VERIFICATION REPORT

OJSC "COAL MINE "KOMSOMOLETS-DONBASSA"

VERIFICATION OF THE

"CMM UTILISATION ON THE JOINT STOCK COMPANY NAMED KOMSOMOLETS DONBASSA COAL MINE OF DTEK (DONBASSKAYA TOPLIVNAYA ENERGETICHESKAYA KOMPANYA)"

2nd periodic

REPORT NO. UKRAINE-VER/0182/2010

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BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0182/2010

VERIFICATION REPORT

Date of first issue: 22/02/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: OJSC "Coal Mine "Komsomolets-Donbassa"	Client ref.: Martovitskiy Artur

Summary:
Bureau Veritas Certification has made the 2nd periodic verification for the period from 04 November 2009 to 31 October 2010 of the "CMM utilisation on the Joint Stock Company named Komsomolets Donbassa Coal Mine of DTEK (Donbasskaya Toplivnaya Energeticheskaya Kompanya)", JI Registration Reference Number 0079, project of OJSC "Coal Mine "Komsomolets-Donbassa" located in Kirovske city, Donetsk region, Ukraine, and applying the methodology ACM0008 version 03, 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 verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during defined verification period, 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 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, Corrective Actions Requests, Forward Actions Requests (CR, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 113129 tons of CO_2eq for the monitoring period from 04/11/2009 to 31/10/2010).

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the approved project baseline and monitoring, and its associated documents.

Report No.: UKRAINE-ver/0182/2010	Subject Group: JI	
Project title: "CMM utilisation on the Joint Stock Company named Komsomolets Donbassa Coal Mine of DTEK (Donbasskaya Toplivnaya Energeticheskaya Kompanya)"		
Work carried out by: Team Leader, Lead Verifier: Ivan Sokolov Team Member, Technical Specialist: Igor Antipko		
Work reviewed by: Leonid Yaskin - Internal Technical Reviewer		
Work approved by: Flavio Gomes – Operational Manager		
Date of this revision: 22/02/2011	Rev. No.: 01	Number of pages: 50

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Abbreviations

AIE	Accredited Independent Entity
BVCH	Bureau Veritas Certification Holding SAS
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CH_4	Methane
CL	Clarification Request
CMM	Coal Mine Methane
CO_2	Carbon Dioxide
DVM	Determination and Verification Manual
ERU	Emission Reduction Unit
FAR	Forward Action Request
GHG	Green House Gas(es)
GWP	Global Warming Potential
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MP	Monitoring Plan
MR	Monitoring Report
NFP	National Focal Point
NMHC	Non methane hydrocarbons
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change

1 INTRODUCTION

OJSC “Coal Mine “Komsomolets-Donbassa” has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project “CMM utilisation on the Joint Stock Company named Komsomolets Donbassa Coal Mine of DTEK (Donbasskaya Toplivnaya Energeticheskaya Kompanya)” (hereafter called “the project”) at Kirovske city, Donetsk region, Ukraine.

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

The verification covers the period from 4th November 2009 to 31st October 2010.

1.1 Objective

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity (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.

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

Verification scope is defined as an independent and objective review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report, the determined project design document including the project’s baseline study, revised monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The verification 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 monitoring towards reductions in the GHG emissions.

1.3 Verification Team

The verification team consists of the following personnel:

Ivan Sokolov

Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Igor Antipko

Bureau Veritas Certification Team Member, Technical Specialist

This verification report was reviewed by:

Leonid Yaskin
Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

In order to ensure transparency, a verification 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 verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by OJSC “Coal Mine Komsomolets Donbassa” and additional background documents related to the project design, baseline, and monitoring plan, i.e. country Law, Project Design Document (PDD), Approved CDM methodology ACM0008 and Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto

Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report version 1c of 23 November 2010, ver.2 of 05 January 2011, ver.3 of 21 January 2011, ver.4 of 26 January 2011 and ver.5 of 03 February 2011, revised Monitoring Plan ver.2 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 24 November 2010 Bureau Veritas Certification verification team conducted a visit to the project site (OJSC "Komsomolets-Donbassa Coal Mine") and performed (on-site) interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of OJSC "Komsomolets-Donbassa Coal Mine" and Eco-Alliance Ltd. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
OJSC "Coal Mine "Komsomolets-Donbassa"	Organizational structure Responsibilities and authorities Roles and responsibilities for data collection and processing Installation of equipment Data logging, archiving and reporting Metering equipment control Metering record keeping system, database IT management Training of personnel Quality management procedures and technology Internal audits and check-ups
Consultant: Eco-Alliance Ltd.	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 requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

If the Verification Team, in assessing the monitoring report and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to the monitoring requirements, it should 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 that is not in accordance with the monitoring plan;

(b) Clarification request (CL), requesting the project participants to provide additional information for the AIE to assess compliance with the monitoring plan;

(c) Forward action request (FAR), informing the project participants of an issue, relating to the monitoring that needs to be reviewed during the next verification period.

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 CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 7 Corrective Action Requests, and 6 Clarification Request.

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

3.1 Project approval by Parties involved (90-91)

Written project approval by Ukraine, Host party, (Letter of Approval of Ministry for Environmental Protection of Ukraine No M000011, issued on 03/10/2007) and the Netherlands, sponsor party, (Approval of voluntary participation in a Joint Implementation Project of the Ministry of Economic Affairs of the Netherlands No 2007JI04, issued on 26/11/2007) have been issued by the NFP of those Parties when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest.
The abovementioned written approvals are unconditional.

3.2 Project implementation (92-93)

The present JI project implies utilization of CMM from two suction systems of the coal mine Komsomolets Donbassa for heat and power generation and for flaring. According to the registered PDD ver.04 of 14/04/2008 with a purpose of CMM utilization one new gas boiler for heat generation, four flares for methane destruction, three new cogeneration units for combined power and heat production are planned to be installed and two old coal boilers should be upgraded with CMM burner systems for heat production. The new and the modified units are supposed to displace the main part of the heat generated by the old coal boilers and displace a part of the electricity purchased from the grid. The combustion of methane in the boilers and in the flares results in a significant emissions reduction.

During the 2nd monitoring period (04 Nov. 2009 – 31 Oct. 2010) the delay in installation of some project units as per the PDD occurred due to the global financial crisis. The status of project activity implementation compared with the PDD is presented in the table below:

Table 1. Status of implementation including time table for project component

Unit	**Planned installation date, as stated in the PDD**	**Implementation status**
Central Shaft		
new boiler	Oct 2007	Delayed, planned for late 2011 or early 2012
flare No: 1	Sep 2007	Delayed, planned for late 2011 or early 2012
flare No: 2	Apr 2008	Delayed, planned for late 2011 or early 2012
Air Shaft № 3		
cogeneration	Sep 2008	Delayed, planned for summer 2011

unit 1		
cogeneration unit 2	Sep 2008	Delayed, planned for summer 2011
cogeneration unit 3	Sep 2008	Delayed, planned for summer 2011
Two upgraded boilers	Oct 2007	Installed October 2009
flare No: 3	Sep 2007	Installed in 2008
flare No: 4	Apr 2008	Installed in 2008

The installation of further units as stated in the PDD is delayed due to the global financial crisis as was mentioned above. The coal production decreased and the financial situation of the coal mine get worse. As only four of nine planned units have been installed, the planned amount of emission reductions could not be achieved. Since the coal production and financial situation of the coal mine improved in 2009 and 2010 the continuation of the project installation is planned for coming years (mostly 2011).

Central Shaft

At the time the main degasification pipe is renewed. The works are expected to be finalized in summer 2011. The installation of the flares 1 and 2 as well as the new boiler is planned for the end of 2011 or beginning of 2012.

