



BUREAU
VERITAS

VERIFICATION REPORT

ME “KHARKIVSKI TEPLOVI MEREZHI”

VERIFICATION OF THE REHABILITATION OF THE DISTRICT HEATING SYSTEM IN KHARKIV CITY

FIFTH PERIODIC FOR 2011
(01 JANUARY 2011 – 31 DECEMBER 2011)

REPORT No. UKRAINE-VER/0232/2011/1
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BUREAU VERITAS CERTIFICATION



VERIFICATION REPORT

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Client: ME "Kharkivski teplovi merezhi"	Client ref.: Mr. Sergey Andreev

Summary:

Bureau Veritas Certification has made the 5th periodic verification of the project "Rehabilitation of the District Heating System in Kharkiv City", project of ME "Kharkivski teplovi merezhi" located in Kharkiv city, Ukraine, and applying 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 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 (CL, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated without material misstatements, and the ERUs issued totalize 392657 tonnes of CO₂ equivalent for the monitoring period from 01/01/2011 to 31/12/2011.

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.

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Project title: "Rehabilitation of the District Heating System in Kharkiv City"	
Work carried out by: Team Leader, Lead Verifier: Oleg Skoblyk Team Member, Verifier: Rostislav Topchiy Team Member, Verifier: Vitaliy Minyaylo	
Work reviewed by: Ivan Sokolov – Internal Technical Reviewer Vyacheslav Yeriomin - Technical Expert	
Work approved by: Ivan Sokolov – Operational Manager	
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1 INTRODUCTION

ME “Kharkivski teplovi merezhi” has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Rehabilitation of the District Heating System in Kharkiv City" (hereafter called “the project”) in Kharkiv 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 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:

Skoblyk Oleg

Bureau Veritas Certification, Team Leader, Climate Change Lead Verifier

Topchiy Rostislav

Bureau Veritas Certification, Team Member, Climate Change Verifier

Minyaylo Vitaliy

Bureau Veritas Certification, Team Member, Climate Change Verifier



This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

Vyacheslav Yeriomin
Bureau Veritas Certification, Technical Expert

2 METHODOLOGY

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

In order to ensure transparency, a verification protocol was customized for the project, according to the version 01 of the Joint Implementation Determination and Verification Manual, issued by the Joint Implementation Supervisory Committee at its 19 meeting on 04/12/2009. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by “Institute of Engineering Ecology” and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (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. Answering the AIE’s CARs and CLs project participant has issued new version of the Monitoring Report – version 02.

The verification findings presented in this report relate to the Monitoring Report version 02 and project as described in the determined PDD.



2.2 Follow-up Interviews

On 21-22/02/2012 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 Institute of Engineering Ecology and ME "Kharkivski teplovi merezhi" were interviewed during site visit (see References for the list of interviewed persons). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
ME "Kharkivski teplovi merezhi"	<ul style="list-style-type: none"> ➤ Organizational structure. ➤ Responsibilities and authorities. ➤ Training of personnel. ➤ Quality management procedures and technology. ➤ Implementation of equipment (records). ➤ Metering equipment control. ➤ Metering record keeping system, database.
Institute of Engineering Ecology	<ul style="list-style-type: none"> ➤ Baseline methodology. ➤ Monitoring plan. ➤ Monitoring report. ➤ Deviations from PDD.

2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

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

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



(b) Clarification request (CL), requesting the project participants to provide additional information for the 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 06 Corrective Action Requests, 06 Clarification Requests.

The number between brackets at the end of each section corresponds to the DVM paragraph (see references).

3.1 Remaining issues and FARs from previous verifications

Remaining issues and FARs from previous verification are absent.
Not applicable.

3.2 Project approval by Parties involved (90-91)

Written project approval by Netherlands (Letter of Approval from Ministry of Economic Affairs of Netherlands 2008JI10 dated 19 December 2008) and Ukraine (Letter of Approval from National Environmental Investment Agency of Ukraine № 1144/23/7 dated 24/12/2008) has been issued by the DFP of that Party when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest.



The abovementioned written approval is unconditional.

3.3 Project implementation (92-93)

The project main goal is fuel consumption reduction, in particular reduction of natural gas (which is imported to Ukraine) and coal consumption, by means of district heating system rehabilitation in Kharkiv City, including boiler and distribution network equipment replacement and rehabilitation, installation of combined heat and power production plants and frequency controllers. Such reduction of fuel consumption will result in decrease of greenhouse gas emissions (CO₂ and N₂O). The purpose of the project is sustainable development of the region through implementation of energy saving technologies.

