VERIFICATION REPORT

PJSC "OBLTEPLOCOMUNENERGO"

VERIFICATION OF THE

REHABILITATION OF THE HEAT AND WATER SUPPLY SYSTEMS IN LUTSK CITY

INITIAL AND FIRST PERIODIC

FOR THE PERIOD 01/01/2008 – 30/06/2012

REPORT NO. UKRAINE-VER/0777/2012

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Date of first issue: 26/10/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: PJSC "Oblteplocomunenergo"	Client ref.: Ivan Lusta

Summary:

Bureau Veritas Certification has made the initial and 1st periodic verification of project "Rehabilitation of the Heat and Water Supply Systems in Lutsk city" project of PJSC "Oblteplocomunenergo" located in Lutsk region, 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 507 034 tonnes of CO_2 equivalent for the monitoring period from 01/01/2008 to 30/06/2012.

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/0777/2012	Subject Group: JI	
Project title: Rehabilitation of the Heat and Water Supply Systems in Lutsk city		
Work carried out by: Oleg Skoblyk : Team Leader Volodymyr Kulish : Team Member		
Work reviewed by: Ivan Sokolov – Internal Technical Reviewer		
Work approved by: Ivan Sokolov – Operational Manager		
Date of this revision: 29/11/2012	Rev. No.: 02	Number of pages: 24

Bureau Veritas Certification Holding SAS

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1 INTRODUCTION

PJSC "Oblteplocomunenergo" has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Rehabilitation of the Heat and Water Supply Systems in Lutsk city" (hereafter called "the project") is located in Lutsk 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:

Oleg Skoblyk
Bureau Veritas Certification Team Leader, Climate Change Verifier

Volodymyr Kulish

Bureau Veritas Certification Technical Specialist

This determination report was reviewed by:

Ivan Sokolov
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) PJSC “Oblteplocomunenergo” and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), and/or 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 versions 01 and 02 and project as described in the determined PDD version 04.

2.2 Follow-up Interviews

On 19/10/2012 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 SME "Lutskteplo", ME "Lutskvodokanal" and PJSC "Oblteplocomunenergo" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
SME "Lutskteplo", ME "Lutskvodokanal"	- 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
PJSC "Oblteplocomunenergo"	- Baseline methodology - Monitoring plan - Monitoring report - Excel spreadsheets

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 8 Corrective Action Requests and 2 Clarification Request.

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

3.1 Remaining issues and FARs from previous verifications

No FARs were raised during determination.

3.2 Project approval by Parties involved (90-91)

Written project approval by the Ukraine #3651/23/7 dated 28/11/2012 has been issued by the State Environmental Investment Agency of Ukraine.

Written project approval by Ministry of the Environment of Estonia (Letter of Approval #12-1/9516-2) was received for the proposed project on 09/11/2012.

The abovementioned written approvals are unconditional.

The identified areas of concern as to the Project approval by Parties involved, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CAR 01, CAR 02).

3.3 Project implementation (92-93)

Project objective is to reduce greenhouse gas emissions due to fuel, in particular natural gas (which is imported to Ukraine), consumption reduction, as well as power consumption reduction, by means of rehabilitation of the heat and water supply systems in Lutsk city, including boiler-houses, step-up (UPS) and sewage (SPS) pumping stations, and heat and water distribution network equipment replacement, modernization and rehabilitation. The purpose of the project is sustainable development of the Lutsk city through implementation of energy saving technologies.

The starting date of the crediting period is set to the date of the first commitment period start, that is January 1, 2008. The end of the crediting period is the end of the lifetime of the main equipment that is minimal December 31, 2032. Thus the length of the crediting period is 25 years (300 months), from 01/01/2008 till 31/12/2032.

