



# VERIFICATION REPORT OJSC “OBLTEPLOCOMUNENERGO”

## VERIFICATION OF THE “REHABILITATION OF DISTRICT HEATING SYSTEMS IN DNIPROPETROVSK REGION”

(FOR THE PERIOD 01/01/2010 - 31/12/2010)  
REPORT No. UKRAINE-VER/0303/2011/  
REVISION No 02

BUREAU VERITAS CERTIFICATION



VERIFICATION REPORT "REHABILITATION OF DISTRICT HEATING SYSTEMS IN DNIPROPETROVSK REGION"



Date of first issue: 29/08/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: OJSC "Oblteplokomunenergo"	Client ref.: Barbarov lu. A.

Summary:  
Bureau Veritas Certification by the order of OJSC "Oblteplokomunenergo" has made the eighth periodic verification of the "Rehabilitation of District Heating Systems in Dnipropetrovsk Region" project located in Dnipropetrovsk Region, Ukraine, which applied the 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 Independent Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the verification process is a list of Clarification, Corrective Actions Requests, Forward Actions Requests (CR, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as 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. The ERUs issued totalize 284284 tons of CO<sub>2</sub>eq for the monitoring period from 01/01/2010 till 31/12/2010.

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

Report No.: UKRAINE-ver/0303/2011	Subject Group: JI	
Project title: "Rehabilitation of District Heating Systems in Dnipropetrovsk Region"		
Work carried out by: Igor Kachan - Team Leader, Lead Verifier Alexey Dzhafarov – Team Member, Verifier		
Work reviewed by: Ivan Sokolov - Internal Technical Reviewer		
Work approved by: Flavio Gomes - Operational Manager		
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## Abbreviations

AIE	Accredited Independent Entity
CAR	Corrective Action Request
CL	Clarification Request
CO <sub>2</sub>	Carbon Dioxide
ERU	Emission Reduction Unit
GHG	Green House Gas(es)
I	Interview
IETA	International Emissions Trading Association
JI	Joint Implementation
MoV	Means of Verification
NGO	Non Governmental Organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change

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## 1 INTRODUCTION

OJSC "Oblyteplokomunenergo" has commissioned Bureau Veritas Certification to verify the emission reductions by its JI project "Rehabilitation of District Heating Systems in Dnipropetrovsk Region" (hereafter called "the project") located in Dnipropetrovsk Region, Ukraine. Reference Number UA1000254.

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 and ex post determination by the AIE of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report and the determined project design document, including the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.



### 1.3 Verification Team

The verification team consists of the following personnel:

Igor Kachan

Bureau Veritas Certification, Team Leader, Climate Change Lead Verifier

Alexey Dzhafarov

Bureau Veritas Certification, Team Member, Climate Change Verifier

This verification 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 01.1 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) for the JI project «Rehabilitation of District Heating Systems in Dnipropetrovsk Region» #08 version 01 dated 29/07/2011 submitted by OJSC «Oblteplokcomunenergo» and additional background documents related to the project design and baseline, i.e. country Law, PDD, 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.



To address Bureau Veritas Certification further corrective action and clarification requests, the project participants revised the MR and resubmitted it on 26/08/2011 as version 02.

The verification findings presented in this report relate to the Monitoring Reports versions 01 and 02 and project as described in the determined PDD.

## 2.2 Follow-up Interviews

On 04/08/2011 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. MEHSN "Kryvorizhteplomerzha" and Institute of Engineering Ecology were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
MEHSN "Kryvorizhteplomerzha"	<ul style="list-style-type: none"> <li>• Project implementation status</li> <li>• Organizational structure</li> <li>• Responsibilities and authorities</li> <li>• Roles and responsibilities for data collection and processing</li> <li>• Personnel training</li> <li>• Installation of equipment</li> <li>• Data logging, archiving and reporting</li> <li>• Internal audits and check-ups</li> <li>• Quality management procedures and technology</li> <li>• Metering record keeping system, database</li> <li>• Control of metering equipment</li> <li>• Cross-check of the information provided in the MR with other sources</li> </ul>
Institute of Engineering Ecology	<ul style="list-style-type: none"> <li>• Monitoring plan</li> <li>• Monitoring report</li> <li>• Deviations from PDD</li> <li>• ERUs calculation model</li> </ul>



## 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 reports and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to the monitoring requirements, it should raise these issues and inform the project participants of these issues in the form of:

(a) Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;

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

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

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

## 3 VERIFICATION CONCLUSIONS

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

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

The Clarification, 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 4 Corrective Action Requests, 1 Clarification Requests, and 1 Forward Action 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**

During the determination process FAR was issued. FAR concerns issuing the order, which indicates that the monitoring data necessary for verification will be stored till the end of the crediting period and additionally for two years after the last ERUs transfer. This issue was closed by the relevant Order #14a dated 04/10/2010 on appointment of the responsible person and establishment of the period on documentation storage. JSC "Oblteplocomunenergo" is responsible for data collection and storage.

### **3.2 Project approval by Parties involved (90-91)**

Written project approvals by Switzerland and Ukraine have been issued by the DFPs of those Parties when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines. (They are listed among Category 1 Documents in the Reference section of this report).