Air shaft

Two old coal boilers at Air Shaft were upgraded with a CMM burner system and started operation in October 2009. A monitoring system for the boilers was installed on January 28, 2010, so the project monitoring in respect of this units has started since that time.
The installation of the cogeneration units is planned for summer 2011.

Because of the fact that the maximum supply pressure from the existing central gas suction system turned out to be not sufficient for the supply of the flares and the boilers with gas, both flares have been equipped with compressors for additional pressure generation. Monitoring of this additional power consumed by the project and accounting of resulted additional GHG emissions were included into the revised monitoring plan which was released by the project participants in the course of first monitoring period (09.08.2008 – 03.11.2009) and was positively determined during the 1st verification under the project.

The starting date of the crediting period was changed from 1st January 2008 (indicated in the PDD) to 9th August 2008, which is the date of flare 3 operation commencement and generation of first emission reduction units under the project. It was caused by the delay in the delivery and installation of the flare.

3.3 Compliance of the monitoring plan with the monitoring methodology (94-98)

The monitoring occurred in accordance with the PDD regarding which the determination has been deemed final and revised monitoring plan ver.2 of 03/02/2011 which was positively determined in course of the current verification.

For calculating the emission reductions, key factors, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating emission reductions such as appropriately calibrated measuring equipment, the study of standardized emission factors for the Ukrainian electricity grid, IPCC guidelines, laboratory analysis, are clearly identified, reliable and transparent.

Emission factors, including default emission factors, are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

The calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.

3.4 Revision of monitoring plan (99-100)

In the course of first monitoring period (09/08/2008 – 03/11/2009) the original monitoring plan described in the registered PDD version 04 of 14/04/2008 was modified by the project participants. The project participants provided an appropriate justification for the proposed revision which was caused by a set of reasons: delay is project implementation resulted into change of monitoring period and frequency of some parameters calculation; installation of compressors for additional pressure generation and necessity to calculate additional electricity consumed by the project due to the absence of power meter during the 1st monitoring period; adjustment of some formulae in order to fit better the measuring/monitoring method applied. Changes introduced were sufficiently described in the revised Monitoring Plan ver. 1c of 25/05/2010 which obtained positive determination conclusion in course of the 1st verification under the project.

During the current (2nd periodic) verification the revised monitoring plan version 1c was slightly modified in respect of method for determination of amount of additional electricity consumed by the project, which is in fact the electric energy used by the compressors and other equipment installed in the flare units. This modification was caused by the fact that

during the 1st half of the current monitoring period (from 04/11/2009 to 30/04/2010) the consumed power amount was calculated using the operation hours of the flares (flare 3 and flare 4), and then on 30/04/2010 electric power meters have been installed which enabled the direct measuring of the amount of electricity consumed by the flares. The modifications per se as well as appropriate justification of the revision were presented in the revised monitoring plan version 2 of 03/02/2011.

Changes that have been implemented do not affect conservativeness of the approach to the emission reductions calculations and procedures of the data collection and archiving.

The Management and Operational Systems are eligible for reliable project monitoring according to the revised plan ver.2.

The proposed revision improves the accuracy and applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.

3.5 Data management (101)

The data and their sources, provided in monitoring reports, are clearly identified, reliable and transparent.

The implementation of data collection procedures is in accordance with the PDD and revised monitoring plan, including the quality control and quality assurance procedures.

The function of the monitoring equipment, including its calibration status, is in order.

The evidence and records used for the monitoring are maintained in a traceable manner.
The data collection and management system for the project is in accordance with the PDD and revised monitoring plan ver.2.

The general project management is implemented by the Technical Director of the Coal Mine Komsomolets Donbassa through supervising and coordinating activities of his subordinates, such as the Director of Capital Development, the Deputy Director on surface degasification, heat technician, head of safety engineering departments, etc. The project management structure is presented in the MR section C.1.1.

A group of mechanics and electricians who are responsible for the measures and maintenance of all technological equipment and measuring instruments are present on-site daily with one person on-duty responsible for the proper operation and keeping of the journals in each of the two 12h-shifts. The mechanic on duty from the Coal Mine Komsomolets Donbassa makes daily audits.

The data are collected, processed and stored using electronic system and specialized software. The collected data are stored electronically by a data logger and on paper in journals by the coal mine personnel. The data are read out hourly from the data logger and stored and archived in an internet-based data base. The data base is provided with an internet front end, by which all stored data can be visualised, controlled and analysed. The data can be read any time from the internet data base by authorised personnel. Eco-Alliance, the administrator of the data base is responsible for the proper work of the data base, routine backups, data storage and general supervision of the electronically monitoring system. Eco-Alliance regularly verifies the electronically recorded data with the handwritten data and checks the stored data for plausibility, errors, deviations and non-conformity. All inconsistencies are discussed with the service and the operation teams, at which the operational and monitoring experience is gained, the plant operation is optimised. The monitoring engineer (Eco-Alliance) checks the data from web-site every day and makes internal weekly reports.

The employees responsible for the monitoring control have been trained on–the–job during the installation of the monitoring system. Before installation of the CMM burning equipment on the boilers the personnel of the boiler house have received training in “Donetsk centre of personnel preparing” (Horlovka) on speciality “Personnel serving individual boilers working on gas fuel”.
The troubleshooting procedures are defined and the coal mine personnel are instructed accordingly.

Besides, the Coal Mine has Occupational Health and Safety Management System certified against the requirement of OHSAS 18001:2007 international standard.

All necessary information for monitoring of GHGs emission reductions are stored in paper or/and electronic formats and will be saved till the end of the crediting period and for two years after the last operation with ERUs from the project.

The Monitoring Report ver.5 provides sufficient information on the assigning roles, responsibilities and authorities for implementation and maintenance of monitoring procedures including control of data. The verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.

3.6 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 2nd periodic verification for the period from 04 November 2009 to 31 October 2010 of the "CMM utilisation on the Joint Stock Company named Komsomolets Donbassa Coal Mine of DTEK (Donbasskaya Toplivnaya Energeticheskaya Kompanya)" project in Ukraine, which applies the methodology ACM0008 version 3. The verification 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 verification consisted of the following three phases: i) desk review of monitoring reports, 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 verification report and opinion.

The management of OJSC "Coal Mine "Komsomolets-Donbassa" 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 project Monitoring and Verification Plan indicated in the final PDD version 04 and revised monitoring plan ver.2. The development and maintenance of records and reporting procedures are in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report, version 5, for the reporting period from 04/11/2009 to 31/10/2010 as indicated below. Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on

the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 04/11/2009 to 31/10/2010

For the period from 04/11/2009 to 31/12/2009

Baseline emissions	: 21047	t CO_2 equivalents;
Project emissions	: 3425	t CO_2 equivalents;
Emission Reductions	: 17622	t CO_2 equivalents.

For the period from 01/01/2010 to 31/10/2010

Baseline emissions	: 112802	t CO_2 equivalents;
Project emissions	: 17295	t CO_2 equivalents;
Emission Reductions	: 95507	t CO_2 equivalents.

Total for the period from 04/11/2009 to 31/10/2010:

Baseline emissions	: 133849	t CO_2 equivalents;
Project emissions	: 20720	t CO_2 equivalents;
Emission Reductions	: 113129	t CO_2 equivalents.

