investment Agency on 28.07.2010.

Conclusion of the verification team

Evidencing documents were provided to verifiers and were found satisfactory.

3.2 Project implementation

3.2.1 Discussion

The key task of Initial Verification is to check the project's preparedness for emission reductions generation.

The status of project's implementation, including the basic stages, is given in Table 1.2.

No.	Arrangements	Quantity of units of performed works, pcs.	Commencement of building	Putting into operation
2009				
9	Rehabilitation, hermetization of equipment; measuring	7	May 2009	July 2009

7 objects were rehabilitated and hermetized in the period of 2009.

The list of rehabilitated objects is given in Annex A.

3.2.2 Determined discrepancies

None.

3.3 Internal and External Data

3.3.1 Discussion

Parameters applied for calculation of methane leakage reduction are given below in the table 1.3.

Identification No.	Variable data	Source of data	Unit of data measurement	Form of data received	Comments

Identification No.	Variable data	Source of data	Unit of data measurement	Form of data received	Comments
1. i	Serial number of bolt, cock, valve, flanged or threaded joint, where the gas leakage was detected, is eliminated and then checked.	Measurement of leakage	Dimensionless	Electronic	Detected leakage is awarded a respective No. List of shut-down devices (valves, cocks, bolts), flanged and threaded joints is given in Annex A. Check after repair is conducted.
2. Ti	Time	Results of inspection	Quantity of hour of operation of the equipment, wherein the leakage was detected within the year	Electronic	Quantity of hours pf the equipment operation during the year from the moment of its repair (replacement)

Identification No.	Variable data	Source of data	Unit of data measurement	Form of data received	Comments
3.	Date	Repair (rehabilitation) and monitoring (register) data	Date of repair (rehabilitation) and monitoring	Electronic	Date of reconstruction used together with the number of hours of equipment operation to determine general number of hours of operation Should leaks be repeated, it is taken the same as the date of last inspection which showed the absence of leakage
4. GWPCH4	Global warming potential	IPCC	Tones of CO2 equiv.	Electronic	Project developer will conduct monitoring of any potential changes caused by global warming for methane, published by IPCC and approved by COP
5. FCH4,i	Speed of leakage for each detected leakage	Leakage measurement	m3 CH4/year	Electronic	Calculated by means of the largest deviation from device's error (10% for gas analyzer)

Identification No.	Variable data	Source of data	Unit of data measurement	Form of data received	Comments
6. t, P	Gas temperature and pressure	Data of measurements of glass mercury thermometer TL-4 and manometer «D-59H-100-1.06 kPa».	^{0}C and kPa	Electronic	Measured for determination of CH4 density Note: Notwithstanding measurements, many variants are not expected as pressure and temperature at different stations are taken constant
7. URi	Equipment uncertainty factor; measurement of leakage	Information provided by manufacturer and/or IPCC GPG	%	Electronic	Where possible, 95% confidence interval is evaluated; advice of management board given in section 6 2000 IPCC of GPG If manufacturer of equipment where leaks are measured specifies uncertainty range without specification of confidence internal, it can be taken 95%
8. *Vbag*	Reservoir capacity	Data of flow meter measurement	m^3	Electronic and paper	Reservoir is filled in with water. Amount of water measured by flow meter will be reservoir capacity Measurement showed that reservoir capacity is 0.87 m^3.

Identification No.	Variable data	Source of data	Unit of data measurement	Form of data received	Comments
9. $w_{sampleCH4,i}$	Methane concentration in sample	Data of gas analyzer EX-TEC® SR5 measurements	%	Electronic	Methane concentration in sample (in reservoir) of leak *i* is the difference between methane concentration in the beginning and in the end of measurement Concentration is measured with gas analyzer EX-TEC® SR5.
10. τ_i	Time during which methane concentration in reservoir reaches certain level	Data of measurements made by seconds counter «SOS pr-2b-2»	seconds	Electronic	Time during which methane concentration in reservoir reaches certain level is determined with stop-watch. Measurement starts from the moment the tap is opened on the tank cap and ends when methane concentration inside the reservoir reaches certain level.

Table 1.3. Parameters used in calculation of GHG emissions

3.3.2 Discrepancies

Outstanding questions connected with baseline and additionality are given in Table 5 below (See CR2).

3.3.3 Conclusion

Project complies with requirements.

3.4 Environmental and Social Indicators

3.4.1 Discussion

According to Ukrainian environmental norms natural gas emissions into the air are not considered polluting. Therefore no ecological permissions are required. The only environmental impact is reduction of natural gas emissions into the air.