The abovementioned written approvals are unconditional.

### **3.3 Project implementation (92-93)**

It was assessed by Bureau Veritas verification team during the site visit that the project has been implemented in accordance with the PDD regarding which the determination has been deemed final.

Implementation of the rehabilitation of boiler-houses and heating systems has been realized according to the project plan. During the monitoring period the following measures were implemented: boiler equipment rehabilitation (replacement and rehabilitation of boilers, burners, etc.), network rehabilitation (replacement and rehabilitation of pipes, heat supply stations, heat exchangers, etc.), installation of heat utilizes, implementation of electricity saving measures (installation of frequency controllers, replacement of pumps, etc.), construction of quarter gas boiler-houses.

In several cases replacement of network pipes with different (from planned before) diameters takes place. At the same time, this has not influenced the original monitoring plan and the project operation.

Outstanding issues related to the Project implementation, project participants` response and BV Certification`s conclusion are described in the Appendix A (see CAR 02).

### **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, 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.

Key monitoring activities for each subproject are sufficiently described in the MR and no deviations from the monitoring algorithm were detected. The monitoring points, including parameter monitored, monitoring equipment and information concerning its calibration interval are clearly described in the section B of the MR and the supporting Excel file and completely correspond to the ones prospected in the determined PDD.

The monitoring plan specifies the indicators, constants and variables that are reliable, valid, and that provide a transparent picture of the emission reductions to be monitored, such as:

1. Fuel consumption by boiler-houses (natural gas and coal)
2. Heating value of natural gas
3. Average outside temperature during heating period
4. Average inside temperature during heating period
5. Quantity of hot water supply consumers
6. Total heated area
7. Average heat-transfer factor of the buildings in base year
8. Heated area of buildings (existed in base year) with improved heat insulation in reported year
9. Heated area of new buildings connected to the heat supply system in reported year
10. Heat-transfer factor of the buildings with new thermal insulation
11. Duration of heating period
12. Duration of hot water supply period
13. Maximal connected load for heating services
14. Connected load for hot water supply services
15. Standard specific discharge of hot water at personal account
16. CO<sub>2</sub> emission factor
17. Conversion factor for average load within heating period
18. Electric energy consumption by the boiler-houses

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



Data used for monitoring of the emission reductions are sufficiently described in the Section B.2.1 of the MR (List of fixed default values, variables and attached values) and in Annex 1 (Data), Annex 2 (GHG emission reduction due to reducing of fuel consumption) and Annex 3 (GHG emission reduction due to reducing electricity consumption) to the MR.

The MR contains a complete compilation of the data that are collected for its application, including data that are measured or sampled and data that are collected from other sources (e.g. official statistics, IPCC, commercial and scientific literature etc.).

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

Outstanding issues related to the Compliance of the monitoring plan with the monitoring methodology, project participants` response and BV Certification`s conclusion is described in Appendix A (see FAR 01; CAR 03)

### **3.5 Revision of monitoring plan (99-100)**

Not applicable.

### **3.6 Data management (101)**

The data and their sources, provided in the 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. 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 monitoring of the main parameter - natural gas consumption by boiler houses, is carried out by the following scheme:

1. All boiler-houses are equipped with gas flow meters.
2. An operator of a boiler-house registers the instrument readings in the paper journals "Journal of registration of boiler-house`s operation parameters" every day.
3. For the boiler-houses that are not equipped with gas volume correctors the following algorithm was used. An operator of a boiler house reads the values of temperature and pressure of the natural gas at the boiler-house gas input every 2 hours. These parameters are used to bring gas consumption to standard conditions.
4. Operators transfer gas consumption data to Production-Technical Department by phone daily. They are stored there and used for gas supply fees.



All monitored data are submitted for verification, and are to be stored during two years after the end of the crediting period, according to the Order #14a dated 04.10.2010 "On appointment of the responsible personnel and establishment of the period on documentation storage". JSC "Oblteplocomunenergo" is responsible for data collection and storage.

All monitored data are submitted for verification, and are to be stored during two years after the end of the crediting period, according to the Order #14a dated 04.10.2010 "On appointment of the responsible personnel and establishment of the period on documentation storage". JSC "Oblteplocomunenergo" is responsible for data collection and storage.

Outstanding issues related to the Data management, PP's response and BV Certification's conclusion is described in Appendix (see CAR 04; CL 01).

### **3.7 Verification regarding programmes of activities (102-110)**

Not applicable

## **4 VERIFICATION OPINION**

Bureau Veritas Certification has performed the eighth periodic verification of the «Rehabilitation of District Heating Systems in Dnipropetrovsk Region» project in Ukraine. 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 project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of OJSC "Oblteplokomunenergo" 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 18/07/2011. The development and maintenance of records and reporting procedures are in accordance with the plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.