5 REFERENCES

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

/1/	Project Design Document of the project "CMM utilisation on the Joint Stock Company named Komsomolets Donbassa Coal Mine of DTEK (Donbasskaya Toplivnaya Energeticheskaya Kompanya)", version 04 dated 14/04/2008
/2/	Monitoring Report for the period from 04/11/2009 till 31/10/2010 version 1c dated 23/11/2010
/3/	Monitoring Report for the period from 04/11/2009 till 31/10/2010 version 2 dated 05/01/2011
/4/	Monitoring Report for the period from 04/11/2009 till 31/10/2010 version 3 dated 21/01/2011
/5/	Monitoring Report for the period from 04/11/2009 till 31/10/2010 version 4 dated 26/01/2011
/6/	Monitoring Report for the period from 04/11/2009 till 31/10/2010 version 5 dated 03/02/2011
/7/	Revised Monitoring Plan version 1c of 25/05/2010
/8/	Revised Monitoring Plan version 2 of 03/02/2011
/9/	Calculation of Emission Reductions – excel file "ER-KD-2009-11-04 to 2010-10-31_V1c.xls", Version 1c of 23/11/2010
/10/	Calculation of Emission Reductions – excel file "ER-KD-2009-11-04 to 2010-10-31_V2.xls", Version 2 of 26/01/2011
/11/	Calculation of Emission Reductions – excel file "ER-KD-2009-11-04 to 2010-10-31_V2b.xls", Version 2b of 03/02/2011
/12/	Flare data measurement for flare 3 - excel file "KD-F3_Data_2009-11-04 to 2010-10-31_V1.xls", Version 1 of 23/11/2010
/13/	Flare data measurement for flare 4 - excel file "KD-F4_Data_2009-11-04 to 2010-10-31_V1.xls", Version 1 of 23/11/2010
/14/	Upgraded boiler 1 and boiler 2 data measurement – excel file"KD-B1+B2_Data Gas and Steam_2010-01-28 to 2010-10-31_V1.xls", Version 1of 23/11/2010
/15/	Approved consolidated baseline methodology ACM0008 version 03 "Consolidated baseline methodology for coal bed methane and coal mine methane capture and use for power (electrical or motive) and heat and/or destruction by flaring"
/16/	Verification Report "CMM utilisation on the Joint Stock Company named Komsomolets Donbassa Coal Mine of DTEK (Donbasskaya Toplivnaya Energeticheskaya Kompanya)" No. UKRAINE/0050/2009, revision 01 of 31/05/2010, including the Determination of the revised Monitoring Plan ver.1c of 25/05/2010

/17/ Letter of Approval of Ministry of Environmental Protection of Ukraine No M000011, issued on 03/10/2007

/18/ Approval of voluntary participation in a Joint Implementation Project of the Ministry of Economic Affairs of the Netherlands No 2007JI04, issued on 26/11/2007

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

/1/ Conclusion of examination №14.02.1789.08 on results of inspection of the project “Conversion of 2 boilers KE-10-14C with soil fuel (coal) combustion to combustion of gaseous fuel (degassing gas) on the territory of in issued by Donetsk expert technical center

/2/ Working project "Conversion of 2 boilers КЕ-10-14С of solid fuel (coal) burning to burning of gas fuel (gas degassing) in the territory of industrial area ВПС-3 issued by LLC "Ukrteplobud'',

/3/ Passport on gas burner (ГГВ-МГП), Burner № 750, № 2

/4/ Passport on gas burner (ГГВ-МГП), Burner № 750, № 3

/5/ Passport on gas burner (ГГВ-МГП), Burner № 750, № 4

/6/ Passport on gas burner (ГГВ-МГП), Burner № 750, № 5

/7/ Passport of the boiler serial № 62360, registration № 46464

/8/ Certificate on production quality of the boiler E10-1,4P (KE10-14c), registration № 62360, produced n January 1987

/9/ Registration log on examination results of the boiler № 62360

/10/ Ministry of fuel and energy of Ukraine, Repair form № 3/07-p of 29.08.03 on overhaul repair of boiler aggregate № 62350

/11/ SE ''Donteplomash''. Executive documentation of boiler repair KE-10-14, № 62350, registration № 46463.

/12/ Certificate on production quality of the boiler E10-1,4P (KE10-14c), registration № 62350, produced n January 1987

/13/ Registration log on examination results of the boiler № 62350

/14/ LLC ''Ukrteplobud''. Technical report on results of starting-up and heat technical testing of steam boiler of type KE-10-14 during utilization of degassing gas in boiler house ВПС-3 of coal mine ''Komsomolets Donbassa''

/15/ Technical program on commissioning works, environmental, heat and technological testing of steam boilers 1 and 2 type KE-10-14 during operation using coal mine gas in boiler house of “Komsomolets Donbassa” coal mine, approved on 31/09/2010

/16/ Certificate of completion of works on commissioning and heat and

technological testing of steam boiler 1 KE10-14 utilizing coal mine gas, approved on 15/03/2010

/17/ Certificate of completion of works on commissioning and heat and technological testing of steam boiler 2 KE10-14 utilizing coal mine gas, approved on 15/03/2010

/18/ Calibration certificate № 83151/3 for gas analyzer ОКСИ 5М-5Н, ser. No.71258 of 12/01/2009, valid until 12/01/2010

/19/ Summary table with results of carbon dioxide and nitric oxide emissions at boiler house ВПС -3 at “Komsomolets Donbassa” coal mine with boiler 2 KE-10-14

/20/ Summary tables with environmental indicators of the boiler house operation equipped with boiler 1 and boiler 2 at the “Komsomolets Donbassa” coal mine

/21/ Certificate # 1881 on the right of work execution with high danger for boiler operator Abrosimova N. Issued on 10.10.08

/22/ Certificate # 1880 on the right of work execution with high danger issued for boiler operator Umerenkova L. of 10.10.08

/23/ Certificate # 1874 on the right of work execution with high danger issued for boiler operator Bolychevtseva G. of 10.10.08

/24/ Statement on submission of equipment for setting up for boiler 1 and boiler 2 dated 31.10.2009

/25/ LLC ''Ukrteplobud''. Technical report on results of starting-up and heat technical tests of steam boiler of type KE-10-14 for operation on gas degassing in boiler house ВПС-3 of coal mine ''Komsomolets Donbassa''

/26/ LLC ''Ukrteplobud''. Working project. Transition of 2 boilers KE-10-14C of coal burning on gas fuel burning (gas degassing) at the teritory of industrail place ВПС-3 JSC ''Coal Mine ''Komsomolets donbassa'', Donetsk, 2007

/27/ Operation condition cards for steam boilers KE-10-14 No. 1, registration No.46463, and No.2, registration No.46464

/28/ Automated system for calculations of pollutants emission dispersion. General report on results of dispersion calculation, ЭОЛ 2000[h] (Windows version).

/29/ Contraction agreement № 15/5-08/296 between JSC “Komsomolets Donbassa coal mine” and LLC “Ukrteplostroy” of 15.05.2008 on upgrading of two boilers with CMM burner systems in the boiler house of “Komsomolets Donbass” coal mine

/30/ Contraction agreement № 191 between JSC “Komsomolets Donbassa coal mine” and LLC “Ukrteplostroy” of 29.05.2009 on commissioning and automation of the two boiler upgraded with CMM burner systems at “Komsomolets Donbassa” coal mine

/31/ Passport on restriction device with angular pressure tap, Calculation # 104. Flare unit 3, marking K2989B, last calibration 19/11/2010

/32/ Passport of diaphragm with angular pressure drop tap, Registration number # K 2989A. Flare 4. Last calibration date 27/10/10

/33/ Passport on diaphragm with angular pressure drop tap, Registration number # 77778, Boiler 2. Manufacturing date 19/11/2010

/34/ Passport on diaphragm with angular pressure drop tap, Registration number # 77777, Boiler 1. Manufacturing date 19/11/2010

/35/ Passport on diaphragm with angular pressure drop tap, Registration number # 919192. Boiler 2. Manufacturing date 19/11/2010

/36/ Passport on diaphragm with angular pressure drop tap, Registration number # 3. Boiler 1. Last calibration date – 20/10/2010

/37/ Statement of replacements of the measuring diagram 332, measuring diagram 333, measuring diagram 331 installed in the boiler house of “Komsomolets Donbass” coal mine by measuring diagrams 77777, 77778 and 919192 due to equipment dysfunction dated 20/11/2010

/38/ Calibration certificate # 2175 for pressure difference transmitter N1-W401-9002992. Valid till 02.11.2011.