Municipal Enterprise (ME) "Kharkivski teplovi merezhi" is one of the main enterprises in field of production and distribution of the heat energy in Kharkiv City. It sells heat energy in forms of heat, hot water and steam, to local consumers, namely households, municipal consumers and state-owned organizations. Besides ME "Kharkivski teplovi merezhi", heat energy is produced by CHP-5 and CHP-3 stations, which have no their own distribution network, but have consumers, with which they have signed contracts for heat energy supply. Therefore they forced to have contractual relations with ME "Kharkivski teplovi merezhi" concerning to heat energy distribution to their consumers. Surplus of produced heat energy is sale to ME "Kharkivski teplovi merezhi". Heat supply market in the region is stable for years.

The project was initiated in 30/04/2004 to rehabilitate Kharkiv City's district heating system, including boiler and distribution network equipment replacement and rehabilitation, and installation of combined heat and power production plants (CHP) as well as frequency controllers. Project includes 277 boiler-houses with 610 boilers, CHP-4 station and 1411,5 km of heat distributing networks, that are managed by ME "Kharkivski teplovi merezhi".

Project provides installation of cogeneration units of JSC "Pervomaiskdieselmash" (Ukraine) - 3 gas engine-generator machines DvG1A-630, with total capacity 1890 kW at boiler houses of Saltivskiy Living Area (KSZHM).

The following activities will ensure fuel saving:

- Replacement of old boilers by the new highly efficient boilers;
- Switching of load from boiler-houses with obsolete equipment to modern equipped boiler houses and CHP plants and units.
- Switching of boiler-houses from coal to natural gas;



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- Improving of the network organization;
- Application of the pre-insulated pipes;
- Installation of combined heat and power production units;
- Installation of frequency controllers at electric drives of draught-blowing equipment and hot water pumps motors.

The actual operation of the proposed project is presented bellow.

Table 2. Amount of GHG emission reduction during the monitoring period.

Implemented energy saving measures	Volume of performed works (number of boilers, etc.) 2004-2010	Volume of performed works (number of boilers, etc.) 2011	Total
Switch load to other boiler houses and CHP	60	8	68
Improving of the network organization with liquidation or reconstruction of heat supply stations (HSS)	51	7	58
Replacement of boilers	125	10	135
Heat exchangers replacement	53	40	93
Frequency controllers installation	73	22	95
Reconstruction of boilers	89	14	103
Installation of automatic system of regulation on boilers	2		2
Application of the pre-insulated pipes, m	188349	29262	217611
Usual pipe network replacement, m	121600		121600
Restoration of pipes insulation, m	65864		65864

According to PDD version 04, emission reductions during 2011 monitoring period were expected 302096 tonnes of CO₂ equivalent. According Monitoring Report version 02 emission reductions achieved are 392657 tonnes of CO₂ equivalent.

The main reasons of the difference between the prognostic estimation of emission reductions in the PDD and the actual emission reductions in the Monitoring Report are:



- 1) Impossibility of taking into account in the PDD of the actual conditions in reported period.
- 2) Application of the strictly conservative approach for estimation of emission reductions in the PDD: the minimum assured (on the basis of the known results of similar measures) effect from implementation of all energy saving measures was accepted, and in some cases, when it was impossible to define it quantitatively was not taken into account in the calculations in the PDD, although it obviously must be positive.
- 3) Application in course of calculations in the Monitoring Report of the value of the carbon emission factor for electricity consumption in Ukraine according to the valid Order #75 dated 12/05/2011 of the National Environmental Investment Agency of Ukraine, which is substantially higher than value used in the PDD according to the normative documents valid before.

New value of EF is set National Environmental Investment Agency of Ukraine for the purpose of establishing a unified approach to the estimation of anthropogenic emissions of greenhouse gases and is recommended for use in the preparation of annual reports with the calculation of the volume of emission reductions.

In connection with participation in the JI project, in course of the project realization the system of responsibility of every employee from an operator to the technical director for optimal consumption of fuel and energy resources at the enterprise was established, as a result of which the off-schedule monitoring of all key parameters of operation of the system as a whole is carried out at the objects of the included enterprises, in particular the gas-air ratio during fuel combustion, compliance of temperature conditions of the heat carrier, optimization of partition of load for boilers at boiler-houses, as well as additional and concomitant measures for emission reduction are implemented.