Table 1. Status of implementation (according to PDD)

<table>
<tr><td>2004</td><td>2005</td><td>2004</td><td>2006</td><td>2007</td><td>2008</td><td>2009</td><td>2010</td><td>2011</td><td>2012</td></tr>
<tr><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td><td>1st Jan - 31st Dec</td></tr>
<tr><td></td><td colspan="9"><u>Starting date of the project is: 01/01/2005</u></td></tr>
<tr><td>Base year</td><td colspan="9">Rehabilitation of boilers with replacement and preventive maintenance measures for boilers burners, heated surfaces, etc.</td></tr>
<tr><td></td><td colspan="9">Optimization of heat load allocation and operational mode of equipment</td></tr>
<tr><td></td><td colspan="9">Optimization of heat supply network organization and network rehabilitation</td></tr>
<tr><td></td><td colspan="9">Rehabilitation / optimization of water supply and sewage removal networks</td></tr>
<tr><td></td><td colspan="9">Technical re-equipment of heat supply stations with highly effective heat exchangers</td></tr>
<tr><td></td><td colspan="9">Replacement / rehabilitation of pump equipment in boiler-houses and pumping stations</td></tr>
<tr><td></td><td colspan="9">Installation of frequency controllers at electric drives of pumps, blow fans and smoke exhausters</td></tr>
<tr><td></td><td colspan="9">Improvement of the feeding water quality by optimization of operational mode of water preparation system</td></tr>
<tr><td></td><td colspan="9">Implementation of control and monitoring systems</td></tr>
<tr><td></td><td colspan="9">Improvement of hot water supply service</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="4">Liquidation of low efficient boiler-houses</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td colspan="4">1 st Monitoring Period</td><td></td></tr>
</table>

Implementation of boiler houses equipment rehabilitation and network rehabilitation was realized according to the project plan.

The identified areas of concern as to the project implementation, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CAR 03, CL 01).

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

There are no deviations to the registered monitoring plan.

The monitoring occurred in accordance with the monitoring plan included in the PDD version 04 dated 21/09/2012 regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.

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 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.

The identified areas of concern as to the compliance of the monitoring plan with the monitoring methodology, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CAR 04).

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 "References" of this report.

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 monitoring plan.

The identified areas of concern as to the data managemet, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CARs 05 - 08).

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 Heat and Water Supply Systems in Lutsk city" Project in 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 PJSC "Oblteplocomunenergo" 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 04 dated 21/09/2012. 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 02 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

For the period from 01/01/2008 to 31/12/2008

Baseline emissions	: 337 343	tonnes of CO_2 equivalent.
Project emissions	: 234 550	tonnes of CO_2 equivalent.
Emission Reductions	: 102 793	tonnes of CO_2 equivalent.

For the period from 01/01/2009 to 31/12/2009

Baseline emissions	: 347 864	tonnes of CO_2 equivalent.
Project emissions	: 238 771	tonnes of CO_2 equivalent.
Emission Reductions	: 109 093	tonnes of CO_2 equivalent.

For the period from 01/01/2010 to 31/12/2010

Baseline emissions	: 356 800	tonnes of CO_2 equivalent.
Project emissions	: 245 735	tonnes of CO_2 equivalent.
Emission Reductions	: 111 065	tonnes of CO_2 equivalent.

For the period from 01/01/2011 to 31/12/2011

Baseline emissions	: 359 215	tonnes of CO_2 equivalent.
Project emissions	: 232 966	tonnes of CO_2 equivalent.
Emission Reductions	: 126 249	tonnes of CO_2 equivalent.

For the period from 01/01/2012 to 30/06/2012

Baseline emissions	: 191 335	tonnes of CO_2 equivalent.
Project emissions	: 133 501	tonnes of CO_2 equivalent.
Emission Reductions	: 57 834	tonnes of CO_2 equivalent.

Total for the monitoring period

Baseline emissions	: 1 592 557	tonnes of CO_2 equivalent.
Project emissions	: 1 085 523	tonnes of CO_2 equivalent.
Emission Reductions	: 507 034	tonnes of CO_2 equivalent.

5 REFERENCES

Category 1 Documents:

Documents provided by PJSC "Oblteplocomunenergo" that relate directly to the GHG components of the project.

/1/ Project Design Document "Rehabilitation of the Heat and Water Supply Systems in Lutsk city" version 04 dated 21/09/2012
/2/ Monitoring report for JI project "Rehabilitation of the Heat and Water Supply Systems in Lutsk city" version 01 dated 19/10/2012
/3/ ERUs calculation excel file «Annex_Lutsk _MR_v01.xls»
/4/ Monitoring report for JI project for JI project "Rehabilitation of the Heat and Water Supply Systems in Lutsk city" version 02 dated 28/11/2012
/5/ ERUs calculation excel file «Annex_Lutsk _MR_v01-1.xls»
/6/ Letter of Approval #3651/23/7 dated 28/11/2012 issued by State Environmental Investment Agency of Ukraine
/7/ Letter of Approval #12-1/9516-2 dated 09/11/2012 issued by Ministry of the Environment of Estonia