/39/ Calibration certificate # 2174 for pressure difference transmitter N1-W401-9002993. Valid till 02.11.2011.

/40/ Calibration certificate #2076 for pressure transmitter AZB/W7153229. Valid till 18.10.2011.

/41/ Calibration certificate #2173 for pressure transmitter AZB/W1196798. Valid till 02.11.2011.

/42/ Passport of resistance thermometer ТСПУ 1-3Н, ser. No.08259, last calibration date 27/10/2010

/43/ Passport of resistance thermometer ТСПУ 1-3Н, ser. No.08269, last calibration date 27/10/2010

/44/ Passport of gas analyzer Ultramat 23, ser. No.339, last calibration date 27/10/2010

/45/ Calibration certificate #2260 for gas analyzed Gamma-100, ser. No.89. Valid till 16.11.2011.

/46/ Passport of resistance thermometer ТСПУ 1-3Н, ser. No.09446, last calibration date 15/10/2010

/47/ Calibration certificate #2261 for gas analyzed Gamma-100, ser. No.90. Valid till 16.11.2011.

/48/ Passport of resistance thermometer ТСПУ 1-3Н, ser. No.09447, last calibration date 18/11/2010

/49/ Passport of resistance thermometer ТСПУ 1-3Н, ser. No.09449, last calibration date 15/10/2010

/50/ Passport of gas analyzer Ultramat 23, ser. No.340, last calibration date 16/11/2010

/51/ Passport of resistance thermometer ТСПУ 1-3Н, ser. No.09450, last calibration date 16/11/2010

/52/ Calibration certificate #2130 for pressure transmitter PC-28, ser. No. 03081169. Valid till 26.10.2011

/53/ Calibration certificate #2262 for gas analyzer Gamma-100, ser. No.1. Valid till 16.11.2011

/54/ Calibration certificate #2033 for pressure difference transmitter PR-28, ser. No. 06091155. Valid till 14.10.2011

/55/ Calibration certificate #2127 for pressure transmitter PC-28, ser. No. 03081167. Valid till 26.10.2011

/56/ Passport of resistance thermometer ТСПУ 1-3Н, ser. No.08247, last calibration date 15/10/2010

/57/ Calibration certificate #2034 for pressure difference transmitter PR-28, ser. No. 06091154. Valid till 14.10.2011

/58/ Calibration certificate #2172 for pressure transmitter Siemens Sitrans P, ser. No. AZB/X1110846. Valid till 02.11.2011

/59/ Passport of resistance thermometer ТСПУ 1-3Н, ser. No.094400, last calibration date 15/10/2010

/60/ Calibration certificate #2036 for pressure difference transmitter PR-28, ser. No. 02100076. Valid till 14.10.2011

/61/ Calibration certificate #2259 for pressure transmitter Siemens Sitrans P, ser. No. AZB/W5132860. Valid till 16.11.2011

/62/ Calibration certificate #2035 for pressure difference transmitter PR-28, ser. No.11092049. Valid till 14.10.2011

/63/ Statement about installation of the electric power meters ЦЭ6803В in the flare 3 (ser. No. of the meter 0865680707877441) and flare 4 (ser. No. of the meter 0865680707894059) on 30/04/2010

/64/ Records on monitoring results on the amount and content of the gas captured by vacuum and pumping stations of the “Komsomolets Donbassa coal mine” in 2009

/65/ Records on monitoring results on the amount and content of the gas captured by vacuum and pumping stations of the “Komsomolets Donbassa coal mine” in 2010

/66/ Information note about the cost of performed contracted works for August 2008

/67/ Statements No.1 and No.2 of acceptance of the performed contracted works for August 2008

/68/ Statement on acceptance of executed contact works for august 2008.

/69/ Information note about the cost of performed contracted works for February 2009

/70/ Statement # 3 of 28.02.2009 on acceptance of executed contracted works for February 2009

/71/ Note about cost of executed contracted works for November 2009

/72/ Statement on acceptance of executed contact works for November 2009.

/73/ Note about cost of executed contract works for January 2010

/74/ Statement on acceptance of executed contacted works for January 2010

/75/ Note about cost of executed contracted works for February 2010

/76/ Statement on acceptance of executed contacted works for February 2010

/77/ Note about cost of executed contracted works for December 2007

/78/ Statement # 1 on the project (research) works for working projects on reconstruction of two boilers with CMM burner system.

/79/ Note about cost of executed contract works for November 2009

/80/ Statement on acceptance of executed contacted works for November 2009.

/81/ Note about cost of executed contract works for December 2009

/82/ Statement on acceptance of executed contact works for December 2009.

/83/ Note about cost of executed contracted works for February 2010

/84/ Statement on acceptance of executed contact works for February 2010

/85/ Note about cost of executed contracted works for April 2010

/86/ Statement on acceptance of executed contacted works for April 2010.

/87/ Investment and realization schedule for the project “Reconstruction of electrical part of vacuum pumping station # 1” for 2011

/88/ Order # 963k on assignment of Vodopshyn Roman on the position of chief engineer of JSC “Komsomolets Donbassa coal mine” as of 11/05/2010

/89/ List of the documentation on equipment mounted and installed in the boiler house of “Komsomolets Donbassa” coal mine

/90/ Registration log of the performed maintenance works for the flare unit No. 3 and flare unit No.4

/91/ Log-book for registration of operation hours and electric power consumption for flare unit 3 and flare unit 4. Data for 2009-2010

/92/ Operational log-book of the flare No.3

/93/ Operational log-book of the flare No.4

/94/ List of persons authorized for access to the flares

/95/ Registration log for failures and interruption at the flares. Data for 2009-2010

/96/ Registration log for substitution of the spare parts at the flares. Data for 2009-2010

/97/ Registration log for emergency situations at the flare units 3 and 4.

/98/ Registration log for particular events at the flare units 3 and 4.

/99/ Registration log for calibration of the measuring equipment at the flare units 3 and 4. Data for 2009-2010

/100/ Log for instruction of safety engineering for employees operating at the flares

/101/ Training registration log for flare operating personnel

/102/ Protocol on commission meeting on knowledge checking on operation of flares dated 14/08/2008, Kirovske city

/103/ Protocol on commission meeting on knowledge checking on operation of flares dated 14/08/2008, Kirovske city

/104/ Operation journal for boiler 1 and boiler 2 of the boiler house. Data for 2009-2010

/105/ Journal for registration of emergency situations of the boilers 1 and 2. Data for 2010

/106/ Journal for registration of performed maintenance works at the boilers 1 and 2. Data for 2010

/107/ User manual for the System of automated accounting of emission reduction units, “Eco-Aliance” Ltd., 2010

/108/ Data log on the operation data of the boiler house. Data for 2010

/109/ Training registration log for boiler house personnel. 2010 data

/110/ Contract # 46 on purchase, mounting, balancing and commissioning works of accounting system OCB boiler-shop, ППС №3, OJSC ''Mine ''Komsomolets Donbassa'', Kirovske, 22/01/2010

/111/ Statement of working comission on comissioning of operation of completed construction of building, facilities, accomodations