Report No: UKRAINE-ver/0303/2011/

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VERIFICATION REPORT "REHABILITATION OF DISTRICT HEATING SYSTEMS IN  
DNIPROPETROVSK REGION"

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Bureau Veritas Certification verified the Project Monitoring Report #08 version 02 dated 26/08/2011 for the reporting period from 01/01/2010 till 31/12/2010 as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design. 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 confirms that the GHG emission reduction is calculated without 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 the following statement:

Reporting period: From 01/01/2010 to 31/12/2010

Baseline emissions	:	1252488	t CO <sub>2</sub> equivalents.
Project emissions	:	968204	t CO <sub>2</sub> equivalents.
Emission Reductions	:	284284	t CO <sub>2</sub> equivalents.

## 5 REFERENCES

### Category 1 Documents:

Documents provided by OJSC "Oblteplokunenergo" that relate directly to the GHG components of the project.

1. PDD "Rehabilitation of District Heating Systems in Dnipropetrovsk Region" version 04 dated 18/07/2011
2. Determination Report UKRAINE-det/0299/2011 dated 26/07/2011
3. Monitoring report «Rehabilitation of District Heating Systems in Dnipropetrovsk Region» #08 version 01 dated 29/07/2011
4. Monitoring report «Rehabilitation of District Heating Systems in Dnipropetrovsk Region» #08 version 02 dated 26/08/2011
5. Supporting Excel file "Annex 2-5 MR5 Dnepr\_KP Teploenergo"
6. Supporting Excel file "Annex 6-9 MR5 Dnepr\_MTM"
7. Supporting Excel file Annex\_10\_13\_MR5\_Dnepr\_KR
8. Supporting Excel file "Annex\_14\_MR5\_Dnepr\_Total"
9. Letter of Approval #569/23/7 dated 16.03.2011 issued by the National Environmental Investment Agency of Ukraine
10. Letter of Approval #J294-0485 dated 24.01.2011 issued by the Federal Office for the Environment (Switzerland)

### Category 2 Documents:

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

- /1/ Gas flow meter type Universal serial #10450295 (Hodycha 1a)
- /2/ Water boiler type PREXTHERM RSW 300
- /3/ Basic hit scheme of boiler-house «Hodycha 1a»
- /4/ Gas registration journal of boiler-house «Hodycha 1a»
- /5/ Journal of boiler-house gas equipment operation (Hodycha 1a)
- /6/ Journal of boiler-house chemical water cleaning (Hodycha 1a)
- /7/ Regime card of water heating boiler PREXTHERM RSW 300 «Hodycha 1a» boiler-house
- /8/ Regime card of water heating boiler type KB-Г-4-150 «Pologovogo budinku #1» boiler-house
- /9/ Photo - Gas flow meter type АИР-20/М2/ДД - 410
- /10/ Photo - Gas flow meter type АИР-20/М2/ДД - 420
- /11/ Gas flow meter type Universal «Pologovogo budinku #1» boiler-house
- /12/ Daily register of steam boilers and auxiliary equipment operation (Pologovogo budinku #1 boiler-house)
- /13/ Shift journal of boilers and auxiliary equipment operation (Pologovogo budinku #1 boiler-house)
- /14/ Daily register of chemical water cleaning and hydroregime of boilers



- (Pologovogo budinku #1 boiler-house).
- /15/ Shift journal of chemical water cleaning and hydroregime of boilers (Pologovogo budinku #1 boiler-house)
  - /16/ Photo – Boiler #1 (Pologovogo budinku #1) boiler-house
  - /17/ Control panel of boiler #4 (Pologovogo budinku #1) boiler-house
  - /18/ Control panel of boiler #5 (Pologovogo budinku #1) boiler-house
  - /19/ Control panel of boiler #6 (Pologovogo budinku #1) boiler-house
  - /20/ Photo – Boiler #6 of boiler-house «Pologovogo budinku # 1» boiler-house
  - /21/ Daily register of water heating and auxiliary equipment operation (Pologovogo budinku #1)
  - /22/ Basic heat scheme (Pushkina #13 boiler-house)
  - /23/ Daily register of water heating and auxiliary equipment operation (Pushkina #13 boiler-house)
  - /24/ Natural gas consumption registration journal (Pushkina #13 boiler-house)
  - /25/ Registration journal of chemical water cleaning conditions (Pushkina #13 boiler-house)
  - /26/ Gas flow meter type Universal (Pushkina #13 boiler-house)
  - /27/ Photo – Pressure difference transducer type Canφip #105320 (Pushkina #13 boiler-house)
  - /28/ Photo – Pressure difference transducer type Canφip #105319 (Pushkina #13 boiler-house)
  - /29/ Photo – Diafragm #10427122 (Pushkina #13 boiler-house)
  - /30/ Photo – Water heating boiler type RIELLO RTQ 900 #1 (Pushkina #13 boiler-house)
  - /31/ Chart of security and alarm installation for water heating boiler type RIELLO RTQ 900 #1
  - /32/ Basic heat scheme (KTRA boiler-house)
  - /33/ Registration journal of boiler-house conditions (KTRA boiler-house)
  - /34/ Registration journal of natural gas consumption (KTRA boiler-house)
  - /35/ Gas flow meter type Universal (Hihant boiler-house #3)
  - /36/ Monitoring parameters control panel of boiler #1 and boiler #2 (Hihant boiler-house #3)
  - /37/ Photo – Boiler type ДКBP-10/13#2 (Hihant boiler-house #3)
  - /38/ Photo – Burner type ДКBP-10/13#2 (Hihant boiler-house #3)
  - /39/ Basic heat scheme (Hihant boiler-house #3)
  - /40/ Daily parameters register for boilers type ДКBP-10/13#1,2,3 (Hihant boiler-house #3)
  - /41/ Manual for gas flow meter type Universal (Hihant boiler-house #3)
  - /42/ Daily register of boilers type ПТBM (Hihant boiler-house #3)
  - /43/ Journal on chemical water cleaning analysis of boilers type ПТBM (Hihant boiler-house #3)
  - /44/ Gas flow meter type Universal serial #10427148 (Vodohriina boiler-house)
  - /45/ Manual for gas flow meter type Universal (Vodohriina boiler-house)
  - /46/ Photo – sensor type METRAN-49-ДД #81579 (Vodohriina boiler-house)
  - /47/ Photo –sensor type METRAN #469415 (Vodohriina boiler-house)



