



**BUREAU
VERITAS**

VERIFICATION REPORT «CARBON MARKETING & TRADING» LTD

VERIFICATION OF THE «REHABILITATION OF THE DISTRICT HEATING SYSTEM OF PUBLIC STOCK COMPANY «WESTA- DNEPR»

INITIAL AND FIRST PERIODIC FOR 01/01/2008-30/06/2012

REPORT No. UKRAINE-VER/0515/2012

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BUREAU VERITAS CERTIFICATION

VERIFICATION REPORT: «REHABILITATION OF THE DISTRICT HEATING SYSTEM OF PUBLIC STOCK COMPANY «WESTA-DNEPR»



Date of first issue: 13/07/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: «CARBON MARKETING & TRADING» LTD	Client ref.: Tahir Musayev

Summary:
Bureau Veritas Certification has made the initial and 1st periodic verification of the «Rehabilitation of the District Heating System of Public Stock Company «WESTA-DNEPR», project of «Carbon Capital Services Limited» LLP located in Dnipropetrovs'k City, Ukraine, and applying JI specific approach, 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 monitoring report against 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 planned and described in approved 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 generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 250710 tonnes of CO2 equivalent for the monitoring period from 01/01/2008 to 30/06/2012 (58982 tonnes of CO2 equivalent for 01/01/2008-31/12/2008, 53849 tonnes of CO2 equivalent for 01/01/2009-31/12/2009, 57785 tonnes of CO2 equivalent for 01/01/2010-31/12/2010, 49848 tonnes of CO2 equivalent for 01/01/2011-31/12/2011, 30246 tonnes of CO2 equivalent for 01/01/2012-30/06/2012).

Report No.: UKRAINE-ver/0515/2012	Subject Group: JI
Project title: «REHABILITATION OF THE DISTRICT HEATING SYSTEM OF PUBLIC STOCK COMPANY «WESTA-DNEPR»	
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Work approved by: Ivan Sokolov - Operational Manager	
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1 INTRODUCTION

«CARBON MARKETING & TRADING» LTD has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project «Rehabilitation of the District Heating System of Public Stock Company «WESTA-DNEPR» (hereafter called “the project”) at Dnipropetrovs’k city, 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.

1.1 Objective

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

The verification scope is defined as an independent and objective review of the project design document, the project’s baseline study, monitoring plan and monitoring report, 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, corrective and/or forward 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:

Vyacheslav Yeriomin
Bureau Veritas Certification Team Leader, Climate Change Verifier

Sergii Verteletskyi
Bureau Veritas Certification Climate Change Verifier

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer



Volodymyr Kulish
Bureau Veritas Certification, Technical Specialist

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 «Carbon Capital Services Limited» LLP and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), 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 2 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 19/06/2012 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of PSC «WESTA-DNEPR» and «Carbon Capital Services Limited» LLP were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
PSC «WESTA-DNEPR»	<ul style="list-style-type: none"> - 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 - Training of personnel - Quality management procedures and technology - Internal audits and check-ups
CONSULTANT «Carbon Capital Services Limited» LLP	<ul style="list-style-type: none"> - Monitoring plan - Monitoring report - Deviations from PDD - ERUs calculation model

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 Verification Team 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.

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



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, Corrective and Forward 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 10 Corrective Action Requests, 2 Clarification Requests, and 0 Forward Action Requests.

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

3.1 Remaining issues and FARs from previous verifications

Any FARs were issued during the determination process provided by “Bureau Veritas Certification Holding SAS”.

3.2 Project approval by Parties involved (90-91)

Project was approved by the host Party – Ukraine which is confirmed by Letter of Approval #1970/23/7 dated 25/07/2012 issued by State Environment Investment Agency of Ukraine.

Written approval #2012JI35 from the Netherlands, second party involved has been issued 26/07/2012 from the Ministry of Economic affairs, Agriculture and Innovation

The abovementioned written approval is unconditional.