Category 2 Documents:

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

/1/ Order dated 09/12/2004 on appointment of technical task team in order SME "Lutskteplo" to take part in JI project within Kyoto Protocol mechanisms
/2/ Agreement # 197 dated 03/09/2007 on technological networks common usage
/3/ Regime card on water heating boiler type КВс-Гн-0,8, registration # ВН-1313, installed at the boiler-house (address: 29 Chernyshevskoho st., Lutsk city)
/4/ Regime card on water heating boiler type Е-1/9, registration # ВН-0556, installed at the boiler-house (address: 88 Volodymyrska St., Lutsk city)
/5/ Regime card on water heating boiler type НІІСТУ-5, registration # ВН-0623, installed at the boiler-house (address: 39 Hlushets St., Lutsk city)
/6/ Regime card on water heating boiler type ДКВР-10/13, registration # ВН-1734, installed at the boiler-house (address: 2 Striletska St.; summer mode)
/7/ License Series АА # 473345/931 from the Unified State Register of Legal Entities and Individual Entrepreneurs
/8/ Agreement # 528-0172000 dated 14/06/2004 on power supply
/9/ Agreement # 529-0371000 dated 25/06/2004 on power supply
/10/ Permit # 23/1 dated 08/06/2011 on wastes allocation in 2012

/11/ Annex to the Permit # 23/1 dated 08/06/2011. List and amount of permissible wastes allocation for SME “Lutskteplo”
/12/ Permit # 39/1 dated 01/06/2010 on wastes allocation in 2011
/13/ Annex to the Permit # 39/1 dated 01/06/2010. List and amount of permissible wastes allocation for SME “Lutskteplo”
/14/ Permit # 12 dated 02/06/2009 on wastes allocation in 2010
/15/ Annex to the Permit # 12 dated 02/06/2010. List and amount of permissible wastes allocation for SME “Lutskteplo”
/16/ Agreement # 300 dated 01/03/2011 on municipal water supply and sewage disposal to the wastewaters
/17/ Annex to the Agreement # 300 dated 01/03/2011 on municipal water supply a
/18/ Agreement on amending the Agreement # 300 dated 20/04/2012 on municipal water supply and sewage disposal to the wastewaters starting 01/03/2011
/19/ Statement # ЛНА-000933 dated 19/02/2008 on production units disposal (boiler-house address: 50 Lvivska St.)
/20/ Statement # ЛНА-000932 dated 19/02/2008 on production units disposal (boiler-house address: 50 Lvivska St.)
/21/ Statement # ЛНА-000931 dated 19/02/2008 on production units disposal (boiler-house address: 50 Lvivska St.)
/22/ Statement # ЛНА-000930 dated 19/02/2008 on production units disposal (boiler-house address: 50 Lvivska St.)
/23/ Statement # ЛНА-000766 dated 30/01/2008 on production units disposal (boiler-house address: 1 Voli Ave.)
/24/ Statement # ЛНА-001138 dated 03/06/2009 on production units disposal (boiler-house address: 1Voli Ave.)
/25/ Statement # ЛНА-001139 dated 03/06/2009 on production units disposal (boiler-house address: 1 Voli Ave.)
/26/ Statement # ЛНА-001137 dated 03/06/2009 on production units disposal (boiler-house address: 1 Voli Ave.)
/27/ Statement # ЛНА-001136 dated 03/06/2009 on production units disposal (boiler-house address: 1 Voli Ave.)
/28/ Statement # ЛНА-001135 dated 03/06/2009 on production units disposal (boiler-house address: 1 Voli Ave.)
/29/ Statement # ЛНА-001134 dated 03/06/2009 on production units disposal (boiler-house address: 50 Voli Ave.)
/30/ Invoice dated 15/11/2002 on production units inner transposition, inventory # 989
/31/ Invoice dated 15/11/2002 on production units inner transposition, inventory # 992
/32/ Invoice dated 15/11/2002 on production units inner transposition, inventory # 991
/33/ Invoice dated 15/11/2002 on production units inner transposition, inventory # 990
/34/ Invoice # ПМ-0005978 dated 14/06/2004 on production units inner transposition
/35/ Invoice # ПМ-0005977 dated 14/06/2004 on production units inner transposition