/112/ Report on atmosphere air protection for 1 quarter 2010

/113/ Explanatory note to report 2ТП-air for 1 quarter 2010, LLC ''Mine ''Komsomolets Donbassa''

/114/ Report on atmosphere air protection for 2 quarter 2010

/115/ Explanatory note to report 2ТП-air for 2 quarter 2010, LLC ''Mine ''Komsomolets Donbassa''

/116/ Report on atmosphere air protection for 3 quarter 2010

/117/ Explanatory note to report 2ТП-air for 3 quarter 2010, LLC ''Mine ''Komsomolets Donbassa''

/118/ Report on atmosphere air protection for 2009

/119/ Explanatory note to report 2ТП-air for 2009, LLC ''Coal Mine ''Komsomolets Donbassa''

/120/ Contract # 31 on service maintenance from 01/01/2010, Kirovske

/121/ Protocol of approval of service maintenance price of comressor gas utilized installations УКГ 5/8 according to contract # 31 from 01/01/2010

/122/ Specification to contract # 15/1 from 01/01/2010 between JSC ''Mine''Komsomolets Donbasa'' and LLC ''Eko-alyans''

/123/ Specification # 2 from 01/10/2010 to contract # 15/1 from 01/01/2010 between JSC ''Mine''Komsomolets Donbasa'' and LLC ''Eko-alyans''

/124/ Contract # 46 on purchase, mounting, comissioning works on accounting systems ERU (emission reduction units) of boiler-shop ППС № 3 JSC ''Mine''Komsomolets Donbassa''. From 22/01/2010, Kirovske.

/125/ Statement of working comission on comissioning of complited construction buildings, facilities, structures from 29/04/2010, Kirovske.

/126/ Reconstruction of electrical part of vacuum pumping station # 1

/127/ Certificate on verification of working unit of measuring instruments, # 83151/3. Valid till 12.01.2010, Gasanalyzer ОКСИ 5М-5Н, № 71257

/128/ Compile register of results of ecological and heat technical tests of steam generating unit of type КЕ-10-14 st. # 1 at mine gas in boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa''

/129/ Operating card of steam boiler of type КЕ-10-14 st. # 1 # 46463 at mine gas n boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa''

/130/ Data on heat consumption for own needs in 2010

/131/ Note on ecxpected heat loading of boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa'' with steam boiler of type КЕ-10-14 st. # 1 at mine gas in 2010-2011

/132/ Compile table of ecological and heat technical tests of steam boiler of type КЕ-10-14, st. # 1 at operation on mine gas in boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa''

/133/ Compile table of ecological and heat technical tests of steam boiler of type КЕ-10-14, st. # 1 at operation on mine gas in boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa''

/134/ Compile table of ecological parameters of boiler house operation of ВПС-3 of ''Coal Mine ''Komsomolets Donbassa'' with one steam boiler of type КЕ-10-14 st. # 1 at mine gas.

/135/ Final table of expected gross emissions of boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa'' with one steam boiler of type КЕ-10-14 st.# 1 at mine gas.

/136/ Statement of work complition on starting-up and heat technical tests of steam boiler of type KE-10-14 st.# 1 at mine gas.

/137/ Statement of setting an emergency levels on the drum surface of steam generation unit KE-10-14, st # 1 # 46463

/138/ Protocol of examination test of warning alarm and automatics of steam boiler safety KE-10-14 st. # 1 of 15.02.2010

/139/ Technical program of SAW and heat technical tests execution of steam boilers of type KE-10-14 st. # 2 at the mine gas operation in boiler house of ''Coal Mine ''Komsomolets Donbassa''

/140/ Schedule of SAW and heat technical tests execution of steam boilers of type KE-10-14 st. ## 1,2 at the mine gas operation in boiler house of ''Coal Mine ''Komsomolets Donbassa''

/141/ Statement of equipment submission for starting-up of 31.10.2009

/142/ Compile register of results of ecological and heat technical tests of steam generating unit of type KE-10-14 st. # 2 at mine gas in boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa''

/143/ Operating card of steam boiler of type KE-10-14 st. # 2 # 46464 at mine gas n boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa''

/144/ Note on ecxpected heat loading of boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa'' with steam boiler of type KE-10-14 st. # 2 at mine gas in 2010-2011

/145/ Compile table of ecological and heat technical tests of steam boiler of type KE-10-14, st. # 2 at operation on mine gas in boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa''

/146/ Compile table of ecological parameters of boiler house operation of ВПС-3 of ''Coal Mine ''Komsomolets Donbassa'' with one steam boiler of type KE-10-14 st. # 2 at mine gas.

/147/ Compile table of ecological and heat technical tests of steam boiler of type KE-10-14, st. # 2 at operation on mine gas in boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa''

/148/ Final table of expected gross emissions of boiler house ВПС-3 of ''Coal Mine ''Komsomolets Donbassa'' with one steam boiler of type KE-10-14 st.# 2 at mine gas.

/149/ Statement of work complition on starting-up and heat technical tests of steam boiler of type KE-10-14 st.# 2 at mine gas.

/150/ Statement of setting an emergency levels on the drum surface of steam generation unit KE-10-14, st # 2 # 46464

/151/ Protocol of examination test of warning alarm and automatics of steam boiler safety KE-10-14 st. # 2 of 15.02.2010

/152/ Statement on mounting of meters for electrical energy consumption of type ЦЭ6803В

/153/ Operational manual, ИНЕС. 411152.089.04 РЭ. Electrical energy meter ЦЭ6803В

/154/ Design procedure of gas flow, vapour and heat energy generation. “Eco-Aliance” Ltd.

/155/ Protocol of meeting of qualification commission 194/H of 10.10.2005

/156/ Log-book of personal training on monitoring using Automated system for emission reduction units accounting at ''Coal Mine ''Komsomolets Donbassa''

/157/ Passport on resistance thermometer type ТСПУ 1-3 Н, № 08262

/158/ Certificate on verification of working unit of measuring instruments, # 4531. Valid till 15.10.2011, Chromatograph gas chrome

/159/ Service agreement between “Eco-Aliance” Ltd. and BSB Service GmbH on remote server provision and data security

Persons interviewed:

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

/1/ Vodopshyn R. – Chief engineer of JSC “Komsomolets Donbassa Coal Mine”

/2/ Galanova N. – Chief technologist of JSC “Komsomolets Donbassa Coal Mine”

/3/ Rogovets V. - Head of mining operations on capital construction of JSC “Komsomolets Donbassa Coal Mine”

/4/ Petrov A. – Deputy chief mechanical engineer of JSC “Komsomolets Donbassa Coal Mine”

/5/ Kaminskiy A. – Chief power engineer of OJSC “Komsomolets Donbassa Coal Mine”

/6/ Chegrinets V. – Chief ecologist of the OJSC “Komsomolets Donbassa Coal Mine”

/7/ Chernomorskiy L. – Head of division for preventive works and safety measures of JSC “Komsomolets Donbassa Coal Mine”

/8/ Denisenko S. – Senior mechanical operator at Boiler House No.3 of JSC “Komsomolets Donbassa Coal Mine”

/9/ Kasyanov V. – Director of “Eco-Aliance” Ltd.

/10/ Shelegeda P. – Deputy Director of “Eco-Aliance” Ltd.

/11/ Avtonomov V. – JI project manager of “Eco-Aliance” Ltd.

/12/ Didenko A. - Head of Service Department of “Eco-Aliance” Ltd.