Thus, the actually achieved GHG emission reductions, under compliance with all proper conditions of the heat supply services, necessarily should be larger than the prognostic estimations.

The identified areas of concern as to Project implementation, project participants response and BV Certification's conclusion are described in Appendix A Table 2 (refer to CAR 01).

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



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For calculating the emission reductions, key factors, such as fuel consumption at boiler-houses (for natural gas and coal), average calorific value of a fuel (for natural gas and coal), average outside temperature during the heating season, average inside temperature during the heating season, number of customers of hot water supply service, heated area (total), averaged heat transfer factor of heated buildings in the base year, heated area of buildings (previously existed in the base year) with the renewed (improved) heat insulation in the reported year, heated area of newly connected buildings (assumed with the new (improved) heat insulation) in the reported year, heat transfer factor of buildings with new heat insulation, heating period duration, duration of period of hot water supply service, maximum connected load to a boiler-house, that is required for heating, connected load to a boiler-house, that is required for hot water supply service, standard specific discharge of hot water per personal account, carbon emission factor (for natural gas and coal, electricity consumption in Ukraine and electricity generation in Ukraine), electricity consumption by a boiler-house, 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.

Measurement equipment is in place and calibrated. All required metering systems have been identified and checked on the sampling basis.

Used meters are within their calibration period. They comply with the appropriate standards.

According to the Monitoring Plan the volume of consumed natural gas and consumed power was corrected by measurement error using the principle of conservatism. Natural gas consumption and power consumption in the reported year that used for Project emissions calculations were increased on the level of accuracy of gas flue meters and electricity meters installed at the every boiler-house.

The Monitoring Plan defines the responsibilities to consolidate the data required for emission reduction calculations. Calculations are transparent and restricted to entering annually the production data into a predefined Excel spreadsheet.

Monitoring equipment of this project is sections of relating energy resources measurements. The main element of the measurement section is a primary transducer (meter) that is subject to periodic inspection or calibration. DE "Kharkiv center of standardization, metrology and calibration" and OJSC "Kharkivoblenergo" authorized bodies, entitled to conduct inspection and calibration of measuring equipment is third party involved.



Data sources used for calculating emission reductions, such as (logbook records, Statistics of ME “Kharkivski teplovi merezhi”, SNiP 2-3-79 (1998), State Buildings Norms B.2.6-31:2006, KTM 204 Ukraine 244-94, “National inventory report of Ukraine for 1990 – 2009”, Order of the National Environmental Investment Agency of Ukraine #75 dated 12/05/2011) 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 Compliance of the monitoring plan with the monitoring methodology, project participants response and BV Certification’s conclusion are described in Appendix A Table 2 (refer to CL 01, CL 02, CAR 02, CAR 03).

3.5 Revision of monitoring plan (99-100)

The project participants provided an appropriate justification for the proposed revision.

In order to improve the accuracy and applicability of data and calculations the following revisions were made to the registered monitoring plan:

The newly developed officially approved valid country-specific values of Carbon emission factor were used for calculations:

- For all types of fuels – according to the “National inventory report of Ukraine for 1990 – 2009”;
- For electricity generation and consumption in Ukraine – the values according to the Order of the National Environmental Investment Agency of Ukraine #75 dated 12/05/2011.

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

3.6 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.



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.

Registration of Natural gas consumption at boiler houses of ME “Kharkivski teplovi merezhi” is carried out by the following scheme:

1. Natural gas consumption is measured by gas flow meter, installed at a boiler-house. All boiler-houses are equipped with gas flow meters.
2. The majority of boiler-houses are equipped with automatic correctors for gas temperature and pressure. Gas consumption is registered automatically. Every day operator of a boiler house makes registration of daily gas consumption in the special paper journal “Journal of registration of boiler-house’s operation parameters”, see Fig. 5.
3. At the boiler-houses that are not equipped with gas volume correctors, operator of a boiler house every 2 hours registers parameters of natural gas (temperature and pressure) in the paper journal “Journal of registration of boiler-house’s operation parameters”. These parameters are used to bring gas consumption to standard conditions.
4. Every day operators report values of gas consumption by phone to dispatcher of the regional branch of ME “Kharkivski teplovi merezhi”. Regional branches transfer data to Techno-Economic Activities Department (TEAD) of Production-Technical Service (PTS) of ME “Kharkivski teplovi merezhi”, where they are stored and used for payments to gas suppliers.
5. Every month the account centers transfer data to gas suppliers.