Identified problem areas for project approvals, project participant’s responses, “Bureau Veritas Certification Holding SAS” conclusions are listed in the Annex A Verification Protocol (see CAR01)

3.3 Project implementation (92-93)

The main goal of proposed project is reduction of fossil fuels (natural gas, heavy fuel oil) and electricity consumption, by building and put into operation new gas-burning high-efficient boiler-house. As a result, emissions of CO₂ into the atmosphere are lowered.

Project «Rehabilitation of the District Heating System of Public Stock Company «WESTA-DNEPR» is implemented by PJSC “Vesta-Dnipro” at the territory of JSC “DMZ”. PJSC “Vesta-Dnipro” is co-owner of part of the JSC “DMZ” territory, so project encompasses territory of PJSC “Vesta-Dnipro” and JSC “DMZ”.



Territory of JSC “DMZ” was heated by old fuel oil burning boiler house before the project implementation, on which 3 boilers KVGM-58 and two boilers DKVR-13 were installed. Steam boilers DKVR-13 were used for heating of fuel oil tanks and transporting pipelines, length of which was about 1,5 kilometers. One of boilers KVGM-58 usually stayed in “cold reserve”, second boiler is in “hot reserve” and third heated water in JSC “DMZ” heating system. Two water-heating gas boilers Buderus Logano 825L were installed in project scenario. Boilers is equipped new high-efficient auxiliary equipment (automatic control system, network and feed-water pumps with frequency-regulated drives). The location of heat supply source was changed on JSC “DMZ” territory, so all heat-supply networks were rebuilt using pre-insulated pipes.

Start date of the project is 01/11/2007, the date when all equipment was installed and heating system was put into operation. Project developer indicates length of monitoring period from 01/01/2008 till 30.06.2012, taking into account that crediting period for ERUs generation started only 01/01/2008.

Data on project implementation level was provided by project developer «Carbon Capital Services Limited» LLC in section A.1 of the Monitoring Report.

Specialty of this project consists in next follow – project equipment work during only heating period. Length of heating period states by orders issued by PJSC “Vesta-Dnipro” management. Data on length of heating period provided in section B.1 of the Monitoring Report.

During the monitoring period abnormal situations influencing on boiler house work have not take place.

Methodology developed by JSC “Institute of Engineering Ecology” for similar JI projects implemented in regional heat supply enterprises was used for emission reduction calculation. Specialty of proposed project is small numbers of proposed and implemented measures comparing with similar JI project implemented in Ukraine.

Identified problem areas for project implementation status, project participant’s responses, “Bureau Veritas Certification Holding SAS” conclusions are listed in the Annex A Verification Protocol (see CAR02-CAR06, CL01, CL02)

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

The monitoring occurred 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.

For calculating the emission reductions, key factors, such as fuel and electricity prices, average temperature inside of heated areas, reliability of project equipment, 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 work forecasts and boiler house logbooks, bookkeeper documentation on energy materials consumption, documents on PJSC “Vesta-Dnipro” buildings ownership 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. Emission factors used for project emission reduction calculations, is in line with “National Inventory Report on GHG emissions in Ukraine for 1999-2010 years”.

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

Identified problem areas for compliance for the project monitoring plan to the project methodology, project participant’s responses, “Bureau Veritas Certification Holding SAS” conclusions are listed in the Annex A Verification Protocol (see CAR07)

3.5 Revision of monitoring plan (99-100)

“Not applicable”

3.6 Data management (101)

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

The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures. These procedures are mentioned in the section C.1 of the Monitoring report report.

The function of the monitoring equipment, including its calibration status, is in order. Gas meter “Kurs-01” #01886 and power meters EMS 132.01.1 #504110 s #464753. Calibration of ultrasonic meters is provided by enterprise-producer PKF “Kurs”. Calibration of power meters is provided by State Enterprise “Ukrmetrteststandart”.

Measuring of temperature inside heated buildings is provided by domestic ethanolic thermometers. Thermometers are replaced in accordance with Ukrainian State Standard DSTU ISO 1771:2006 and GOST 8.279-78 HIS.