APPENDIX A: VERIFICATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

VERIFICATION PROTOCOL

Table 1. Check list for verification, according to the JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	The project has been approved by both Host Party (Ukraine) and sponsor party (the Netherlands). The written project approvals were issued by NFPs of Parties involved (see chapter 7 References in the verification report). Both Letters of Approval were available at the beginning of 1st verification of the project.	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	OK	OK
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	During the 2nd monitoring period (04 Nov. 2009 – 31 Oct. 2010) the delay in installation of some project units as per the PDD occurred due to the global financial crisis. The coal production decreased and the financial situation of the coal mine get worse. As only four of	**CAR 01** **CL 01**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		nine planned units have been installed, the planned amount of emission reductions could not be achieved. Since the coal production and financial situation of the coal mine improved in 2009 and 2010 the continuation of the project installation is planned for coming years (mostly 2011). **CAR 01.** In the section A.7 of the MR it is stated that only two of nine planned units have been installed, however as for the present monitoring period in addition to two flares previously installed at Central Shaft, two coal boilers were upgraded with CMM burners. Please correct the information in section A.7. **CL 01.** Please provide more detailed information regarding upgrading of coal boilers executed under the project (e.g., what kind of works were performed, equipment installed/replaced/dismantled etc.). Please also indicate efficiency of the upgraded boilers determined after the upgrade process.		
93	What is the status of operation of the project during the monitoring period?	The project started its operation on 9th August 2008 with flare 3 operation commencement. The delay in the delivery and installation of the flare 3 caused change of the crediting period from 1st January 2008 to 09th August 2008. As for the time being only four of nine planned units have been installed, namely flare 3 and flare 4 at Air	**CAR 02** **CL 02**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Shaft №3 (installed in 2008) and 2 old coal boilers were upgraded with CMM burner system in October 2010. The status of project activity implementation compared to the PDD is presented in the Monitoring Report ver.05. Central Shaft: At the time the main degasification pipe is renewed. The works are expected to be finalized in summer 2011. The installation of the flares 1 and 2 as well as the new boiler is planned for the end of 2011 or beginning of 2012. Air shaft: Two old coal boilers at Air Shaft were upgraded with a CMM burner system and started operation in October 2009. A monitoring system for the boilers was installed on January 28, 2010, so the project monitoring in respect of this units has started since that time. The installation of the cogeneration units is planned for summer 2011. **CAR 02.** Please indicate in the MR the date of operation start of the upgraded boilers (both boiler №62350 and boiler №62360) and provide documentation confirming the indicated date. **CL 02.** Please clarify if the responsible personnel underwent any special training due to the boilers upgrading (upgraded boiler operation, monitoring etc.).		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	The monitoring occurred in accordance with the PDD regarding which the determination has been deemed final and revised monitoring plan ver.2 of 03/02/2011 which was positively determined in course of the current verification (for further information refer to cl.99 (a) – 99 (b) of this protocol).	OK	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	Key factors, e.g. those listed in 23 (b) (i)-(vii) of the DVM check list, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account for calculating the emission reductions, as appropriate.	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	**CAR 03.** During site-visit it was revealed that in course of the current monitoring period the electricity meters for measuring consumed power amount were installed, but it is not clearly stated in the present MR. Please specify in the MR when the electricity meters were installed and clear state for what time period the consumed electricity was calculated with formula and since what time the monitoring was performed using electricity meters. Please also provide for review the passports of electricity meters that were installed. **CL 03.** Please explain how the heat generated by the	**CAR 03** **CL 03**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		project is measured as revised monitoring plan indicates that heat meter is used for this purpose. Please clarify if the heat amount is determined automatically or manually using measured values from the set of meters (flow meter, pressure transmitter, resistance thermometer etc.).		
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	Emission factors, including default emission factors such as carbon emission factor for Ukrainian power grid (SenterNovem data), carbon emission factor for combusted methane, GWP and CO_2 emission factor of fuel used for captive power or heat, which are used for calculating the emission reductions, are selected by carefully balancing accuracy and reasonableness, and are appropriately justified of the choice.	OK	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	The performed calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.	OK	OK
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	period determined?			
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	N/a	N/a	N/a
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	N/a	N/a	N/a
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	N/a	N/a	N/a
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	In the course of 1st monitoring period (09/08/2008 – 03/11/2009) the original monitoring plan described in the registered PDD was modified because of a set of reasons, such as delay is project implementation resulted into change of monitoring period and frequency of some parameters calculation; installation of compressors for additional pressure generation and necessity to calculate additional electricity consumed by the project due to the absence of power meter	**CAR 04**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		during the 1st monitoring period; adjustment of some formulae in order to fit better the measuring/monitoring method applied. The project participants sufficiently described all introduced changes and provided an appropriate justification for the proposed revision in the revised Monitoring Plan ver. 1c of 25/05/2010 which obtained positive determination conclusion in course of the 1st verification under the project. However, in course of the current verification it was revealed that the applied method for determination of amount of additional electricity consumed by compressors and other equipment installed in the flare units was changed compared to the method described in the revised monitoring plan ver.1c of 25/05/2010. This change was caused by the installation of electric power meters on 30/04/2010 enabling the direct measuring of the amount of electricity consumed by the flares. Based on this the correction action request was raised. **CAR 04.** The applied monitoring plan must be revised due to the change of method for additional electricity monitoring with reference to the current monitoring period, as during 6 months of the current monitoring period (from November 2009 to April 2010) electricity consumed was calculated, and within another 6 months (from May 2010 to October 2010) the electricity was measured with power meters.		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	The proposed revision improves the accuracy and applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans and does not affect conservativeness of the approach to the emission reductions calculations and procedures of the data collection and archiving. See also CAR 04.	OK	OK
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	**CL 04.** Please clarify whether all CMM sent to boilers is utilized for heat production and if any amount of gas is discharged into atmosphere depending on heat demand at the coal mine. **CL 05.** Please provide information on how remote server security and relevant data security is ensured. If it is the server provider's responsibility please provide the evidences/confirming documentation (agreements, regulations etc.). **CL 06.** Due to installation of electricity meters during present monitoring period please clarify the recording frequency of consumed electricity values and provide monthly values of additional electricity consumed by the project.	**CL 04** **CL 05** **CL 06**	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	The monitoring equipment used for project monitoring is in order; its calibration status complies with the requirements. However, some requests for corrections are raised: **CAR 05.** As to the monitoring equipment the following inconsistencies were found in the Monitoring Report (MR) in the table 5, providing information on the equipment used (section B.1.2), which need to be corrected: a. The last calibration date for the gas flow meter ser.№ K2989B (flare №3) is not indicated; b. The last calibration date of the pressure transmitter ser.№ AZB/W7153229 (flare №4) stated in the MR is not consistent with the information indicated in the respective calibration certificate №2076. c. It should be indicated what equipment was used in flare №3 for temperature measuring before the installation of resistance thermometer №08259 in 2010 as stated in MR. d. The last calibration date of the resistance thermometer ser.№ 09447 (boiler №1) stated in the MR is not consistent with the date indicated in the respective thermometer passport. **CAR 06.** Please provide the information regarding last calibration date of infrared measuring equipment SHI-12 (ser.№ 100156, 500516, 100038) and gas	**CAR 05** **CAR 06** **CAR 07**	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		chromatograph Gasochrom 3101 LHM-8MD and indicate this dates in the respective section of Monitoring Report. **CAR 07.** Please provide in the MR the calibration frequency or next calibration date of measuring equipment used in project monitoring.		
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidence and records used for the monitoring are maintained in a traceable manner. The data are collected, processed and stored using a Siemens SIMATIC PLC S7 system and Siemens WINCC programming software. All data is stored in the internal memory. One time per hour the data are sent via GPS to an Internet-based Server data base and further to the workstation of Eco-Alliance with frequency 1 time per week, per month and per year and archived 1 time per year on the CD. The data can be read any time from the internet data base by authorised personnel. The utilised methane amount is automatically calculated and stored in the PLC. As all input data are stored, the automatically calculation can by checked in retrospect any time.	OK	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection and management system for the project is in accordance with the PDD and revised monitoring plan. The verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	N/a	N/a	N/a
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/a	N/a	N/a
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	N/a	N/a	N/a
104	Does the monitoring period not overlap with previous monitoring periods?	N/a	N/a	N/a
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	N/a	N/a	N/a
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as:	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− The types of JPAs; − The complexity of the applicable technologies and/or measures used; − The geographical location of each JPA; − The amounts of expected emission reductions of the JPAs being verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	N/a	N/a	N/a
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	N/a	N/a	N/a
109	Is the sampling plan available for submission to the secretariat for the	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	JISC.s ex ante assessment? (Optional)			
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	N/a	N/a	N/a