Scheme of data collection is shown in for Monitoring Report at the Fig. 6.

The Director General of ME “Kharkivski teplovi merezhi”, Mr. Sergiy Andreev, appointed the responsible person, Mr. Andriy Repin, Chief of Production-Technical Service (PTS), for the implementation and management of the monitoring process at the ME “Kharkivski teplovi merezhi”. Mr. Andriy Repin is responsible for data measurement, collection, recording and storage.



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In cases of the new (never used at this enterprise before) equipment installation, the company - producer of this equipment should provide trainings for personnel.

ME "Kharkivski teplovi merezhi" provides personnel retraining according to protection of labour norms. The enterprise has the Labour protection department, which is responsible for raising the level of personnel skills and trainings.

Measurement equipment calibration was carried out by DE "Kharkiv center of standardization, metrology and calibration" for gas flow meters and OJSC "Kharkivoblenergo" for electricity meters.

Any problem occurring that concerns this project is to be reported immediately to the project manager, who takes the appropriate measures.

The identified areas of concern as to Data management, project participants response and BV Certification's conclusion are described in Appendix A Table 2 (refer to CAR 04, CAR 05, CAR 06, CL 03, CL 04, CL 05, CL 06).

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 5th periodic verification of the project "Rehabilitation of the District Heating System in Kharkiv City" Project in Ukraine, which applies the 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 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 Institute of Engineering Ecology 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 as per determined changes. The development and maintenance of records and reporting procedures in accordance with that plan, including



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the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

According to the results of the Monitoring Report for the project “Rehabilitation of the District Heating System in Kharkiv City” for 2011, the actual achieved GHG emission reductions are larger than it was indicated as prognostic estimation in the PDD. According to PDD version 04, emission reductions during 2011 monitoring period were expected 302096 tonnes of CO₂ equivalent, according Monitoring Report version 02 emission reductions achieved are 392657 tonnes of CO₂ equivalent. The reasons of the difference between the prognostic estimation of emission reductions in the PDD and the actual emission reductions are explained in section D.3 of Monitoring Report.

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 per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is calculated without material 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 01/01/2011 to 31/12/2011

Baseline emissions	:	2402653	tonnes of CO ₂ equivalent.
Project emissions	:	2009996	tonnes of CO ₂ equivalent.
Emission Reductions	:	392657	tonnes of CO ₂ equivalent.



5 REFERENCES

Category 1 Documents:

Documents provided by ME "Kharkivski teplovi merezhi" of the company that relate directly to the GHG components of the project.

- /1/ Monitoring Report, version 01, 10 February 2012
- /2/ Monitoring Report, version 02, 15 March 2012
- /3/ Project Design Document, version 4, dated 24 of November 2008
- /4/ Letter of Approval from National Environmental Investment Agency of Ukraine № 1144/23/7 dated 24.12.2008
- /5/ Letter of Approval from Ministry of Economic Affairs of Netherlands 2008JI10 dated 19 December 2008
- /6/ Excel spreadsheet of the emission reductions calculation version

Category 2 Documents:

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

№	Name of the document
1.	Resolution № 1643 dated 18.04.2011 "On termination of the heating season in Kharkiv"
2.	Resolution № 4579 dated 03.10.2011 "About the beginning of heating season in Kharkiv"
3.	Act number 383 "Overhaul of the boiler NYYSTU-5 number 2" in May 2011
4.	Act number 353 "Overhaul of the Boiler NYYSTU-5 number 4" in May 2011
5.	Act number 11 "Overhaul of the Boiler PTVM-30 number 4" in January 2011
6.	Act number 3/17 "Overhaul of the Boiler PTVM-30 number 4" in February 2011
7.	Act number 201 "Overhaul of the Boiler AOGV-96-1G-5-V11 number 2" in May 2011
8.	Act number 224 "Install of the boiler AOGV 100" in August 2011
9.	Act number 18. "Technical re-equipment of the boiler" in January 2012
10.	Act number 22 "Technical re-equipment of the boiler" in January 2012
11.	Act number 35 "Technical re-equipment of the boiler" in January 2012
12.	Act number 1 "Technical re-equipment of the boiler" in September 2011