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 monitoring plan. Work data collection system is adequately described in monitoring report section C.1

Identified problem areas for project approvals, project participant's responses, "Bureau Veritas Certification Holding SAS" conclusions are listed in the Annex A Verification Protocol (see CAR08-CAR10)

3.7 Verification regarding programmes of activities (102-110)

"Not applicable"

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the initial and 1st periodic verification of the «Rehabilitation of the District Heating System of Public Stock Company «WESTA-DNEPR» Project in Dnipropetrovsk City, Ukraine, which applies JI specific approach. 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 the monitoring report against 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 management of «Carbon Capital Services Limited» LLP 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 Plan indicated in the final PDD version 01. The development and maintenance of records and reporting procedures 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 2 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved 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 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 01/01/2008 to 30/06/2012

Baseline emissions	: 270454	tonnes of CO2 equivalent.
Project emissions	: 19744	tonnes of CO2 equivalent.
Emission Reductions	: 250710	tonnes of CO2 equivalent.

From 01/01/2008 to 31/12/2008

Baseline emissions	: 63944 tonnes of CO2 equivalent.
Project emissions	: 4962 tonnes of CO2 equivalent.
Emission Reductions	: 58982 tonnes of CO2 equivalent.

From 01/01/2009 to 31/12/2009

Baseline emissions	: 57647 tonnes of CO2 equivalent.
Project emissions	: 3798 tonnes of CO2 equivalent.
Emission Reductions	: 53849 tonnes of CO2 equivalent.

From 01/01/2010 to 31/12/2010

Baseline emissions	: 62397 tonnes of CO2 equivalent.
Project emissions	: 4612 tonnes of CO2 equivalent.
Emission Reductions	: 57785 tonnes of CO2 equivalent.

From 01/01/2011 to 31/12/2011

Baseline emissions	: 53802 tonnes of CO2 equivalent.
Project emissions	: 3954 tonnes of CO2 equivalent.
Emission Reductions	: 49848 tonnes of CO2 equivalent.

From 01/01/2012 to 30/06/2012

Baseline emissions	: 32664 tonnes of CO2 equivalent.
Project emissions	: 2418 tonnes of CO2 equivalent.
Emission Reductions	: 30246 tonnes of CO2 equivalent.

5 REFERENCES

Category 1 Documents:

Documents provided by «Carbon Capital Services Limited» LLP that relate directly to the GHG components of the project.

- /1/ Project Design Document «Rehabilitation of the District Heating System of Public Stock Company «WESTA-DNEPR» version 01 dated 23/12/2011
- /2/ Monitoring Report «Rehabilitation of the District Heating System of Public Stock Company «WESTA-DNEPR» version 1 dated 26/06/2012
- /3/ Monitoring Report «Rehabilitation of the District Heating System of Public Stock Company «WESTA-DNEPR» version 2 dated 13/07/2012
- /4/ ERUs calculation Excel-file “Supporting document_1_ER_calculation_MR_v2.xls”
- /5/ Letter of Approval #1970/23/7 dated 25/07/2012 issued by State Environment Investment Agency of Ukraine
- /6/ Letter of Approval #2012JI35 dated 26/07/2012 issued by Ministry of Economical affairs, Agriculture and Innovation of Kingdom Netherlands

Category 2 Documents:

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

- /1/ Agreement #15-1 СПІД on electric energy supply between PJSC “Vesta-Dnipro” and JSC “EC “Dniproenergo” dated 01/01/2002
- /2/ Dismantled boiler house project
- /3/ Annex to Agreement #15-1 СПІД on electric energy supply between PJSC “Vesta-Dnipro” and JSC “EC “Dniproenergo” dated 01/01/2002
- /4/ Passport and calibration certificate on power meter Delta 8010 #00744
- /5/ Passport and calibration certificate on power meter Delta 8010 #00744
- /6/ Agreement #99-NP/2004 on heavy fuel oil supply, dated 28/05/2004
- /7/ Statement #1 to Agreement #99-NP/2004
- /8/ Statement #2 to Agreement #99-NP/2004
- /9/ Statement #3 to Agreement #99-NP/2004
- /10/ Exchange contract #226 on fuel oil sailing-buying dated 226
- /11/ Agreement #37 on natural gas supply dated 23/10/2003
- /12/ Annex #10 dated 28/12/2004 to Agreement #37 on natural gas supply dated 23/10/2003
- /13/ Annex #11 dated 01/04/2005 to Agreement #37 on natural gas supply dated 23/10/2003
- /14/ Annex #12 dated 12/06/2005 to Agreement #37 on natural gas supply dated 23/10/2003
- /15/ Annex #13 dated 30/09/2005 to Agreement #37 on natural gas supply dated 23/10/2003
- /16/ Annex #14 dated 31/10/2005 to Agreement #37 on natural gas supply dated 23/10/2003