Implementation of this project will allow increasing safe operation of gas equipment, which in its turn will reduce probability of explosions or fires. Experience of OJSC «Kyivgas» employees and observance of SRUGCO norms will allow reduction to minimum of the probability of emergencies during the project implementation.

Transboundary effects from project activity according to their definition in the text of the Convention on Transboundary Pollution At Big Distances ratified by Ukraine are not supposed to take place.

Implementation of the Project does not provide for any harmful environmental impacts.

3.4.2 Discrepancies

None

3.4.3. Conclusion

The Project complies with Ukrainian Laws, and with the JI project requirements.

3.5 Management and Operational System

3.5.1 Discussion

In order to ensure successful implementation of a project and the credibility and verifiability of the GHG emission reductions achieved, the project must have a well defined management and operational system.
Systems of administration, management and control of OJSC Kyivgas are organized in accordance with the laws of Ukraine. The verification team knows the laws required for project implementation. The team has been provided with equipment descriptions and technological instructions. Operational instructions are in place. Inspection schedules are duly agreed as provided for by requirements of the law of Ukraine.

3.5.2 Discrepancies

None.

3.5.2 Conclusion

The Monitoring Report and the Management and Operational Systems are eligible for reliable project monitoring.

3.6 Completeness of Monitoring

3.6.1 Discussion

The reporting procedures reflect the monitoring plan completely. It is confirmed that the monitoring report does comply with the monitoring methodology and PDD.
All 10 parameters were determined as prescribed. All reported parameters were determined. The complete data is stored electronically and documented. The necessary monitoring procedures defined in internal procedures and additional internal documents have been submitted for determination.

According to PDD version 03, emission reductions during 2009 monitoring period were expected 1 126 979 t CO2 e. According to Monitoring Report version 01 emission reductions achieved are 1 123 423,94 t CO2 e. The difference in the emission reductions are explained as follows. The reductions expected in PDD are expected reductions, but due to delays in the implementation schedule reductions are less then expected ones.

3.6.2 Discrepancies

Outstanding questions connected with baseline and additionality are given in Table 5 below (See CR1).

3.6.3 Conclusion

The project complies with all requirements.

3.7 Accuracy of Emission Reduction Calculation

3.7.1 Discussion

The verification team confirms that emission reduction calculations have been performed according to the Monitoring Plan and to the calculation methodology reported in the Section D.3.4. of the Monitoring Report version 01.

Calculation of methane leaks has taken into account possible error of devices used in measurement of leaks, and calculation uncertainty.

3.7.2 Discrepancies

None

3.7.3 Conclusion

The project complies with all requirements.

3.8 Quality Evidence to Determine Emissions Reductions

3.8.1 Discussion

Verification of the calculation of emission reductions is based on internal data. The origin of those data was checked. Further on, processing of those data in the monitoring workbook Excel sheet was checked where predefined algorithms compute the net annual profit gained from the emission reductions. All equations and algorithms used in the different Excel-sheets were checked. Inspection of calibration and maintenance records for gas analyzers was performed.
Necessary procedures have been defined in internal procedures and additional internal documents relevant for the determination of the various parameters of the baseline.