- /48/ Basic heat scheme (Vodohriina boiler-house)
- /49/ Parameters control journal of boilers and hot water supply(Daily register) (Vodohriina boiler-house)
- /50/ Shift journal of boiler aggregates and auxiliary equipment and their renovation (Vodohriina boiler-house)
- /51/ Journal of chemical water cleaning conditions (Vodohriina boiler-house)
- /52/ Panel type КВП of boiler #2 (Vodohriina boiler-house)
- /53/ Photo – Boiler type КГБ # 47105 (Vodohriina boiler-house)
- /54/ Panel type КВП of boiler #1 (Vodohriina boiler-house)
- /55/ Report on air protection for the 1<sup>st</sup> quarter 2010
- /56/ Report on air protection for the 2<sup>nd</sup> quarter 2010
- /57/ Report on air protection for the 3<sup>d</sup> quarter 2010
- /58/ Report on air protection for 2010
- /59/ EIA "Municipal Enterprise "Kryvorizhteplomerzha" boiler #102 - installation" (Pushkina #13 boiler-house)
- /60/ EIA "Municipal Enterprise "Kryvorizhteplomerzha" boiler #102 - installation" (Children's Hospital #4 boiler-house)
- /61/ EIA « 102 boiler Municipal Enterprise «Kryvorizhteplomerzha» - installation » (Quarter 25 boiler-house)
- /62/ Letter #1190 dated 04/04/2008 on getting permit for stationary sources air pollution.
- /63/ Letter #5451 dated 27/12/2007 on getting permit for stationary sources air pollution.
- /64/ Permit #1211000000-37 for the period from 22/06/2007 till 22/06/2012 on stationary sources air pollution.
- /65/ Permit #1211027200-233 for the period from 20/02/2009 till 20/03/2014 on stationary sources air pollution.
- /66/ Permit #1211037200-273 for the period from 20/03/2009 till 20/03/2014 on stationary sources air pollution
- /67/ Permit #1211036900-279 for the period from 20/03/2009 till 20/03/2014 on stationary sources air pollution
- /68/ Permit #1211037000-248 for the period from 20/03/2009 till 20/03/2014 on stationary sources air pollution.
- /69/ Permit #1211036300-254 for the period from 20/03/2009 till 20/03/2019 on stationary sources air pollution.
- /70/ Permit #1211037200-258 for the period from 20/03/2009 till 20/03/2014 on stationary sources air pollution.
- /71/ Permit #1211036400-268 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
- /72/ Permit #1211036300-263 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
- /73/ Permit #1211037200-278 for the period from 23/06/2008 for till 23/06/2013 on stationary sources air pollution.
- /74/ Permit #1211036400-246 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
- /75/ Permit #1211036400-261 for the period from 23/06/2008 till 23/06/2013 on





- stationary sources air pollution.
- /76/ Permit #1211037200-232 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /77/ Permit #1211037500-281 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /78/ Permit #1211036400-264 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /79/ Permit #1211036900-272 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /80/ Permit #1211037200-232 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /81/ Permit #1211037200-265 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /82/ Permit #1211037200-224 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /83/ Permit #122800000-23 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /84/ Permit #1211037500-259 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /85/ Permit #1211037500-255 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /86/ Permit #1211036900-253 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /87/ Permit #1211036600-239 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /88/ Permit #1211037000-237 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /89/ Permit #1211037000-236 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /90/ Permit #1211037500-250 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /91/ Permit #1211037500-241 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /92/ Permit #1211037200-280 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /93/ Permit #1211037500-256 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /94/ Permit #1211037500-243 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /95/ Permit #1211036400-275 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /96/ Permit #1211036600-238 for the period from 23/06/2008 till 23/06/2013 on stationary sources air pollution.
  - /97/ Permit #1211036400-469 for the period from 08/06/2010 till 08/06/2015 on stationary sources air pollution.
  - /98/ Passport on gas meter type supersonic «KYPC-01», serial number #4243
  - /99/ Calibration protocol on gas meter type ПГК-100, serial number #7097