/36/ Statement # ЛНА-000856 dated 12/09/2007 on production units disposal (boiler-house address: 28 Kryvyi Val St.)
/37/ Statement # ЛНА-001006 dated 01/07/2008 on production units disposal (boiler-house address: 27 Voli Ave.)
/38/ Statement # ЛНА-001005 dated 01/07/2008 on production units disposal (boiler-house address: 27 Voli Ave.)
/39/ Statement # ЛНА-000770 dated 02/03/2007 on production units disposal
/40/ Statement # ЛНА-001005 dated 01/07/2008 on production units disposal (boiler-house at Boholiuby village)
/41/ Statement # ЛНА-000481 dated 09/03/2005 on production units disposal (boiler-house at Boholiuby village)
/42/ Statement # ЛНА-000492 dated 16/03/2005 on production units disposal (boiler-house at Boholiuby village)
/43/ Statement # ЛНА-000763 dated 06/12/2006 on production units disposal
/44/ Statement # ЛНА-000764 dated 06/12/2006 on production units disposal
/45/ Statement # ЛНА-000767 dated 30/01/2007 on production units disposal (boiler-house address: 10 Voli Ave.)
/46/ Output for JI project “Rehabilitation of the Heat and Water Supply Systems in Lutsk city” monitoring for 2004
/47/ Output for JI project “Rehabilitation of the Heat and Water Supply Systems in Lutsk city” monitoring for 2008
/48/ Output for JI project “Rehabilitation of the Heat and Water Supply Systems in Lutsk city” monitoring for 2009
/49/ Output for JI project “Rehabilitation of the Heat and Water Supply Systems in Lutsk city” monitoring for 2010
/50/ Project design on heat grid rehabilitation from boiler-house (address: 10 Potapova St.) to boiler-house (address: 1 Volia Ave.) in Lutsk city
/51/ Project design on heat grid rehabilitation in Lutsk city (45; 45a Vidrodzhennia Ave.)
/52/ Project design on central heat unit (4a Molodi Ave.) rehabilitation with weather control automated system installation in Lutsk city
/53/ Order # 5 dated 03/01/2012 on designing plans and schedules on health and safety, heat power units technical operation knowledge testing and training of plant workers in 2012
/54/ Certificate # 775 dated 01/03/2012 on training (Anatolii Rohak)
/55/ Certificate # 776 dated 01/03/2012 on training (Anatolii Syvran)
/56/ Certificate # 1181 dated 30/03/2012 on training (Anatolii Medhinskyi)
/57/ Certificate # 1180 dated 30/03/2012 on training (Yurii Khomyn)
/58/ Certificate # 1179 dated 30/03/2012 on training (Taras Feofak)
/59/ Protocol # 25 dated 17/07/2012 on commission session on health and safety, technical operation knowledge testing
/60/ Protocol # 5 dated 20/01/2012 on commission session on health and safety knowledge testing
/61/ Photo–central heat unit # 32