3.8.2 Discrepancies

None

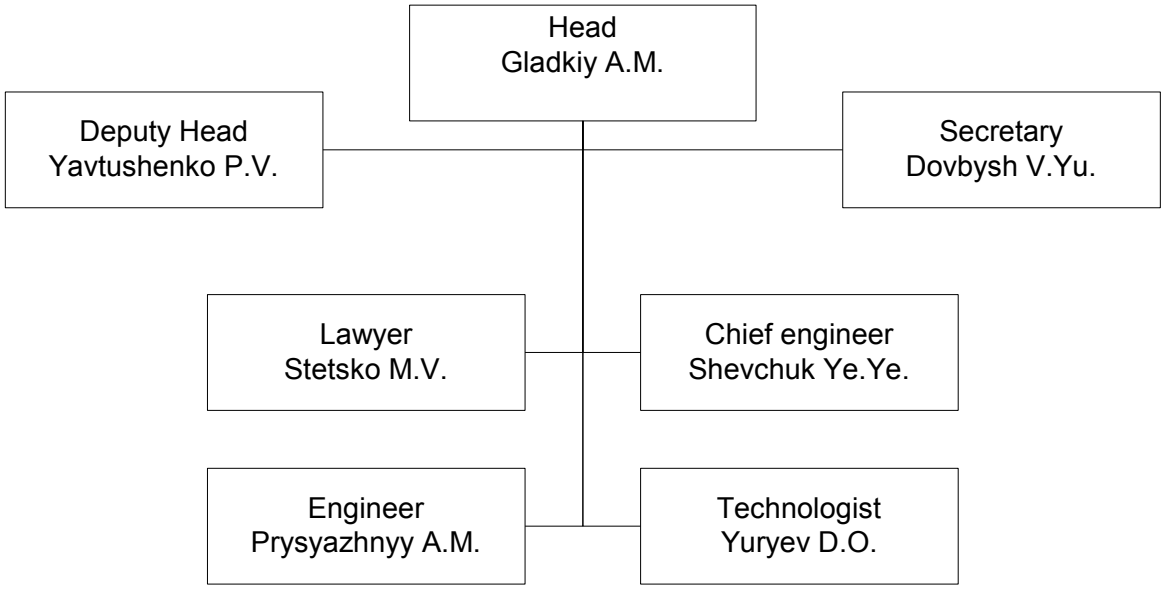
3.8.3 Conclusion

The project complies with all requirements.

3.9 Management System and Quality Assurance

3.9.1 Discussion

Coordination of work of all departments and services of OJSC “Kyivgas” concerning project implementation is done by specially created Working team. Renewed composition of Working team is approved at meetings of Board of Management of OJSC “Kyivgas”, minutes No. 15 as of 13.07.2010. The structure of Working team is shown on the Picture 1.



Picture.1. Structure of Working team.

Head of working team Gladkyy O.M. is responsible for general management of the project and coordination of all actions of the parties. Yuryev D.O. coordinates collection of all information provided for by monitoring plan, and makes all necessary calculations. Archiving of all received information in the result of measurements and settlements is done under guidance of Dovbysh V.Yu. The Deputy head of working team (Yavtushenko P.V.) on the basis of received information determines plan of measures under the Project and scope of resources required. Technical maintenance of the Project is carried out by Prysyazhnyy A.M. Legal support of the Project is carried out by Stetsko M.V.Technical supervisions of the project is conducted by Shevchuk Ye.Ye.

3.9.2 Discrepancies

None

3.9.3 Conclusion

The project complies with all requirements.

5 PROJECT SCORECARD

Risk Areas		Conclusions			Summary of findings and comments
		Baseline Emissions	Project Emissions	Calculated Emission Reductions	
Completeness	Source coverage/ boundary definition	✓	✓	✓	All relevant emission sources within the project are defined correctly and transparently and are covered by the monitoring plan
Accuracy	Physical Measurement	✓	✓	✓	Appropriate devices are presented. Necessary reserve decisions are provided.
	Data calculations	✓	✓	✓	Emission reductions are calculated correctly
	management & reporting	✓	✓	✓	Management and reporting were found to be satisfying.
Consistency	Changes in the project	✓	✓	✓	Results are consistent to underlying raw data.

6 CONCLUSION ON SECOND PERIODIC VERIFICATION FOR 2009

Bureau Veritas Certification has performed the verification of JI project "Reduction of Methane Emissions at Flanged, Threaded Joints and Shut-down Devices of OJSC "Kyivgas" Equipment" for the period 2009.

Verification was done in accordance with UNFCCC criteria and criteria of host country.

OJSC Kyivgas is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the Monitoring Plan indicated in the PDD version 03. The project's administration is responsible for project implementation, organization of data collection, and calculations and determination of GHG emission reductions.

Bureau Veritas Certification verified the Project Monitoring Report version 02 for the reporting period. Bureau Veritas Certification confirms that the project is implemented as planned and described in determination documents and presented project documentation. Installed equipment being essential for generating emission reduction runs reliably and is calibrated

appropriately. Monitoring system is duly organized. The project is ready to generate GHG emission reductions.

Bureau Veritas Certification confirms that the GHG emission reduction is calculated in accordance with the principle of additionality. On the basis of seen and analyzed documents we confirm the following:

Reporting period	:	From 01/01/2009 to 31/12/2009
Baseline emissions	:	1 194 116,59 t CO2 equivalents.
Project emissions	:	70 692,65 t CO2 equivalents.
Emission Reductions	:	1 123 423,94 t CO2 equivalents.

7 REFERENCES

Category 1 Documents:

Principal documents related directly to the project registration.