- /100, Passport on gas meter type ПГК-100, serial number #7097
- /101, Passport on gas meter type ПГК-100, serial number #4464
- /102, Calibration protocol on gas meter type ПГК-400, serial number #4464
- /103, Calibration protocol on gas meter type Купс-01-G400A, serial number #4104
- /104, Passport on gas meter type GSM-25, serial number #074905
- /105, Calibration protocol on gas meter type GSM-G25, serial number #074905
- /106, Calibration protocol on gas meter type ПГК-G65, serial number #0022
- /107, Passport on gas meter type ПГК-G65, serial number #0022
- /108, Calibration protocol on gas meter type ПГК-G65, serial number #0005
- /109, Passport on gas meter type ПГК-G65, serial number #0005
- /110, Calibration protocol on gas meter type ПГК-G65, serial number #00040
- /111, Passport on gas meter type ПГК-G65, serial number #0040
- /112, Calibration protocol on gas meter type ПГК-G25, serial number #0487
- /113, Passport on gas meter type ПГК-G25, serial number #0487
- /114, Passport on rotor gas meter type ПГК-Ex, serial number #0004014
- /115, Statement of work activity dated 01/08/2011
- /116, Protocol on constant programming parameters of gas flow meter type Universal-01 (Pushkina #13 boiler-house)
- /117, Conformity statement of flow meter unit. Boiler-house (Pushkina #13)
- /118, Measuring statement dated 20/11/2007 on RU pipeline inside diameter. Boiler-house (Pushkina #13)
- /119, Passport on surroundings measuring conditions and characteristics. Boiler-house (Pushkina #13)
- /120, Passport on diaphragm, serial number #1300 Boiler-house (Pushkina #13)
- /121, Certificate #1086 on pressure transducer type Canφip-22M-ДД-2430, serial number #146623 Boiler-house (Pushkina #13)
- /122, Certificate #921 on flow meter type Universal-01, serial number #6817 (Pushkina #13)
- /123, Calibration protocol #921 on flow meter type Universal-01, serial #6817 (Pushkina #13)
- /124, Certificate #1624 on flow meter type Universal-01, serial #30001 (Komunistychna, 43 boiler-house)
- /125, Calibration protocol #1624 on flow meter type Universal-01, serial #30001 (Komunistychna, 43 boiler-house)
- /126, Conformity certificate on flow meter unit type АЧЦА.407251.001 ΦО and ГРЄМ 020000.000 KE (Komunistychna, 43 boiler-house)
- /127, Passport on pressure transducer type Metran-100ДД, serial #278617 (3<sup>d</sup> City Hospital boiler-house)
- /128, Passport on diaphragm #14 (3<sup>d</sup> City Hospital boiler-house)
- /129, Passport on diaphragm #2011 (Pologovogo budinku #1)
- /130, Passport on diaphragm #15 (3<sup>d</sup> City Hospital boiler-house)
- /131, Protocol on default parameters programming of flow meter type Universal-01 at 3<sup>d</sup> City Hospital boiler-house
- /132, Conformity certificate on flow meter unit type Φ6.784.000ТО and ГРЄМ 020000.001-02 ПС (3d City Hospital)
- /133, Passport on pressure transducer type Metran-100ДД-1430, serial #186745 (RUDOR boiler-house)



- /134/ Passport on temperature transducer type ПТВ-01-1, serial #1004 (RUDOR boiler-house)
- /135/ Passport on pressure sensor type АИР-20/М2-ДД-410, serial #20-74177 (RUDOR boiler-house)
- /136/ Passport on pressure transducer type Санфip-22М-ДД-2430, serial #146546 (RUDOR boiler-house)
- /137/ Certificate #1141 on pressure transducer type Санфip-22М-ДД-2430, serial #146546 (RUDOR boiler-house)
- /138/ Passport on pressure transducer type МИДА-ДА, serial #05412273 (RUDOR boiler-house)
- /139/ Certificate #922 on flow meter type Universal-01, serial #3800 (RUDOR boiler-house)
- /140/ Calibration protocol #922 on flow meter type Universal-01, serial #3800 (RUDOR boiler-house)
- /141/ Conformity certificate on flow meter unit type Фб.784.000ТО and ГРЕМ 020000.001-02 ПС (RUDOR boiler-house)
- /142/ Passport on pressure transducer type Metran-100ДД, serial #469415, 2<sup>nd</sup> City Hospital boiler-house
- /143/ Passport on pressure transducer type Мида-ДА, serial #05413200, 2<sup>nd</sup> City Hospital boiler-house
- /144/ Passport on pressure sensor type Metran-49ДД-9420, serial #819579, 2<sup>nd</sup> City Hospital boiler-house
- /145/ Certificate #637 on flow meter type Universal-01, serial #6715, 2<sup>nd</sup> City Hospital boiler-house
- /146/ Calibration protocol #637 on flow meter type Universal-01, serial #6715, 2<sup>nd</sup> City Hospital boiler-house
- /147/ Protocol on default parameters programming of flow meter type Universal-01 at 2<sup>nd</sup> City Hospital boiler-house
- /148/ Conformity statement on flow meter unit ГРЕМ.020000.001-01 КЕ and РД 50-213-80 (2<sup>nd</sup> City Hospital boiler-house)
- /149/ Acceptance-transmitting certificate on repaired, rehabilitated and upgraded objects at 103 Urytskoho st. boiler-house
- /150/ Acceptance-transmitting certificate on repaired, rehabilitated and upgraded objects at boiler-house #33, 9 and City Hospital
- /151/ Acceptance-transmitting certificate on repaired, rehabilitated and upgraded objects at 87 Mopravska st. boiler-house
- /152/ Acceptance-transmitting certificate on repaired, rehabilitated and upgraded objects at "Hihant" boiler-house
- /153/ Acceptance-transmitting certificate on repaired, rehabilitated and upgraded objects at UTKR #18
- /154/ Acceptance-transmitting certificate on repaired, rehabilitated and upgraded objects at "Hihant" boiler-house, boiler ПТВМ-50 №2
- /155/ Acceptance-transmitting certificate on repaired, rehabilitated and upgraded objects at Ternovsk region
- /156/ MEHSN "Kryvorizhteplomerzha" personnel education and reattestation schedule for 2010 (labour technological, fire and electrical safety rules and regulations)