/62/ Photo–plate heat exchanger type ТОПР-40, registration # Л-0220
/63/ Photo–circulating pump, registration # К-100-200
/64/ Photo–elevating pump, registration # WILO-NP-63/200V
/65/ Photo–elevating pump, registration # WILO-NP-65/200V
/66/ Photo–circulating pump, registration # LM-65-200/202
/67/ Photo–circulating pump, registration # К-100-200
/68/ Photo–plate heat exchanger type ТОПР-40, registration # Л-0201
/69/ Photo–plate heat exchanger type ТОПР-40, registration # Л-0202
/70/ Photo–power meter type СР4У-И673М, registration # 013569806
/71/ Photo–power meter type СР4У-И673М, registration # 052509
/72/ Certificate # № 5/2-1-179 dated 29/06/2011 on state metrological attestation of water meters calibration unit type АС-15/20, serial # 001/09, issued by the State Scientific and Production Centre for Standardization, Metrology and Certification
/73/ Photo–water meters calibration unit type АС-15/20, serial # 001/09
/74/ Logbook on registration of water meters accepted from consumers for the period from 01/01/2011 to 21/06/2011
/75/ Photo–flow-meter type УВР-011, serial # 880
/76/ Logbook on pumping station operation, started 23/07/2012
/77/ Photo–pump # 2
/78/ Photo–pumping station # 2
/79/ Photo–power meter type Энергия-9, fabrication # 19127
/80/ Photo–power meter type Энергия-9, fabrication # 19138
/81/ Photo–water heating unit type КЕО, fabrication # 212/13
/82/ Photo–water heating boiler type Богдан-100, registration # 1
/83/ Photo–water meter type 2G25L, fabrication # 000520
/84/ Photo–gas meter type Універсал-02, fabrication # 8231
/85/ Photo–pressure transmitter, fabrication # 08083460
/86/ License Series АА # 050774 on centralized water supply and sewage removal, issued by the State Committee on Construction, Architecture and Municipal Policy of Ukraine, valid from 22/06/2001 to 22/06/2004
/87/ License Series АБ # 116016 on centralized water supply and sewage removal, issued by the State Committee on Construction, Architecture and Municipal Policy of Ukraine, valid from 21/06/2004 to 21/06/2007
/88/ License Series АВ # 342869 on centralized water supply and sewage removal, issued by the Ministry of Housing and Communal Services of Ukraine, valid from 21/06/2007 to 21/06/2012
/89/ License Series АГ # 500071 on centralized water supply and sewage removal, issued by the National Commission on Communal Services Regulation of Ukraine, valid from 22/06/2012 to 21/06/2017
/90/ Agreement # 5-20/54 dated 21/02/2007 on providing calibration services
/91/ Agreement # 5-20/128 dated 06/06/2007 on providing calibration services
/92/ Agreement # 5-20/383/139/1 dated 27/12/2006 on providing calibration services

/93/ Agreement # 4-5/217/96/1 dated 29/09/2007 on providing calibration services
/94/ Agreement # 5-20/286/144-2 dated 12/12/2007 on providing calibration services
/95/ Agreement # 4-5/17/03/3 dated 02/01/2008 on providing calibration services
/96/ Agreement # 5-20 dated 01/07/2008 on providing calibration services
/97/ Agreement # 5-20/844/148/1 dated 22/12/2008 on providing calibration services
/98/ Agreement # 5-20/134 dated 03/04/2009 on providing calibration services
/99/ Agreement # 5-20/10585 dated 29/10/2009 on providing calibration services
/100/ Agreement # 5-20/551 dated 24/07/2009 on providing calibration services
/101/ Agreement # 228/14 dated 30/09/2009 on providing calibration services
/102/ Agreement # 5-20/47 dated 04/01/2010 on providing calibration services
/103/ Agreement # 5-20/66 dated 28/01/2010 on providing calibration services
/104/ Agreement # 5-20/103 dated 23/02/2010 on providing calibration services
/105/ Agreement # 5-20/239 dated 04/06/2010 on providing calibration services
/106/ Agreement # 4-5/127 dated 16/08/2010 on providing calibration services
/107/ Agreement # 1463 dated 02/10/2010 on providing calibration services
/108/ Agreement # 5-20/10846 dated 28/10/2010 on providing calibration services
/109/ Agreement # 4-5/200 dated 22/11/2010 on providing calibration services
/110/ Agreement dated 06/04/2011 on providing calibration services
/111/ Agreement # 450142 dated 12/07/2011 on providing calibration services
/112/ Agreement # 450004 dated 11/01/2012 on providing calibration services
/113/ Agreement # 18 dated 03/02/2012 on providing calibration services
/114/ Agreement # 68/520261 dated 21/03/2012 on providing calibration services
/115/ Order # 160[B] dated 06/10/2003 on appointing of boiler house operators for heating season 2003-2004
/116/ Order # 32[B] dated 21/03/2011 on heating season ending 2010-2011
/117/ Order # 82[B] dated 03/10/2011 on appointing of boiler house operators for heating season 2010-2011
/118/ Order # 72[B] dated 02/04/2004 on 2003-2004 heating season ending
/119/ Order # 188[B] dated 05/10/2004 on appointing of boiler house

operators for heating season 2004-2005

/120/ Order # 32-в dated 12/04/2007 on 2006-2007 heating season ending

/121/ Order # 93[в] dated 12/10/2007 on appointing of boiler house operators for heating season 2007-2008

/122/ Order # 31-в dated 01/04/2008 on 2007-2008 heating season ending

/123/ Order # 90[в] dated 17/10/2008 on appointing of boiler house operators for heating season 2008-2009