/1/ PDD, version 03, as of July 7, 2010

/2/ Monitoring Report, version 01, dated 17.06.2010

/3/ Monitoring Report, version 02, dated 29.07.2010

/4/ Determination Report of Bureau Veritas Certification Holding SAS dated 08.07.2010

/5/ Verification Report on early credits of Bureau Veritas Certification Holding SAS dated 03.08.2010

/6/ Verification Report of Bureau Veritas Certification Holding SAS dated 03.08.2010

/7/ Letter of Approval, National Environmental Investment Agency of Ukraine, No. 1121/23/7as of 28.07.2010.

/8/ Letter of Approval, Swiss Federal Office for the Environment J294-0463 as of 23.07. 2010

Category 2 Documents:

Background documents related to the project and/or methodology.

/1/ Documents checked during the verification onsite are presented in Appendix B

Persons interviewed:

List of persons interviewed during the verification or persons that contributed with other information that are not included in the documents is listed above

/1/ Bernatskyy B.Ye. – Chief engineer of OJSC “Kyivgas”

/2/ Shevchuk Ye.Ye. – head engineer of the working team

/3/ Dovbysh V.Yu. – secretary of the working team

/4/ Yuryev D.O. – technologist of the working team

/5/ Gladkyi O.M. – head of the working team

/6/ Yavtushenko P.V. – deputy head of the working team

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8 ANNEX A: JI PROJECT VERIFICATION PROTOCOL

Initial Verification Protocol
Table 1

Objective	References	Comments	Conclusion (CARs/FARs)
1. Introduction			
1.1. Introduction to audit	/1/, /2/, /3/	The intentions and the targets of the audit were illustrated to the participants of the audit. Participants at the audit were the following persons: Verification Team: Flavio Gomes Bureau Veritas Certification Leading Climate Change Verifier Oleg Skoblyk Bureau Veritas Certification Climate Change Verifier Report checked by: Ivan Sokolov Bureau Veritas Certification Internal Technical Reviewer Employees of OJSC “Kyivgas”: Bernatskyy B.Ye. – Chief engineer of OJSC “Kyivgas” Shevchuk Ye.Ye. – head engineer of the working team	OK

Objective	References	Comments	Conclusion (CARs/FARs)
		Dovbysh V.Yu. – secretary of the working team Yuryev D.O. – technologist of the working team Gladkyi O.M. – head of the working team Yavtushenko P.V. – deputy head of the working team	
1.2. Clarification of access to data archives, records, plans, drawings etc.	/1/, /2/, /3/	The verification team got open access to all required plans, data, drawings, diagrams, records, corresponding objects and facilities.	OK
1.3. Contractors for equipment erection and putting into operation	/1/, /2/, /3/	Project has been implemented as defined in the PDD and the implementation is evidenced by statements of work completion.	OK
1.4. Actual status of installation works	/1/, /2/, /3/	Implementation of heating networks for elimination of leaks is carried out according to project plan. See section A.6 of Monitoring Report.	OK
2. Open issues indicated in determination report			
2.1. Missing steps to final approval	/4/	Corrective Action Request (CAR) 1 Letters of approval from both parties are absent.	CAR 1
3.Впровадження проекту			

Objective	References	Comments	Conclusion (CARs/FARs)
3.1. Physical components	/1/, /2/, /3/	Project has been implemented as defined in the PDD with some deviations, see cl. 1.4 and 3.1 of Verification Report	OK
3.2. Project boundaries	/1/, /2/, /3/	Project boundaries are set as described in PDD.	OK
3.3. Achieved emission reductions	/2/	According to PDD version 03, emission reductions during 2009 monitoring period were expected 1 126 979 t CO2 e. According to Monitoring Report version 01 emission reductions achieved are 1 123 423,94 t CO2 e. Clarification request 1 (CR) 1 Please explain the difference between achieved reductions under the MR and reductions provided for in PDD	CR1
3.4. Monitoring and metering systems	/1/, /2/, /3/	JSC Kyivgas has all relevant equipment for monitoring of specifications related to the project. All equipments are of reputed make. They and included in the structured calibration plans where they are periodically calibrated. The procedures documented for the equipment operation are in place.	OK
3.5. Data uncertainty	/1/, /2/, /3/	All measuring equipment corresponds to the regulatory requirements on accuracy of meters and measurement deviations applicable in Ukraine. Verification team analyzed submitted documents	OK