- /157/ Protocol #380 on heating units and networks operation safety regulations knowledge examination
- /158/ Protocol #2 on heating units and networks operation safety regulations knowledge examination
- /159/ Information on average daily air and water temperature in Kryvyi Rih in December 2010
- /160/ Information on average daily air and water temperature in Kryvyi Rih in November 2010
- /161/ Information on average daily air and water temperature in Kryvyi Rih in October 2010
- /162/ Information on average daily air and water temperature in Kryvyi Rih in September 2010
- /163/ Information on average daily air and water temperature in Kryvyi Rih in August 2010
- /164/ Information on average daily air and water temperature in Kryvyi Rih in July 2010
- /165/ Information on average daily air and water temperature in Kryvyi Rih in June 2010
- /166/ Information on average daily air and water temperature in Kryvyi Rih in May 2010
- /167/ Information on average daily air and water temperature in Kryvyi Rih in April 2010
- /168/ Information on average daily air and water temperature in Kryvyi Rih in March 2010
- /169/ Information on average daily air and water temperature in Kryvyi Rih in February 2010
- /170/ Information on average daily air and water temperature in Kryvyi Rih in January 2010
- /171/ Natural gas physical and chemical characteristics certificate for January 2010
- /172/ Natural gas physical and chemical characteristics certificate for February 2010
- /173/ Natural gas physical and chemical characteristics certificate for March 2010
- /174/ Natural gas physical and chemical characteristics certificate for April 2010
- /175/ Natural gas physical and chemical characteristics certificate for May 2010
- /176/ Natural gas physical and chemical characteristics certificate for June 2010
- /177/ Natural gas physical and chemical characteristics certificate for July 2010
- /178/ Natural gas physical and chemical characteristics certificate for August 2010
- /179/ Natural gas physical and chemical characteristics certificate for September 2010
- /180/ Natural gas physical and chemical characteristics certificate for October 2010
- /181/ Natural gas physical and chemical characteristics certificate for November 2010
- /182/ Natural gas physical and chemical characteristics certificate for December 2010
- /183/ Logbook on emergency and failure situations in MEHSN "Kryvorizhtplomerezha" operation
- /184/ Notice dated 10/12/2010
- /185/ Notice dated 16/12/2010
- /186/ Notice dated 11/12/2010
- /187/ Report on active energy consumption for March 2010



- /188/ Statement on energy consumption for March 2010
- /189/ Report on active energy consumption for February 2010
- /190/ Energy consumption by suppliers for February 2010
- /191/ Report on energy consumption for February 2010
- /192/ Report on energy consumption by ASTELIT LLC for January 2010
- /193/ Report on active energy consumption for June 2010
- /194/ Energy consumption by suppliers for June 2010
- /195/ Report on active energy consumption for March 2010
- /196/ Report on active energy consumption for April 2010
- /197/ Report on active energy consumption for September 2010
- /198/ Report on active energy consumption for August 2010
- /199/ Report on active energy consumption for July 2010
- /200/ Report on active energy consumption for December 2010
- /201/ Report on active energy consumption for November 2010
- /202/ Report on active energy consumption for October 2010
- /203/ Report on active energy consumption for 2010
- /204/ Report on natural gas consumption for January 2010
- /205/ Report on natural gas consumption for February 2010
- /206/ Report on natural gas consumption for March 2010
- /207/ Report on natural gas consumption for April 2010
- /208/ Report on natural gas consumption for May 2010
- /209/ Report on natural gas consumption for June 2010
- /210/ Report on natural gas consumption for July 2010
- /211/ Report on natural gas consumption for August 2010
- /212/ Report on natural gas consumption for September 2010
- /213/ Report on natural gas consumption for October 2010
- /214/ Report on natural gas consumption for November 2010
- /215/ Report on natural gas consumption for 2010
- /216/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for September 2010
- /217/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for January 2010
- /218/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for February 2010
- /219/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for December 2010
- /220/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for November 2010
- /221/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for October 2010
- /222/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for August 2010
- /223/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for June 2010
- /224/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for July 2010
- /225/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat