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- /17/ Annex #16 dated 29/12/2005 to Agreement #37 on natural gas supply dated 23/10/2003
 - /18/ Annex #18 dated 03/05/2006 to Agreement #37 on natural gas supply dated 23/10/2003
 - /19/ Annex #10 dated 27/11/2006 to Agreement #37 on natural gas supply dated 23/10/2003
 - /20/ Contract #48 dated 25/10/2006 on natural gas supply by "Attis-energo" dated 25/10/2006
 - /21/ Annex #01 dated 27/11/2006 to Contract #48 dated 25/10/2006 on natural gas supply by "Attis-energo" dated 25/10/2006
 - /22/ Gas value calculating unit LIDER VT-1, VG-1 passport
 - /23/ Resistance thermal converter TSM-1088 passport
 - /24/ Passport on membrane #112
 - /25/ Hot water boiler KVGM-58-150 #3104 passport
 - /26/ Hot water boiler KVGM-58-150 #3546 passport
 - /27/ Hot water boiler KVGM-58-150 #3205 passport
 - /28/ Statement on production quality of boiler #3104
 - /29/ Statement on production quality of boiler #3546
 - /30/ Statement on production quality of boiler #3205
 - /31/ Certificate #318 to steam boiler DKV 10-13 #3113 passport
 - /32/ Certificate #378 to steam boiler DKV 10-13 #3176 passport
 - /33/ Temperature measuring logbook. Started 01/01/2005, finished 31/12/2006
 - /34/ Daily report on boiler KVGM#3 operational control, January 2005
 - /35/ Daily report on boiler KVGM#3 operational control, 5-6 of January 2005
 - /36/ Daily report on boiler KVGM#3 operational control, 9-10 of January 2005
 - /37/ Daily report on boiler KVGM#3 operational control, February 10-11, 2005
 - /38/ Daily report on boiler KVGM#3 operational control, March 2-3, 2005
 - /39/ Daily report on boiler KVGM#3 operational control, March 14-15, 2005
 - /40/ Daily report on boiler KVGM#3 operational control, December, 2005
 - /41/ Daily report on boiler KVGM#3 operational control, December 22-26, 2005
 - /42/ Daily report on boiler KVGM#3 operational control, December 27-31, 2005
 - /43/ Daily report on boiler KVGM#3 operational control, January 20-28, 2006
 - /44/ Daily report on boiler KVGM#3 operational control, February 11-14, 2006
 - /45/ Daily report on boiler KVGM#3 operational control, March 7-10, 2006
 - /46/ Daily report on boiler KVGM#3 operational control, April 2, 2006
 - /47/ Daily report on boiler KVGM#3 operational control, December 27-30, 2006
 - /48/ Daily report logbook on boiler KVGM#4 operational control, 2005-2007 years
 - /49/ Daily report on boiler KVGM#3 operational control, March 2-3, 2005
 - /50/ Daily report on boiler KVGM#4 operational control, January 17-18, 2005
 - /51/ Daily report on boiler KVGM#4, 5 operational control, October 9-13, 2005
 - /52/ Daily report on boiler KVGM#5 operational control, October 19-22, 2005
 - /53/ Daily report on boiler KVGM#4 operational control, December 28-30, 2006
 - /54/ Daily report on boiler KVGM#3, 5 operational control, February 26-27, 2007
 - /55/ Daily report on boiler KVGM#4, 5 operational control, 28/02-1/03/2007
 - /56/ Safety first rank operational control logbook. Started 03/01/2005, finished 19/06/2006