Objective	References	Comments	Conclusion (CARs/FARs)
		characterizing metering devices. Types of devices are determined in the regulatory documents of Ukraine. Accuracy of devices is guaranteed by the manufacturer, possible error has been calculated and confirmed by device passport. Therefore, uncertainty level of measurements corresponds to technologies used, and is taken into account when taking data from the device.	
3.6. Calibration and measurement quality assurance	/1/, /2/, /3/	All monitoring equipment is part of detailed calibration plan. The strict control is maintained over the calibration process. On the date of verification, Calibration records of the measuring and monitoring equipment has been verified at site. All the meters have been found to be calibrated regularly as per determined calibration plan for each site. The following remarks have been given.	OK
3.7. Data collection and data processing systems	/1/, /2/, /3/	For quantitative estimation and preparation for reporting on emission reduction on the ground of baseline and project's activity the approved methodology of monitoring conducting AM0023 was applied. Head of working team Gladkyy O.M. is responsible for general management of the project and coordination of all actions of the parties. Yuryev D.O. coordinates collection of all information provided for by monitoring plan, and makes all necessary calculations. Archiving of all received information in the result of measurements and settlements is done under guidance of Dovbysh V.Yu. The Deputy head of working team (Yavtushenko P.V.) on the basis of received information determines plan of measures under the Project and scope of resources required. Technical maintenance of the Project is	OK

Objective	References	Comments	Conclusion (CARs/FARs)
		carried out by Prysyazhnyy A.M. Legal support of the Project is carried out by Stetsko M.V.Technical supervisions of the project is conducted by Shevchuk Ye.Ye.	
3.8. Reporting procedures	/1/, /2/, /3/	The Monitoring Plan defines persons responsible for collection of the data required for GHG emission reduction calculations. Calculations are transparent and are filled in annually into a predefined Excel spreadsheet.	OK
3.9. Documented instructions	/1/, /2/, /3/	Monitoring report, section B, version 01 specifies procedure for data collection, archiving (including software use), and also reflects monitoring, metering and reporting procedures. This information was verified during the visit to OJSC Kyivgas and is satisfactory.	OK
3.10. Qualification and training	/1/, /2/, /3/	Refer to section 3.6 above.	OK
3.11. Responsibilities	/1/, /2/, /3/	Refer to section 3.6 above.	OK
3.12. Troubleshooting procedures	/1/, /2/, /3/	Detection, liquidation and registration of failures and emergencies at gas-distribution posts of JSC Kyivgas is carried out according to Safety rules of gas-supply systems of Ukraine.	OK
4. Internal data			
4.1. Type and sources of internal data	/1/, /2/, /3/	The internal parameters are obtained according to the monitoring plan	OK
4.2. Data collection	/1/, /2/, /3/	For quantitative estimation and preparation for reporting on emission reduction on the ground of baseline and project's	OK

Objective	References	Comments	Conclusion (CARs/FARs)
		activity the approved methodology of monitoring conducting AM0023 was applied. Head of working team Gladkyy O.M. is responsible for general management of the project and coordination of all actions of the parties. Yuryev D.O. coordinates collection of all information provided for by monitoring plan, and makes all necessary calculations. Archiving of all received information in the result of measurements and settlements is done under guidance of Dovbysh V.Yu. The Deputy head of working team (Yavtushenko P.V.) on the basis of received information determines plan of measures under the Project and scope of resources required. Technical maintenance of the Project is carried out by Prysyazhnyy A.M. Legal support of the Project is carried out by Stetsko M.V.Technical supervisions of the project is conducted by Shevchuk Ye.Ye.	
4.3. Quality assurance	/1/, /2/, /3/	Monitoring report, section B, version 01 specifies procedure for data collection, archiving, and also reflects monitoring, metering and reporting procedures. This information was verified during the visit to JSC Kyivgas and is satisfactory. Monitoring procedures are absolutely effective.	OK
4.4. Significance of reporting risks	/1/, /2/, /3/	All data are collected with periodicity established in the norms of monitoring plan. Record-keeping is controlled by the management bodies of JSC Kyivgas. Probability of discrepancy in the report is rather low.	OK
5. External Data			

Objective	References	Comments	Conclusion (CARs/FARs)
5.1. Type and sources of external data	/1/, /2/, /3/	External data are not used.	OK
5.2. Access to external data	/1/, /2/, /3/	Refer to 5.1	OK
5.3. Quality assurance	/1/, /2/, /3/	Refer to 5.1	OK
5.4. Data uncertainty	/1/, /2/, /3/	Refer to 5.1	OK
5.5. Emergency procedures	/1/, /2/, /3/	Refer to 5.1	OK
6. Environmental and Social Indicators			
6.1. Implementation of measures	/1/, /2/, /3/	Environmental and social indicators are not defined in the monitoring plan. Hence the question is not applicable. But the public and staff representatives informed verification team during the audit that the project is of great importance as it implies reconstruction of gas-distribution networks, which will result in improvement of gas supply quality to consumers. No negative environmental impact is expected.	OK
6.2. Monitoring equipment	/1/, /2/, /3/	See chapter 6.1.	OK
6.3. Quality assurance procedures	/1/, /2/, /3/	See chapter 6.1.	OK
6.4. External data	/1/, /2/,	See chapter 6.1.	OK