/124/ Order # 40[в] dated 31/03/2009 on 2008-2009 heating season ending

/125/ Order # 88[в] dated 19/10/2009 on appointing of boiler house operators for heating season 2009-2010

/126/ Order # 42[в] dated 01/04/2010 on 2009-2010 heating season ending

/127/ Order # 86[в] dated 14/10/2010 on appointing of boiler house operators for heating season 2010-2011

/128/ Passport on rotor gas meter type G40PPC1/100-0,63-Ex, fabrication # 00579 (last calibration date–06/07/2012)

/129/ Passport dated 27/07/2004 on boiler type Рівнетерм 32В, fabrication # 43178

/130/ Passport dated 28/07/2004 on boiler type Рівнетерм 32В, fabrication # 54184

/131/ Passport on convective heating gas unit type АКОГ-3-1$_2$-СП, fabrication # 044

/132/ Passport dated 06/09/2006 on boiler type Богдан-100, fabrication # 063862

/133/ Passport dated 01/10/2005 on boiler type Богдан-100, fabrication # 053047

/134/ Passport dated 04/06/2007 on boiler type Богдан-100, fabrication # 074186

/135/ List of fuel consuming equipment

/136/ Passport dated 08/06/2007 on boiler type Богдан-100, fabrication # 074200

/137/ Passport dated 19/06/2007 on heating module type МН 120еко, fabrication # 08069139

/138/ Passport dated 30/09/2008 on regulating module type ФРФ80, fabrication # 08093422

/139/ Passport dated 19/06/2007 on heating module type МН 120еко, fabrication # 08069140

/140/ Passport dated 10/10/2008 on heating module type МН 120еко, fabrication # 08109863

/141/ Passport dated 10/10/2008 on heating module type МН 120еко, fabrication # 08109882

/142/ Passport dated 18/08/2008 on gas meter type GALLUS, fabrication # 0024544

/143/ Passport dated 15/09/2005 on boiler type Данко-12В, fabrication # А50745

/144/ Passport dated 10/07/2002 on hot water supply and heating gas unit type АОГВ-30, fabrication # 1088

/145/ Passport dated 04/11/2011 on boiler type Рівнетерм 32, fabrication

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/146/ Passport on boiler type Універсал-02, fabrication # 8231 (last calibration date–13/03/2012)

/147/ Passport on boiler type Універсал-02, fabrication # 7923 (last calibration date–12/06/2012)

/148/ Passport on boiler type Універсал-02, fabrication # 7757 (last calibration date–09/07/2012)

/149/ Passport on temperature transmitter type ПВТ-01-1-тип1-60-6, fabrication # 8465 (last calibration date–16/06/2012)

/150/ Passport on temperature transmitter type ПВТ-01-1-тип1-60-6, fabrication # 8582 (last calibration date–12/06/2012)

/151/ Passport on temperature transmitter type ПВТ-01-1-тип1-60-6, fabrication # 9704 (last calibration date–12/06/2012)

/152/ Passport on pressure transmitter type PC-28/Ex(-30)/0...250 кПа ABS/PD/M, fabrication # 08083462 (last calibration date–15/06/2012)

/153/ Passport on pressure transmitter type PC-28/Ex(-30)/0...250 кПа ABS/PD/M, fabrication # 08083481 (last calibration date–12/06/2012)

/154/ Passport on pressure transmitter type PC-28/Ex(-30)/0...250 кПа ABS/PD/M, fabrication # 08083460 (last calibration date–12/06/2012)

/155/ Passport on ultrasound flow-meter type УВР-011,2, fabrication # 1703 (last calibration date–05/04/2012)

/156/ Passport on ultrasound flow-meter type УВР-011,2, fabrication # 2567 (last calibration date–24/10/2011)

/157/ Passport on ultrasound flow-meter type УВР-011,2, fabrication # 2209 (last calibration date–23/09/2010)

/158/ Passport on ultrasound flow-meter type УВР-011,2, fabrication # 2478 (last calibration date–19/01/2011)

/159/ Calibration certificate # 880/08 dated 18/03/2008, valid till 18/03/2010, on ultrasound flow-meter type УВР-011, fabrication # 880, issued by the Kharkiv Regional Scientific and Production Centre for Standardization, Metrology and Certification State Enterprise