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
CAR 01. In the section A.7 of the MR it is stated that only two of nine planned units have been installed, however as for the present monitoring period in addition to two flares previously installed at Central Shaft, two coal boilers were upgraded with CMM burners. Please correct the information in section A.7.	92	Changes have been made in MR.	The issue is closed based on appropriate corrections made and provided in the MR ver.2.

CAR 02. Please, indicate in the MR the date of operation start of the upgraded boilers (both boiler №62350 and boiler №62360) and provide documentation confirming the indicated date.	93	*Response 1:* Date of operation start of upgraded boilers - October 2009. 2 technical reports are attached: For boiler №62350: KD-1 - Technical report_Boiler 1_KD.pdf For boiler №62360: KD-2 - Technical report_Boiler 2_KD.pdf *Response 2:* Changes have been made in MR. In October 2009 it was the beginning of boilers' balancing and commissioning. The boilers were operated in starting-up and adjustment mode.	*Conclusion on response 1:* Please, correct the information on in the table 2, section A.6, implementation status of two upgraded boilers ("Installed in winter 2009/2010", in fact started operation in October 2009). Please clarify if October 2009 is starting date of the boilers full operation or start of installation works for boiler upgrading. *Final conclusion:* The corrections and clarification provided were found sufficient. The issue is closed.

CAR 03. During site-visit it was revealed that in course of the current monitoring period the electricity meters for measuring consumed power amount were installed, but it is not clearly stated in the present MR. Please specify in the MR when the electricity meters were installed and clear state for what time period the consumed electricity was calculated with formula and since what time the monitoring was performed using electricity meters. Please also provide for review the passports of electricity meters that were installed.	95 (b)	The electricity meters were installed on 30.04.2010: 1) For unit UKG-5/8 № 03-08 – s/n 0865680707877441; 2) For unit UKG-5/8 № 04-08 – s/n 0865680707894059. The Act of electric meters commission is attached (KD-3 - Commission act of electric meters.pdf) Passports for electric meters are attached (KD-4 - Passport for electric meter - UKG № 03-08.pdf; KD-5 - Passport for electric meter - UKG № 04-08.pdf). The information has been also included in the MR under sections A.8 and A4.2.	The amendments made and provided information were found appropriate. The issue is closed.

CAR 04. The monitoring plan must be revised due to the change of method for additional electricity monitoring with reference to the current monitoring period, as during 6 months of the current monitoring period (from November 2009 to April 2010) electricity consumed was calculated, and within another 6 months (from May 2010 to October 2010) the electricity was measured with power meters.	99 (a)	The revised monitoring plan ver.2 of 03/02/2011 was provided.	The revised monitoring plan ver.2 of 03/02/2011 was reviewed. The changes introduced improve the accuracy and applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans. The revised MR ver.2 was found appropriate. The issue is closed.

CAR 05. As to the monitoring equipment the following inconsistencies were found in the Monitoring Report (MR) in the table 5 providing information on the equipment used (section B.1.2) which need to be corrected: a. The last calibration date for the gas flow meter ser.№ K2989B (flare №3) is not indicated; b. The last calibration date of the pressure transmitter ser.№ AZB/W7153229 (flare №4) stated in the MR is not consistent with the information indicated in the respective calibration certificate №2076. c. It should be indicated what equipment was used in flare №3 for temperature measuring before the installation of resistance thermometer №08259 in 2010 as stated in MR. d. The last calibration date of	101 (b)	*Response 1:* Changes have been made in MR Resistance thermometer №08259 was installed instead of resistance thermometer №08262 (KD-6 - Act of equipment replacement.pdf) *Response 2:* Changes have been made in MR. Evidence document is attached (KD-12 - Passport for TSPU #08262.jpg)	*Conclusion on response 1:* Please correct last calibration date of the resistance thermometer ser.№ 09447 (boiler №1) in the MR to 18/11/2010 as stated in the respective thermometer passport. It should be indicated in the MR that resistance thermometer №08262 was used till March 2010 and on 05 March 2010 it was replaced by the resistance thermometer №08259 (as stated in the provided act of equipment replacement). Due to the fact that the resistance thermometer №08262 was used during 4 months of the given monitoring period please provide evidences of the thermometer's calibration.

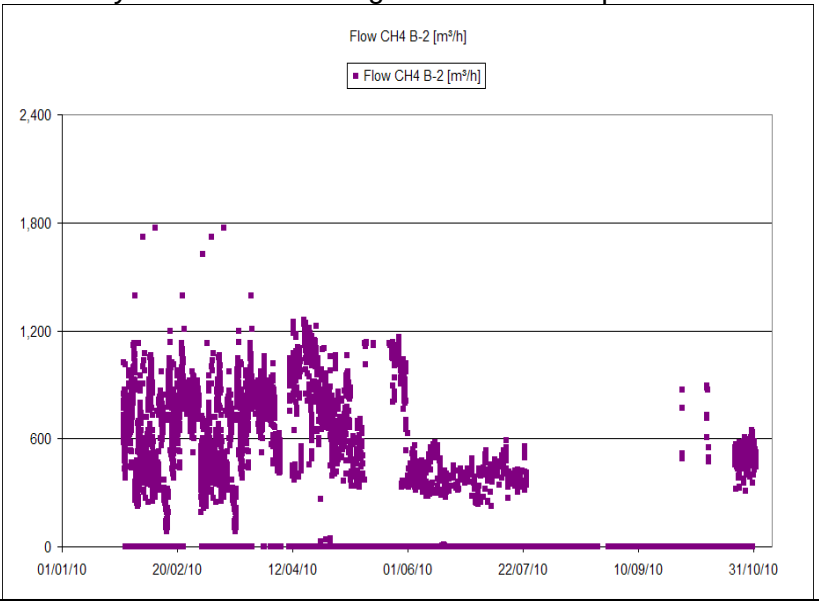
e. the resistance thermometer ser.№ 09447 (boiler №1) stated in the MR is not consistent with the date indicated in the respective thermometer passport.			*Final conclusion:* The provided amendments and additional information were found adequate. The issue is closed.
CAR 06. Please provide the information regarding last calibration date of infrared measuring equipment SHI-12 (ser.№ 100156, 500516, 100038) and gas chromatograph Gasochrom 3101 LHM-8MD and indicate this dates in the respective section of Monitoring Report.	101 (b)	Changes have been made in MR	The issue is closed based on appropriate amendments made to the 1st version of MR.

CAR 07. Please provide in the MR the calibration frequency or next calibration date of measuring equipment used in project monitoring.	101 (b)	*Response 1:* Changes have been made in MR *Response 2:* Changes have been made and provided in MR ver.3.	*Conclusion on response 1:* Please indicate calibration frequency for the resistance thermometer used for temperature measuring in flares (position 5 in the table 5, pg 8). *Final conclusion:* The issue is closed based on sufficiently provided information and corrections introduced.