Objective	References	Comments	Conclusion (CARs/FARs)
	/3/		
7. Management and Operational System			
7.1. Documentation	/1/, /2/, /3/	The company complies with all legal and statutory requirements of the Ukraine and requirements of the verification team. JSC Kyivgas has all the necessary permissions and licenses, issued by the State Inspection on Labor Safety.	OK
7.2. Qualification and training	/1/, /2/, /3/	No special trainings for operation of new equipment are required. All trainings under the project were performed by equipment suppliers, and their cost is included to the cost of equipment.	OK
7.3. Allocation of responsibilities	/1/, /2/, /3/	For quantitative estimation and preparation for reporting on emission reduction on the ground of baseline and project's activity the approved methodology of monitoring conducting AM0023 was applied. Head of working team Gladkyy O.M. is responsible for general management of the project and coordination of all actions of the parties. Yuryev D.O. coordinates collection of all information provided for by monitoring plan, and makes all necessary calculations. Archiving of all received information in the result of measurements and settlements is done under guidance of Dovbysh V.Yu. The Deputy head of working team (Yavtushenko P.V.) on the basis of received information determines plan of measures under the Project and scope of resources required. Technical maintenance of the Project is carried out by Prysyazhnyy A.M. Legal support of the Project	OK

Objective	References	Comments	Conclusion (CARs/FARs)
		is carried out by Stetsko M.V.Technical supervisions of the project is conducted by Shevchuk Ye.Ye.	
7.4. Emergency procedures	/1/, /2/, /3/	Detection, liquidation and registration of failures and emergencies at gas-distribution posts of JSC Kyivgas is carried out according to Safety rules of gas-supply systems of Ukraine.	OK
7.5. Data archiving	/1/, /2/, /3/	Data are stored in paper and in electronic form, and are archived in relative databases.	OK
7.6. Monitoring report	/1/, /2/, /3/	Calculations are provided in Monitoring Report. Clarification request (CR) 2 Please explain the difference between the formula for methane emission calculation in MR version 1 and PDD version 3.	CR2
7.7. Internal audits and management review	/1/, /2/, /3/	All information collected and processed by working team is verified by the deputy head of the board of JSC Kyivgas.	OK

Periodic Verification Protocol
Table 2: Data Management System/Controls.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
1. Defined organizational structure, responsibilities and competencies		
1.1. Position and roles	In full	Employees of OJSC "Kyivgas": Bernatskyy B.Ye. – Chief engineer of OJSC "Kyivgas" Shevchuk Ye.Ye. – head engineer of the working team Dovbysh V.Yu. – secretary of the working team Yuryev D.O. – technologist of the working team Gladkyi O.M. – head of the working team Yavtushenko P.V. – deputy head of the working team
1.2. Responsibilities	In full	For quantitative estimation and preparation for reporting on emission reduction on the ground of baseline and project's activity the approved methodology of monitoring conducting AM0023 was applied. Head of working team Gladkyy O.M. is responsible for general management of the project and coordination of all actions of the parties. Yuryev D.O. coordinates collection of all information