/160/ Calibration certificate # 1009/08 dated 15/09/2008, valid till 15/09/2010, on ultrasound flow-meter type УВР-011А2.2-К, fabrication # 1009, issued by the Kharkiv Regional Scientific and Production Centre for Standardization, Metrology and Certification State Enterprise

/161/ Calibration certificate # Т1009/2010 dated 25/10/2010, valid till 25/10/2012, on ultrasound flow-meter type УВР-011А2.2-К, fabrication # 1009, issued by the Kharkiv Regional Scientific and Production Centre for Standardization, Metrology and Certification State Enterprise

/162/ Passport on ultrasound flow-meter type УВР-011,2, fabrication # 648 (last calibration date–08/04/2010)

/163/ Calibration certificate # 880/2010 dated 22/10/2010, valid till 22/10/2012, on ultrasound flow-meter type УВР-011А2.2-К,

fabrication # 880, issued by the Kharkiv Regional Scientific and Production Centre for Standardization, Metrology and Certification State Enterprise

/164/ Calibration certificate # 17-03 dated 05/10/2011, valid till 05/10/2013, on ultrasound flow-meter type УВР-011А2.2-К, fabrication # 17-03, issued by the Kharkiv Regional Scientific and Production Centre for Standardization, Metrology and Certification State Enterprise

/165/ Calibration certificate # 1009 dated 09/09/2010, valid till 09/09/2012, on ultrasound flow-meter type УВР-011А2.2-К, fabrication # 1009, issued by the Kharkiv Regional Scientific and Production Centre for Standardization, Metrology and Certification State Enterprise

/166/ Passport on power meter type Энергия-9, fabrication # 19133 (last calibration date–24/02/2005)

/167/ Passport on power meter type Энергия-9, fabrication # 17333 (last calibration date–29/11/2004)

/168/ Passport on power meter type Энергия-9, fabrication # 19128 (last calibration date–24/02/2005)

/169/ Passport on power meter type Энергия-9, fabrication # 17346 (last calibration date–29/11/2004)

/170/ Passport on power meter type Энергия-9, fabrication # 19082 (last calibration date–24/02/2005)

/171/ Passport on power meter type Энергия-9, fabrication # 49268 (last calibration date–15/06/2012)

/172/ Passport on power meter type Энергия-9, fabrication # 19021 (last calibration date–23/02/2005)

/173/ Passport on power meter type Энергия-9, fabrication # 20928 (last calibration date–14/07/2011)

/174/ Calibration certificate # 5/2-2-1522 dated 16/12/2010, valid till 16/12/2014, on current transformer type ТПЛ-10У3, fabrication # 369

/175/ Calibration certificate # 5/2-2-1523 dated 16/12/2010, valid till 16/12/2014, on current transformer type ТПЛ-10У3, fabrication # 86622

/176/ Project design on roof boiler-house of ME “Lutskvodokanal” industrial facility located 16, Sichova St., Lutsk city

/177/ Project design on Dubny water intake furnace shop located 26, Dubnivska St., Lutsk city

/178/ List of measuring equipment in operation to be calibrated in 2009

/179/ Data on gas consumption for 2007

/180/ Data on gas consumption for 2008

/181/ Data on gas consumption for 2009

/182/ Data on gas consumption for 2010

/183/ Data on gas consumption for 2011

/184/ Energy consumption balance sheet for 2007 (active power)

/185/ Energy consumption balance sheet for 2008 (active power)

/186/ Energy consumption balance sheet for 2009 (active power)

/187/ Energy consumption balance sheet for 2010 (active power)

/188/ Energy consumption balance sheet for 2011 (active power)
/189/ Order # 23[B] dated 14/03/2012 on 2011-2012 heating season end
/190/ Logbook on registration of chief power engineer department personnel training on health and safety (started 05/01/2009)
/191/ Logbook on registration of pumping station personnel training on health and safety (started 17/01/2012)