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- /57/ Safety trainings on manufacturing boiler house registration logbook, started 31/12/2004, finished 02/10/2006
 - /58/ List of safety manuals for manufacturing boiler house
 - /59/ Manufacturing boiler house electric energy consumption 2005-2006
 - /60/ Letter #0002/81-11 dated 15/06/2011 on Manufacturing boiler house gas consumption
 - /61/ Summary on heat production and energy material consumption from manufacturing boiler house for 2005-2006 years
 - /62/ Summary on electricity consumption from manufacturing boiler house for 2005-2006 years
 - /63/ Summary on heating area buildings in 2005-2006 years
 - /64/ Safety trainings on manufacturing boiler house registration logbook, started 01/11/2007
 - /65/ State board statement on manufacturing boiler house put into operation, dated 24/10/2008
 - /66/ Expert conclusion #07.B.18.05.01024.75.11BE dated 01/10/2007 on new boiler house conformity with energy saving norms
 - /67/ Contract #3/99 dated 22/02/2007 on joint implementation of new module heat supply boiler house in block #117 reconstruction project drawing
 - /68/ Contract #15-2/05 ЦПІУ dated 12/04/2006 on electric energy supply, between JSC "EC "Dniproenergo" and JSC "Vesta-Dnipro"
 - /69/ Monthly acts on electricity acceptance-transmittance from 01/01/2007 till 30/04/2012 by contract #525 dated 31/03/2010
 - /70/ Report on electricity consumption
 - /71/ Monthly acts on electricity acceptance-transmittance from 30/04/2010 till 30/04/2012 by contract #22 dated 01/04/2010
 - /72/ Passport and calibration certificate for multi tariff active and reactive energy power meter EMS 132.41A #514110
 - /73/ Passport and calibration certificate for multi tariff active and reactive energy power meter EMS 132.41A #514110
 - /74/ Summary on average temperature of outside air for 2007-2010 years
 - /75/ Electric energy and natural gas consumption and heat supply operational control logbook on JSC "Vesta-Dnipro" boiler house
 - /76/ Contract on natural gas supply #8518/21/63212 dated 01/01/2007
 - /77/ Contract on natural gas sailing-buying #8518/21/79138 dated 01/05/2008
 - /78/ Annex from 01/06/2008 to Contract on natural gas sailing-buying #8518/21/79138 dated 01/05/2008
 - /79/ Annex #2 from 01/06/2008 to Contract on natural gas sailing-buying #8518/21/79138 dated 01/05/2008
 - /80/ Annexes #1, 2 from 22/09/2008 to Contract on natural gas sailing-buying #8518/21/79138 dated 01/05/2008
 - /81/ Annex from 01/09/2008 to Contract on natural gas sailing-buying #8518/21/79138 dated 01/05/2008
 - /82/ Annex #2 dated 09/10/2008 for Contract on natural gas sailing-buying #8518/21/79138 dated 01/05/2008
 - /83/ Annex #2 dated 07/11/2008 for Contract on natural gas sailing-buying