<table>
<tr>
<td>CL 01. Please provide more detailed information regarding upgrading of coal boilers executed under the project (e.g., what kind of works were performed, equipment installed/replaced/ dismantled etc.). Please also indicate efficiency of the upgraded boilers determined after the upgrade process.</td>
<td>92</td>
<td>The works of coal boilers upgrading were performed due to the “Project of conversion of 2 boilers KE 10/14S firing solid fuel for using gas from degassing system at the industrial site VPS-3 of JSC "Komsomolets Donbassa”:
1) Repair of the drums, separator equipment, pipes, brickwork envelope;
2) Mounting of gas equipment on the boilers;
3) Mounting of isolation valves at the beginning and at the end of the pipelines;
4) Mounting of automated units of security and gas-firing process management, etc.

After the upgrade process the efficiency of both boilers is equal and for 3 load conditions it’s following:
<table>
<tr><td>Load, %</td><td>40</td><td>65</td><td>75</td></tr>
<tr><td>Efficiency, % (gross)</td><td>84</td><td>86</td><td>87</td></tr>
</table>
</td>
<td>The clarification is accepted. The issue is closed.</td>
</tr>
</table>

CL 02. Please clarify if the responsible personnel underwent any special training due to the boilers upgrading (upgraded boiler operation, monitoring etc.).	93	*Response 1:* The personnel of the boiler house have received training in "Donetsk centre of personnel preparing" (Horlovka) on speciality "Personnel serving individual boilers working on gas fuel". The training protocol is attached: KD-9 - Training protocol.tif The personnel of the boiler house were trained in the monitoring procedure by the representative of Eco-Alliance. The training journal is attached: KD-10 - Moinitoring training.pdf *Response 2:* Changes have been made in MR.	*Conclusion on response 1:* Please include this information (concerning training on new equipment installation) into MR under respective section (C.1.2) as this relates directly to the current monitoring period. *Final conclusion:* The provided information was found sufficient and appropriate. The issue is closed.
CL 03. Please explain how the heat generated by the project is measured as revised monitoring plan indicates that heat meter is used for this purpose. Please clarify if the heat amount is determined automatically or manually using measured values from the set of meters (flow meter, pressure transmitter, resistance thermometer etc.).	95 (b)	The heat generated by the project is measured by the heat meter automatically using the methodology "DESIGN PROCEDURE OF GAS FLOW, VAPOR AND HEAT ENERGY GENERATION" (KD-7 - Design procedure of gas flow, vapor and heat energy generation.pdf)	The issue is resolved based on sufficient information submitted.

CL 04. Please clarify whether all CMM sent to boilers is utilized for heat production and if any amount of gas is discharged into atmosphere depending on heat demand at the coal mine.	101 (a)	All CMM that have been sent to boilers have been burned. This can be proven by the generated heat amount. The fluctuating heat demand results in a fluctuating CMM utilisation see figure below. Generally the utilisation is higher in the winter period.  	The clarification is accepted. The request was satisfied.

CL 05. Please provide information on how remote server security and relevant data security is ensured. If it is the server provider's responsibility please provide the evidences/confirming documentation (agreements, regulations etc.).	101 (a)	*Response 1:* Agreement is attached (KD-8 – Server4you agreement.pdf) *Response 2:* This document contains following information concerning security: §3f - the provider can install maintenance programs, but is not responsible for any security holes; §5 - the provider guarantees physical connectivity of the server of 99% yearly average; §6 is concerning the data privacy protection of client's personal data (name, address, password, usage patterns, etc....) Also provider does not make any backups, and provides standard internet security tools. *Response 3:* Changes have been made in MR. Customer (i.e. Eco-Alliance) is responsible for data backup and archiving. Data backup is performed automatically by Eco-Alliance. With frequency 1 time per week, per month and per year data is sent to the workstation of Eco-Alliance. Also 1 time per year data is archived on CD which is stored in the office of Eco-Alliance.	*Conclusion on response 1:* Please submit the English translation of the provided document (or translated abstract from the document which contains the required information). *Conclusion on response 2:* The information in the response 2 that provider does not make any backups contradicts information stated in the section B.3 of the MR (quotation: "The server provider ensures regular back ups and archiving"). Please clarify/correct who is responsible for data back-ups and archiving. *Final conclusion:* The corrections are found appropriate. The issue is closed based on sufficient information provided.

<table>
<tr>
<td>CL 06. Due to installation of electricity meters during present monitoring period please clarify the recording frequency of consumed electricity values and provide monthly values of additional electricity consumed by the project.</td>
<td>101 (a)</td>
<td>Response 1:
Data of consumed electricity is recorded by the personnel of vacuum-pump station 1 time per day.
KD-11 - Journal_Registration of working hours & electricity_Flares.pdf

Response 2:
The monthly values of additional electricity consumed by the project are following:

<table>
<tr><th></th><th>UKG №03-08</th><th>UKG №04-08</th></tr>
<tr><td>May</td><td>5 982 kWt</td><td>5 688 kWt</td></tr>
<tr><td>June</td><td>5 760 kWt</td><td>6 300 kWt</td></tr>
<tr><td>July</td><td>5 190 kWt</td><td>4 200 kWt</td></tr>
<tr><td>August</td><td>6 210 kWt</td><td>8 040 kWt</td></tr>
<tr><td>September</td><td>5 970 kWt</td><td>7 080 kWt</td></tr>
<tr><td>October</td><td>5 790 kWt</td><td>5 940 kWt</td></tr>
</table>

Response 3:
Changes have been made in Excel spreadsheet.
Before verification there were some problems with electronic availability of electricity amount values, so it was decided to take maximum values.
The final Excel spreadsheet includes electricity values based on maximum possible operation hours before 30.04.2010 and electricity values from the electric power meters after 30.04.2010.</td>
<td>Conclusion on response 1:
Taking into account the fact that daily data of consumed electricity are available please revise Excel calculation spreadsheets and provide monthly values of additional electricity consumed by the project.

Conclusion on response 2:
The information regarding electricity measurement remains unclear; there is a contradiction between MR and Excel calculation spreadsheets as in the Excel file it is stated that no monthly data on electricity consumption are available, and MR indicates that after power meter installation on 30/04/2010 the electricity amount has been measured with electric power meters which means that monthly values</td>
</tr>
</table>

		Response 4: From the 01.11.2009 until 30.04.2010, because of software bugs, there were periodical problems with correct displaying of the operational hours of flares and compressors on the system monitors so it was decided to take maximum values for the whole period when data is missed. The final Excel spreadsheet includes electricity values based on maximum possible operation hours before 30.04.2010 and electricity values from the electric power meters after 30.04.2010.	have been recorded since that time. If during given monitoring period it was decided to calculate additional electricity consumed based on maximum possible operation hours of each flare but not electricity measurement results from power meters, which is a conservative approach, this should be described in the MR as well. Please make information and values consistent and correct the MR accordingly. Please also clarify why monthly values of operation hours were not available (as stated in the Excel file). *Conclusion on response 3*: The revised MP ver.1c of 25/05/2010 indicates that operation hours of flares and compressors will be monitored by internal digital counters of the flare units

			and manually recorded in the journal. The usage of maximum values contradicts the revised MP ver.1c; therefore if actual monitored values of flare operation hours are not available, further modifications of the MP must be undertaken accordingly. Please provide actual values of flare operation hours during monitoring period or introduce respective revisions to the MP. *Final conclusion*: The final Excel spreadsheets with ERU calculation were reviewed and found adequate. The provided information is appropriate. The issue is closed.