- supply system objects for March 2010
- /226/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for April 2010
- /227/ Average daily register of parameters at MEHSN "Kryvorizhtplomerezha" heat supply system objects for May 2010
- /228/ Photo – Gas meter type Universal, serial #6819 (Oncology boiler-house)
- /229/ Natural gas registration journal (Oncology boiler-house)
- /230/ Natural gas registration journal (Oncology boiler-house)



### **Persons interviewed:**

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

- /1/ Director of MEHSN "Kryvorizhteplomerzha"- Mitin S.M.
- /2/ Chief Engineer of MEHSN "Kryvorizhteplomerzha" - Ierin O.Yu.
- /3/ Chief electrician of  
MEHSN "Kryvorizhteplomerzha" - Smirnov K.F.
- /4/ Head of OP and BR  
MEHSN "Kryvorizhteplomerzha" - Asmolov S.O.
- /5/ Head of the laboratory setup –Kulish A.V.
- /6/ Engineer of technical supervision of  
MEHSN "Kryvorizhteplomerzha" - Dolzhenko S.V.
- /7/ Engineer of accounting group - Savko O.A.
- /8/ Engineer-serviceman of boiler equipment – Kucheriavaia E.L.
- /9/ Engineer-serviceman of boiler equipment - Kotova V.A.
- /10/ Foreman - Tkachenko I.V.
- /11/ JI Consultant, Institute of Engineering Ecology - Korinchuk K.O.
- /12/ JSC "Oblteplocomunenergo", Head of Legal Support of economic  
activity - Bardina O

## VERIFICATION REPORT "REHABILITATION OF DISTRICT HEATING SYSTEMS IN DNIPROPETROVSK REGION"

БЮРО ВЕРІТАС СЕРТИФІКАЦІЙНИЙ ХОЛДІНГ SAS

## 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
<b>Project approvals by Parties involved</b>				
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?	<p>The written approvals of the project from Switzerland and Ukraine have been issued by the Designated focal points of these parties in accordance with the paragraph 38 of the JI Guidelines.</p> <p><b>CAR 01</b></p> <p>The project title indicated in the MR does not correspond to the one specified in the written project approval. Please, make the appropriate corrections.</p>	<b>CAR 01</b>	OK
91	Are all the written project approvals by Parties involved unconditional?	All the written approvals are unconditional.	OK	OK
<b>Project implementation</b>				
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?	<p>According to the determined PDD the project envisages installation of 382 new highly efficient boilers, replacement of 333 boilers' burners, installation of 74 heat utilizers, and reconstruction of over 393 km of heat distributing networks. Implementation of boiler houses and network rehabilitation during the monitoring period was realized according to the project implementation plan provided in the PDD.</p> <p><b>CAR 02</b></p> <p>The actual (stated in the MR) and estimated (stated in the PDD) amount of ERUs differs significantly. Please, add a comparison of the values to the MR and provide justification of the difference.</p>	<b>CAR 02</b>	OK






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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
93	What is the status of operation of the project during the monitoring period?	The installation of new highly efficient boilers, replacement of boilers' burners, installation of heat utilizers, and reconstruction of heat distributing networks, etc., indicated in the Table 3 of MR, is executed in accordance with PDD, version 04.	OK	OK
<b>Compliance with monitoring plan</b>				
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 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.	OK	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, 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?	For calculating the emission reductions or enhancements of net removals, key factors, 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 were taken into account.	OK	OK
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.  <b>FAR 01</b> The duration of the heating period in Ukraine covers a part of one calendar year and a part of the next year. However, the monitoring period for the Project coincides with the calendar year. Please, provide the starting and final dates of heating period for each monitoring period for each boiler-house and make	<b>FAR 01</b>	OK




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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		corresponding corrections in the calculations.		
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?	The emission factors, including default emission factors, used for calculating the emission reductions or enhancements of net removals, are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.	OK	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	The calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner. <b>CAR 03</b> There are references to the Annexes 1-14 in the MR. However, only Annex 1 is included to the document. Please specify in MR that Annexes 2-14 are issued as separate additional Excel files.	<b>CAR 03</b>	OK
<b>Applicable to JI SSC projects only</b>				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	N/A	N/A	N/A
<b>Applicable to bundled JI SSC projects only</b>				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	N/A	N/A	N/A




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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	N/A	N/A	N/A
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	N/A	N/A	N/A
<b>Revision of monitoring plan</b>				
<b>Applicable only if monitoring plan is revised by project participant</b>				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	N/A	N/A	N/A
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?	N/A	N/A	N/A
<b>Data management</b>				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance	The implementation of data collection procedures are in accordance with the monitoring plan included in the determined PDD. The verification team confirms effectiveness of existing management and operational	<b>CAR 04</b>	OK