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- #8518/21/79138 dated 01/05/2008
- /84/ Contract on natural gas sailing-buying #8518/21/81559 dated 01/05/2008
 - /85/ Contract on natural gas sailing-buying #8518/21/96757 dated 01/01/2010
 - /86/ Contract on natural gas sailing-buying #8518/21/111519 dated 01/01/2011
 - /87/ Contract on natural gas sailing-buying #8518/21/124128 dated 27/09/2011
 - /88/ Annex to Contract on natural gas sailing-buying #8518/21/124128 dated 27/09/2011
 - /89/ Monthly Statements on natural gas acceptance-transmittance for 2007-2009 years
 - /90/ Logbook and calibration certificate on ultrasound gas meter Kypc-01 prod. #01886
 - /91/ Work permit on ultrasound gas meter Kypc-01 prod. #01886
 - /92/ Statement on metrological attestation of natural gas measuring unit
 - /93/ Statement on state metrological attestation #19-22/351-10 dated 17/09/2010 of natural gas measuring unit
 - /94/ Statement on treatment measuring unit #2981 attestation dated 27/09/2010
 - /95/ Passport and calibration certificate on heat water meter CBTY-10M №11627
 - /96/ Plate heat exchanger PTA-13-P-800-24-2,64-1 K №179 Passport
 - /97/ Plate heat exchanger PTA-13-P-800-24-2,64-1 K №178 Passport
 - /98/ Mount and work manual for Weishaupt burners
 - /99/ Boiler #2444 Buderus passport
 - /100/ Work project on heat delivering boiler house with 22.4 MW capacity
 - /101/ Environmental impact assessment on heat delivering boiler house with 22.4 MW capacity
 - /102/ Statement of Environmental impact on heat delivering boiler house with 22.4 MW capacity
 - /103/ Complex conclusion #1738-2290 dated 29.11.2007 on heat delivering boiler house with 22.4 MW capacity reconstruction project
 - /104/ Contract #85/2 VD-07 dated 01/03/2007 on boiler house with 22.4 MW capacity equipment delivery
 - /105/ Specification to Contract #85/2 VD-07 dated 01/03/2007
 - /106/ Permit on boiler house with 22.4 MW capacity building
 - /107/ Agreement #03-01/07 on joint activity between DMZ and Vesta-Dnipro dated 03/01/2007
 - /108/ State environment inspection conclusion on heat delivering boiler house with 22.4 MW capacity reconstruction project, dated 02/12/2007
 - /109/ Feasibility study heat delivering boiler house with 22.4 MW capacity reconstruction project
 - /110/ Order #36 dated 24/04/2011 on JI project realization workgroup creation
 - /111/ Photo – Boiler Buderus Logano 825L №1
 - /112/ Boiler Buderus Logano 825L №1 regime chart
 - /113/ Burner Weishaupt on Boiler Buderus Logano 825L №1
 - /114/ Network pumps Wilo
 - /115/ Circulating pump Wilo
 - /116/ Plate Heat exchanger PTA-51-P-5000-193-105-1K
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- /118/ Feed-water pump Wilo
 - /119/ Water demineralization tanks
 - /120/ Plate Heat exchanger
 - /121/ Burner Weishaupt on Boiler Buderus Logano 825L #2
 - /122/ Boiler Buderus Logano 825L #2 Temporary regime chart
 - /123/ Boiler Buderus Logano 825L #1 Temporary regime chart
 - /124/ Gas consumption measuring unit
 - /125/ Ultrasound gas meters "Kurs-01" G65A1 #4846
 - /126/ Gas meter "Kurs-01" G1000B #01886
 - /127/ Temperature meter PVT-01-1-1-60-6 #8678
 - /128/ Pressure meter Applisens #10083348
 - /129/ Pressure meter Applisens #09083010
 - /130/ Temperature meter PVT-01-1-1-120-6 №9402
 - /131/ Ethanolic thermometer
 - /132/ Domestic thermometer in boiler house room
 - /133/ heat delivering boiler house with 22.4 MW capacity reconstruction project general info
 - /134/ Gas measuring unit "Universal"
 - /135/ Heat water meter SVTU-10M
 - /136/ Multitariff active and reactive energy power meter EMC 132.41.4 #464781
 - /137/ Multitariff active and reactive energy power meter EMC 132.41.4 #464753
 - /138/ Power meter box
 - /139/ Information note on heat consumption from 01/05/2012 till 31/12/2012
 - /140/ Contract month report on gas consumption (Line 1) from 01/05/2012 till 01/06/2012
 - /141/ Contract month report on gas consumption (Line 2) from 01/05/2012 till 01/06/2012
 - /142/ Information note on heat consumption from 01/04 till 4/07/2011
 - /143/ Contract month report on gas consumption (Line 1) from 30/06/2011 till 01/08/2011
 - /144/ Contract month report on gas consumption (Line 2) from 30/06/2011 till 01/08/2011
 - /145/ Information note on heat consumption from 01/06 till 30/06/2011
 - /146/ Contract month report on gas consumption (Line 1) from 31/05/2011 till 01/07/2011
 - /147/ Contract month report on gas consumption (Line 2) from 31/05/2011 till 01/07/2011
 - /148/ Information note on heat consumption from 01/06 till 30/06/2011