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
		provided for by monitoring plan, and makes all necessary calculations. Archiving of all received information in the result of measurements and settlements is done under guidance of Dovbysh V.Yu. The Deputy head of working team (Yavtushenko P.V.) on the basis of received information determines plan of measures under the Project and scope of resources required. Technical maintenance of the Project is carried out by Prysyazhnyy A.M. Legal support of the Project is carried out by Stetsko M.V.Technical supervisions of the project is conducted by Shevchuk Ye.Ye.
1.3. Competencies needed	In full	All employees of OJSC Kyivgas involved into the project have required qualification level and working experience in the area of gas supply.
2. Conformance with monitoring plan		
2.1. Reporting procedures	In full	The monitoring plan is as per the determined PDD. The project uses Monitoring Methodology provided for by methodology AM0023 "Reduction of natural gas emissions at compressor and gas-distribution stations of main gas lines", version 03.
2.2. Necessary Changes	In full	The project is implemented in accordance with the plan.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
3. Application of GHG determination methods		
3.1. Methods used	In full	The reporting procedures reflect the monitoring plan content. The calculation of the emission reduction is correct.
3.2. Information/process flow	In full	For quantitative estimation and preparation for reporting on emission reduction on the ground of baseline and project's activity the approved methodology of monitoring conducting AM0023 was applied. Head of working team Gladkyy O.M. is responsible for general management of the project and coordination of all actions of the parties. Yuryev D.O. coordinates collection of all information provided for by monitoring plan, and makes all necessary calculations. Archiving of all received information in the result of measurements and settlements is done under guidance of Dovbysh V.Yu. The Deputy head of working team (Yavtushenko P.V.) on the basis of received information determines plan of measures under the Project and scope of resources required. Technical maintenance of the Project is carried out by Prysyazhnyy A.M. Legal support of the Project is carried out by Stetsko M.V.Technical supervisions of the project is conducted by Shevchuk Ye.Ye.
3.3. Data transfer	In full	Data are stored on paper and in electronic form, and are archived in relative databases

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
3.4. Study of data transfer system	In full	The necessary procedures have been defined in internal procedures and additional internal documents relevant for the determination of the all the parameters listed in the monitoring plan.
4. Identification and maintenance of key process parameters		
4.1. Identification of key parameters	In full	The critical parameters for the determination of GHG emissions are the parameters listed in section D of the approved PDD.
4.2. Calibration/maintenance	In full	The company maintains the elaborate calibration plan for each unit of the equipment. The audit team verified the status for all the equipment provided for by the JI project, and confirms them to be complying with the plan.
5. GHG Calculations		
5.1. Use of estimates and default data	In full	All assumptions are given in section D of approved PDD.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
5.2. Guidance on checks and reviews	In full	Monitoring plan is fully performed.
5.3. Internal validation and verification	In full	Monitoring procedure for JI Project includes the responsibility and frequency for carrying out internal audits. The audit team did verify all the parameters listed in monitoring report.
5.4. Data protection measures	In full	The necessary procedures for ensuring data security and preventing the unauthorized use were demonstrated to verifiers during on-site verification.
5.5. IT systems	In full	IT systems are the electronic network of JSC Odesagas, computers and hard data carriers.

Periodic Verification Protocol
Table 3: GHG calculation procedures and management control testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
Potential reporting risks based on an assessment of the emission estimation procedures can be expected in the	Regarding the potential reporting risks identified in the	The areas of residual risks, i.e. the areas of potential risks without

following fields of action: □ the calculation methods □ raw data collection □ sources of supporting documentation □ reports/databases/information systems from which data is obtained. Key source data applicable to the project assessed are hereby: ➢ metering records (fuel and power consumption), ➢ indicators of processes (weight of raw materials/products), ➢ operational logs (metering records), ➢ laboratory/analytical data (thermal value), ➢ accounting records, ➢ certificates of calibration and maintenance for appraisal of reliable accuracy of the data. It is hereby needed to focus on those risks that impact the accuracy, completeness and consistency of the reported data. Risks are weakness in the GHG calculation systems and may include: ➢ manual transfer of data/manual calculations, ➢ unclear origins of data, ➢ insufficient accuracy due to technological limitations, ➢ lack of appropriate data protection measures (for example, protected calculation cells in spreadsheets and/or password restrictions).	left column the following mitigation measures have been observed during the on-site mission: Understanding of responsibilities and roles. Collection of initial data and their transmission to databases. Metering equipment management system. Reporting, analysis and formal data approval by the management.	adequate means of control are used in a conservative manner in the reports according to the approach prescribed in the PDD version 3.

Periodic Verification Protocol
Table 4: Detailed audit testing of residual risk areas and random testing

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
The issue remaining is the way the data obtained is used to calculate the emission reduction in a conservative manner according to the approach prescribed in the PDD.	There has been a complete check of data transferred from daily consumption and generation readings to the calculation tool. There was no error in such transfer. The correct installation of the metering equipment can be confirmed.	Having investigated the residual risks, the audit team comes to the following conclusion: Immediate action is not needed with respect to the current emission reduction calculation. Those corrections have been considered during the verification process, so no residual risk is open.

Verification Protocol
Table 5: Resolution of Corrective Action and Clarification Requests

List of Corrective Action and Clarification Requests	Ref. to checklist question in table 2/3.	Summary of project owner response	Verification conclusion
Corrective Action Request (CAR) 1 Letters of Approval from both parties are	Table 2, request 2.1	Letter of Approval was given by the Swiss Federal Office for the Environment J294-0463 as of 23.07. 2010. Letter of Approval No.	Evidences are checked. Issue is closed.