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/ Kyrychuk Olexander - Director of SME "Lutskteplo"
/2/ Dudchyk Roman - Head of production department of SME "Lutskteplo"
/3/ Habarchuk Valery - boiler operator of SME "Lutskteplo"
/4/ Kohosov Leonid - Chief metrological service of SME "Lutskteplo"
/5/ Matsyuk Polina - Accountant of SME "Lutskteplo"
/6/ Korchuk Ivan - Director of ME "Lutskvodokanal"
/7/ Nespay Valodymyr - main power of ME "Lutskvodokanal"
/8/ Sergey Shpak - Deputy Chief Energy of ME "Lutskvodokanal"
/9/ Leonid Moroz - senior machinist of ME "Lutskvodokanal"
/10/ Litvytska Irina - Head of production department of ME "Lutskvodokanal"

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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?	**Corrective Action Request (CAR) 01**. Please provide the Letter of Approval issued by the DFPs Party Involved. **Corrective Action Request (CAR) 02** Please specify ITL of the project in the MR.	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	See CAR 01 above	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?	Project is implemented in accordance with the PDD, determination of which is deemed to be final **Clarification Request (CL) 01** Please, provide the schedules of the equipment stoppage for the scheduled maintenance	OK	OK
93	What is the status of operation of the project during the monitoring period?	**Corrective Action Request (CAR) 03** Please correct the length of the monitoring period	OK	OK
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?	Yes, the monitoring occurs 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	Yes, all relevant key factors were taken into account, as appropriate.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?			
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	Data sources used for calculating emission reductions or enhancements of net removals are clearly identified, reliable and transparent	OK	OK
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?	**Corrective Action Request (CAR) 04** Please indicate the level of measurement error.	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?	Yes, the calculation of emission reductions 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 – Not applicable				
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?	Yes, the implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures.	OK	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, in order?	**Corrective Action Request (CAR) 05** Please provide passport and verification certificate confirming the accuracy of the measurements in the monitoring period for used meter type Энергия-9. **Corrective Action Request (CAR) 06**	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Please provide calibration interval for instruments used in the monitoring process. **Corrective Action Request (CAR) 07** Please provide the documental evidences of personnel training of the monitoring period. **Corrective Action Request (CAR) 08** Please, explain in what way the baseline and ERU quantity was adjusted in the current monitoring report		
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidences and records used for the monitoring maintained are in a traceable manner **Clarification Request (CL) 02** Please, provide contracts with all Third Parties involved in the project to prove the delivery of their products/services during the current monitoring period	CL02	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 monitoring plan	OK	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
Corrective Action Request (CAR) 01. Please provide the Letter of Approval issued by the DFPs and specify its numbers and dates in the MR.	90	Letters of Approval issued by the DFP were provided.	Issue is closed
Corrective Action Request (CAR) 02 Please specify ITL of the project in the MR.	90	Corresponding information was added to the MR. See MR version 02	Issue is closed
Corrective Action Request (CAR) 03 Please correct the length of the monitoring period	93	Length of crediting period was corrected. See MR version 02	Issue is closed
Corrective Action Request (CAR) 04 Please indicate the level of measurement error.	95 (c)	Uncertainty level measuring equipment indicated. See MR version 02	Issue is closed
Corrective Action Request (CAR) 05 Please provide passport and verification certificate confirming the accuracy of the measurements in the monitoring period for used meter type Энергия-9.	101 (b)	Passport was submitted to the verification team.	Issue is closed
Corrective Action Request (CAR) 06 Please provide calibration interval for instruments used in the monitoring process	101 (b)	Calibration interval is provided. See MR version 02	Issue is closed

Corrective Action Request (CAR) 07 Please provide the documental evidences of personnel training of the monitoring period.	101 (b)	In the PDD submitted additional information: Special training for work with new equipment is not needed. All trainings concerning the project were held by the equipment suppliers and their cost is included into the cost of equipment. See MR version 02	Issue is closed
Corrective Action Request (CAR) 08 Please correct the abbreviated name of ERUs	101 (b)	Corrected. The project applies specific approach based on the continuous measurement of the fuel consumption and adjustment of baseline to parameter changes in reporting period. See MR version 02	Issue is closed
Clarification Request (CL) 01 Please, provide the schedules of the equipment stoppage for the scheduled maintenance	92	"Stoppage graphics of hot water supply for the scheduled maintenance 2010" was provided to verification team.	Issue is closed
Clarification Request (CL) 02 Please, provide contracts with all Third Parties involved in the project to prove the delivery of their products/services during the current monitoring period	101 (c)	Contracts with all Third Parties involved in the project were provided to verification team	Issue is closed