Persons interviewed:

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

- /1/ Oleksandr Novitskiy – Head of Energy department of PSC «WESTA-DNEPR»
- /2/ Valeriy Shirokov – Head of energy Department of PSC «WESTA-DNEPR»



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- /3/ Yurii Nikolenko – Head of boiler house
 - /4/ Ivan Kosakov– representative of “Carbon Capital Services Limited” LLP
 - /5/ Tahir Musayev- representative of “Carbon Capital Services Limited” LLP

APPENDIX A: VERIFICATION PROTOCOL

VERIFICATION PROTOCOL

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?	<u>CAR01</u> Please provide in the section A.2 written approvals from both Parties Involved	CAR01	OK
91	Are all the written project approvals by Parties involved unconditional?	See section 90 of this protocol	-	-
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?	The project is implemented in accordance with the PDD which the determination has been deemed final <u>CAR02</u> Proposed Monitoring Report indicates length of monitoring period as 01/11/2007-30/06/2011. Its not correctly, so early credits from 01/11/2007 till 31/12/2007 is only Ukrainian specific point, and crediting period for ERUs generation starts 01/01/2008. Please provide starting date of monitoring period from 01/01/2008, and make separate monitoring report for period 01/11/2007-31/12/2007.	CAR02 CAR03 CAR04 CL01	OK OK OK OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p><u>CAR03</u> The new-build boiler house was put into operation 01/11/2007 and worked all heating period for summer 2008. Please explain starting date of first crediting period in 01/06/2008</p> <p><u>CAR04</u> Please add information on:</p> <ul style="list-style-type: none"> - repair or emergency stops and - technical disasters influencing on boiler house work - starts and stops of boiler house by begin and end of heating period <p><u>CL01</u> Please provide description of pre-insulated pipes, used in project activity</p>		
93	What is the status of operation of the project during the monitoring period?	<p>The project is in operational during the monitoring period.</p> <p><u>CAR05</u> Monitoring report in section E.5 indicates that emission reduction data applied in ex-ante calculation of the registered PDD for 01/01/2012-30/06/2012 is not available. Please add data for this period based on value indicated in the PDD for 2012 year dividing by two.</p> <p><u>CAR06</u> Please check values of amount of emissions reduction achieved from 01/11/2007 to 30/06/2012 and from</p>	CAR05 CAR06 CL02	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		01/06/2008 to 31/12/2011 at the page 3 point 4 <u>CL02</u> Please explain value of baseline emissions due to the electricity consumption indicated in the PDD and MR for period 01/01/2012-30/06/2012. It is equal to values achieved during whole year.		
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 was provided in accordance with the monitoring plan included in the PDD	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 listed in 23 (b) (i)-(vii) above, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project are taken into account in appropriate way	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	<u>CAR07</u> Calculations of emission reductions in section D of the MR reference on Supporting document 1. Please add this document as annex to the monitoring report	CAR07	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of	Emission factors used for emission reduction calculations are in line within National Inventory Report of anthropogenic emissions of Ukraine.	OK	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?			
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 calculation of emission reductions are based on conservative assumptions and the most plausible scenarios in a transparent manner	OK	OK
Applicable to JI SSC projects only_Not applicable				
Applicable to bundled JI SSC projects only_Not applicable				
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?	The project monitoring plan was not revised during the period between final of determination process and finish of verification protocol	OK	OK
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?	See section 99(a) of this protocol	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?	The implementation of data collection procedures is in accordance with the monitoring plan, including quality control and quality control and quality assurance procedures	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, in order?	<u>CAR08</u> Please provide data for each calibration of gas meter and temperature water meter. Also, please note if any project measuring equipment was replaced during the monitoring period	CAR08	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	<u>CAR09</u> Please add in the monitoring report scheme of monitored data flow, with indication of each monitoring parameter responsible person	CAR09	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	Data collection and management system, in whole, is in accordance with monitoring plan <u>CAR10</u> Please note in the monitoring report that data monitored and required to ERUs calculations will be kept two years after the last ERUs transfer	CAR10	OK
Verification regarding programmes of activities (additional elements for assessment) _Not applicable				
Applicable to sample-based approach only _Not applicable				