List of Corrective Action and Clarification Requests	Ref. to checklist question in table 2/3.	Summary of project owner response	Verification conclusion
absent.		1121/23/7 was issued by the National Environmental Investment Agency on 28.07.2010.	
Clarification request (CR) 1 Please explain the difference between achieved reductions under the MR and reductions provided for in PDD.	Table 2, request 3.3	Decrease in quantity of reductions in comparison with reductions stated in PDD is due to delays in project implementation schedule.	Issue is closed.
Clarification request (CR) 2 Please explain the difference between the formula for methane emission calculation in MR version 1 and PDD version 3.	Table 2, request 7.6	Appropriate amendments in MR, version 2, are made.	MR version 2 is checked. Issue is closed.

APPENDIX B: VERIFICATION TEAM

Flavio Gomes
Leading Verifier
Flavio Gomes is an engineer in chemistry and safety, diploma UNICAMP – University of Campinas State, Master of Construction Engineering Science (improvement of sanitary conditions). He spent four years in RIPASA, a pulp-and-paper mill as an Environmental Engineer. Since 2006 – Global Climate Change Manager. From 1997 – chief consultant of Bureau Veritas Consulting for the management systems of environment, quality, hygiene and occupational safety, and social liability. He is also a project verifier under Clean Development Mechanism, and an auditor of Social/Environmental reports on behalf of Bureau Veritas Certification. Flavio is currently obtaining a degree of Ph.D. in the field of power management of Imperial College – London.

Oleg Skoblyk, Specialist (Power Management)
Climate Change Verifier
Bureau Veritas Ukraine HSE Department project manager.
Oleg Skoblyk has graduated from National Technical University of Ukraine 'Kyiv Polytechnic University" with specialty Power Management. He has successfully completed IRCA registered Lead Auditor Training Course for Environment Management Systems and Quality Management Systems. Oleg Skoblyk has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the determination/verification of 15 JI projects.

Report was reviewed by**:**
Ivan G. Sokolov, Dr. Sci. (biology, microbiology)
Internal technical reviwer, Climate Change Lead Verifier.
Bureau Veritas Ukraine HSE Department manager.
Ivan Sokolov has over 25 years of working experience in research institute in the field of biochemistry, biotechnologies and microbiology. From 1999 - Head of Ecology and Safety Department of Bureau Veritas in Black Sea region, Leading Auditor of Environmental Management Systems, quality, hygiene and occupational safety, food safety. Starting from 1999 Ivan Sokolov performed over 130 audits. He is also a leading tutor of primary courses of leading auditors of the Management systems listed above. Ivan passed the course of leading CDM projects verifiers and performed determination and verification of over 55 JI and CDM projects.

APPENDIX C: DOCUMENTS CHECKED DURING VERIFICATION

/1/. An Order on Working Team creation
/2/. Prevailing investment agreement considering JI project
/3/. Register of shut-down devices, flanged and threaded joints, where the reductions measurement was conducted
/4/. Recommendations for monitoring of methane emission reduction at flanged, threaded joints and shut-down devices of OJSC “Kyivgas” equipment, elaborated by VEMA S.A.
/5/. Acts of state calibration of meters for 2005, 2006, 2007, 2008, 2009:
- Portable gas analyzer EX-TEX® SR5
- Mercury temperature meter of glass type ТЛ4

/6/. Photos of measurement taken at the shut-down device – wedge-gate valve at the address: Kyiv, Nemanska Str., 4, reg. No. 8297, code: 02-0191-03
/7/. Photos of measurement taken at the flanged joint at the address: Kyiv, Lyubomyrska Str., 15, reg. No. 27847, code: 03-0633-25
/8/. Photos of measurement taken at the flanged valve at the address: Kyiv, Mashynobudivelnykiv Str., 5, reg. No. 28658, code: 03-0676-05
/9/. Photos of measurement taken at the flanged valve at the address: Kyiv, Mashynobudivelnykiv Str., 8, code: 03-0676-14
/10/. Photo of portable gas analyzer EX-TEX® SR5
/11/. Passport of portable gas analyzer EX-TEX® SR5
/12/. Passport of mercury temperature meter of glass type ТЛ4
/13/. Passport of manometer Д-59Н-100-1.0 6 kPa
/14/. Passport of timer «СОС пр-2б-2»