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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	procedures?	systems and found them eligible for reliable project monitoring. <b>CAR 04</b> Please explain why it is specified in the section C.2. of the MR that there were no third parties involved in quality assurance and control measures, while in section B.1.3. it is indicated that the periodic inspection of measuring equipment is held by the third parties involved. Please provide an explanation or make corrections.		
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	The functions of monitoring equipment, including its calibration status, are in order.	OK	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	Yes, the evidence and records used for the monitoring are maintained in a traceable manner.	OK	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	Yes, data collection and management system for the project is in accordance with the monitoring plan <b>CL 01</b> Please provide an education/training schedule for the monitoring period of personnel working with the project equipment.	<b>CL 01</b>	OK
<b>Verification regarding programs of activities (additional elements for assessment)</b>				
102	Is any JPA that has not been added to the JI PoA not verified?	N/A	N/A	N/A
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/A	N/A	N/A
103	Does the verification ensure the accuracy and conservativeness of the	N/A	N/A	N/A




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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reductions or enhancements of removals generated by each JPA?			
104	Does the monitoring period not overlap with previous monitoring periods?	N/A	N/A	N/A
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	N/A	N/A	N/A
<b>Applicable to sample-based approach only</b>				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: – The types of JPAs; – The complexity of the applicable technologies and/or measures used; – The geographical location of each JPA; – The amounts of expected emission reductions of the JPAs being verified; – The number of JPAs for which	N/A	N/A	N/A




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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reductions are being verified; – The length of monitoring periods of the JPAs being verified; and – The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	N/A	N/A	N/A
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	N/A	N/A	N/A
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	N/A	N/A	N/A
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	N/A	N/A	N/A


**Table 2 Resolution of Corrective Action and Clarification Requests**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
<b>CAR 01.</b> The project title indicated in the MR does not correspond to the one specified in the written project approval. Please, make the appropriate corrections.	90	As of the date of 22/08/11 the title of the project given in MR corresponds to that indicated in the Letters of approval of the project.	The clarification and subsequent corrections were found appropriate. The issue is closed.
<b>CAR 02</b> The actual (stated in the MR) and estimated (stated in the PDD) amount of ERUs differs significantly. Please, add a comparison of the values to the MR and provide justification of the difference.	92	The corresponding information is added to the MRs version 02.	The issue is closed based on due corrections made.
<b>CAR 03</b> There are references to the Annexes 1-14 in the MR. However, only Annex 1 is included to the document. Please specify in MR that Annexes 2-14 are issued as separate additional Excel files.	95 (d)	It is added in the MRs version 02.	The issue is closed based on due corrections made in the MR.
<b>CAR 04</b> Please explain why it is specified in the section C.2. of the MR that there were no third parties involved in quality assurance and control measures, while in section B.1.3. it is indicated that the periodic inspection of measuring equipment is held by the third parties involved. Please provide an explanation or make corrections.	101 (a)	The corresponding information is added in the MRs version 02.	The issue is closed based on due corrections made in the MR.




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<p><b>FAR 01</b> The duration of the heating period in Ukraine covers a part of one calendar year and a part of the next year. However, the monitoring period for the Project coincides with the calendar year. Please, provide the starting and final dates of heating period for each monitoring period for each boiler-house and make corresponding corrections in the calculations.</p>	95 (b)	<p>In FAR the heating season is mentioned, which usually lasts from October to April of the next year.</p> <p>In the project purposely the term "heating period" is used, which covers the operational time of a boiler-house for heating during one calendar year, i.e. the heating period consists of parts of the two heating seasons, namely from January 1 till the end of a heating season and from the date of the beginning of a heating season till December 31 of a reported year. The heating period is determined for each boiler-house and is referred in MRs.</p> <p>Dates of the beginning and end of heating seasons are not the monitoring parameters (just heating period duration is the parameter), so these dates are not specified in the MRs.</p> <p>The information about heating period duration, including dates of the beginning and end of heating seasons for each monitoring period for enterprises mentioned in MRs, may be provided as additional information.</p>	The issue will be checked during the next periodic verification.
<p><b>CL 01</b> Please provide an education/training schedule for the monitoring period of personnel working with</p>	101 (d)	District heating enterprises that implement the project provide personnel retraining according to the	The response was found appropriate. The issue is closed.





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<p>the project equipment.</p>		<p>labour safety norms. As far as the main activity of district heating enterprises that implement the project will not change in course of the JI project implementation, the special technical trainings for personnel are not necessary. This is specified in MRs.</p> <p>Special training for personnel involved in the process of collecting, processing and storage of data for monitoring of GHG emissions, according to the PDD was held in September 2010, before the development of the first Monitoring reports, which is specified in MRs.</p> <p>Additional training on these issues was held on 24/06/2011 for involved personnel of enterprises ME "Teploenergo" DCC, CME "DTM" and MEHSN "Kryvorizhtplomerezha". The corresponding information is added to the MRs version 02.</p> <p>Further trainings on these issues are not planned, but they may be held if the personnel staff would be significantly changed.</p> <p>Therefore, a special schedule of trainings is not foreseen.</p>	
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