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarification and corrective action requests by verification team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
<u>CAR01</u> Please provide in the section A.2 written approvals from both Parties Involved	90	Written approvals from both Parties Involved is provided in the section A.2.	The issue is closed



<p><u>CAR02</u> Proposed Monitoring Report indicates length of monitoring period as 01/11/2007-30/06/2011. Its not correctly, so early credits from 01/11/2007 till 31/12/2007 is only Ukrainian specific point, and crediting period for ERUs generation starts 01/01/2008. Please provide starting date of monitoring period from 01/01/2008, and make separate monitoring report for period 01/11/2007-31/12/2007.</p>	92	Starting date of monitoring period is corrected. Monitoring period starting date is 01/01/2008 and ending date is 30/06/2012.	The issue is closed
<p><u>CAR03</u> The new-build boiler house was put into operation 01/11/2007 and worked all heating period for summer 2008. Please explain starting date of first crediting period in 01/06/2008</p>	92	Starting date of first crediting period is corrected.	The issue is closed
<p><u>CAR04</u> Please add information on:</p> <ul style="list-style-type: none"> - repair or emergency stops and - technical disasters influencing on boiler house work - starts and stops of boiler house by begin and end of heating period 	92	The relevant information is added in section B.1.	The issue is closed
<p><u>CAR05</u> Monitoring report in section E.5 indicates that emission reduction data applied in ex-ante calculation of the registered PDD for 01/01/2012-30/06/2012 is not available. Please add data for this period based on value indicated in the PDD for 2012 year dividing by two.</p>	93	Data for period 01/01/2008-30/06/2012 is added based on value indicated in the PDD for 2012 year dividing by two.	The issue is closed

<u>CAR06</u> Please check values of amount of emissions reduction achieved from 01/11/2007 to 30/06/2012 and from 01/06/2008 to 31/12/2011 at the page 3 point 4	93	Values of amount of emissions reduction achieved from 01/11/2007 to 30/06/2012 and from 01/06/2008 to 31/12/2011 at the page 3 point 4 is checked and corrected.	The issue is closed
<u>CAR07</u> Calculations of emission reductions in section D of the MR reference on Supporting document 1. Please add this document as annex to the monitoring report	95(b)	Supporting document 1 is not Annex, but is available on request. Supporting document 1 is provided to AIE via email.	The issue is closed
<u>CAR08</u> Please provide data for each calibration of gas meter and temperature water meter. Also, please note if any project measuring equipment was replaced during the monitoring period	101 (b)	Data for each calibration of gas meter is provided in section C. Data about water temperature are not data, which monitored. Separate meters for the water temperature does not exist, instead there are sensors that continuously transmit information in an automated accounting system for water temperature.	The issue is closed
<u>CAR09</u> Please add in the monitoring report scheme of monitored data flow, with indication of each monitoring parameter responsible person	101(c)	100% of the data are monitored as indicated in section D. Scheme of monitored data flow is presented on the fig.6 and applied to all monitoring parameters. Written description is given below fig.6.	The issue is closed
<u>CAR10</u> Please note in the monitoring report that data monitored and required to ERUs calculations will be kept two years after the last ERUs transfer	101(d)	Data monitored and required to ERUs calculations will be kept two years after the last ERUs transfer. This information is provided in section «Data collection and handling».	The issue is closed



<u>CL01</u> Please provide description of pre-insulated pipes, used in project activity	92	Description of pre-insulated pipes, used in project activity is provided in section A.4.	The issue is closed
<u>CL02</u> Please explain value of baseline emissions due to the electricity consumption indicated in the PDD and MR for period 01/01/2012-30/06/2012. It is equal to values achieved during whole year.	93	Value of baseline emissions due to the electricity consumption indicated in the MR for period 01/01/2012-30/06/2012 is corrected.	The issue is closed