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13. Act number 33/35 "Overhaul of the Boiler KGV 6.5 / 150 number 1" in November 2011
14. Act number 32/34 "Overhaul of the Boiler KGV 6.5 / 150 number 2" in November 2011
15. Act number 1/23 "Overhaul of the Boiler KGV 6.5 / 150" in July 2011
16. Act number 4015 "Overhaul of the Boiler KHV 6.5 / 150 number 2" in September 2011
17. Act number 1468 "Replacement of pipes" in July 2011
18. Act number 1179 "Replacement of pipes" in May 2011
19. Act number 876 "Replacement of pipes" in April 2011
20. Permit number 6310136600-117 "Emissions of pollutants into the atmosphere from stationary sources of ME "KTM" Kyivska branch"
21. Resolution № 6310137500-80 "Emissions of pollutants into the atmosphere from stationary sources of ME "KTM" Moskovska branch"
Permit number 6310138800-178 "Emissions of pollutants into the atmosphere from stationary sources of ME "KTM" Chervonozavodska branch"
22. Permit number 6310137200-148 "Emissions of pollutants into the atmosphere from stationary sources of ME "KTM" Leninska branch"
23. Permit number 6310137900-182 "Emissions of pollutants into the atmosphere from stationary sources of ME "KTM" Zhovtneva branch"
24. Resolution № 6310136900-99 "Emissions of pollutants into the atmosphere from stationary sources of ME "KTM" Kominternivska branch"
25. The documents, which substantiate the amount of emissions to permit the emission of pollutants into the atmosphere from stationary sources for ME "KTM" Kominternivska Branch
26. The documents, which substantiate the amount of emissions to permit the emission of pollutants into the atmosphere from stationary sources for ME "KTM" Moskovska Branch
27. The documents, which substantiate the amount of emissions to permit the emission of pollutants into the atmosphere from stationary sources for ME "KTM" Leninska Branch
28. The documents, which substantiate the amount of emissions to permit the emission of pollutants into the atmosphere from stationary sources for ME "KTM" Zhovtneva Branch
29. The documents, which substantiate the amount of emissions to permit the emission of pollutants into the atmosphere from stationary sources for ME "KTM" Chervonozavodska Branch
30. The documents, which substantiate the amount of emissions to permit the emission of pollutants into the atmosphere from stationary sources for ME "KTM" Chervonozavodska Branch
31. The documents, which substantiate the amount of emissions to permit the

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- emission of pollutants into the atmosphere from stationary sources for ME "KTM" Kyivska Branch
32. Report on air protection form number 2-TP "air" in 2011 by ME "KTM" Kievska branch
 33. Report on air protection form number 2-TP "air" in 2011 by ME "KTM" Ordzhonikidzevska Branch
 34. Report on air protection form number 2-TP "air" in 2011 by ME "KTM" Chervonozavodska Branch
 35. Report on air protection form number 2-TP "air" in 2011 by ME "KTM" Dzerzhinska Branch
 36. Report on air protection form number 2-TP "air" in 2011 by ME "KTM" Kominternovska Branch
 37. Report on air protection form number 2-TP "air" in 2011 by ME "KTM" Moskovska Branch
 38. Report on air protection form number 2-TP "air" in 2011 by ME "KTM" Leninska Branch
 39. Report on air protection form number 2-TP "air" in 2011 by ME "KTM" Zhovtneva Branch
 40. Costs of environmental protection and environmental payments form #1 in 2011 ME "KTM"
 41. Report on inventory of pollutant emissions in the ME "KTM" Chervonozavodska branch
 42. Report on inventory of pollutant emissions in the ME "KTM" Kominternovska branch
 43. Report on inventory of pollutant emissions in the ME "KTM" Frunzenska branch
 44. Report on inventory of pollutant emissions in the ME "KTM" Leninska branch
 45. Report on inventory of pollutant emissions in the ME "KTM" Dzerginska branch
 46. Report on inventory of pollutant emissions in the ME "KTM" Moskovska branch
 47. Report on inventory of pollutant emissions in the ME "KTM" Kyivska branch
 48. Report on inventory of pollutant emissions in the ME "KTM" Ordzhonikidzevska branch
 49. Report on inventory of pollutant emissions in the ME "KTM" Zhovtneva branch

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50. Report on inventory of pollutant emissions in the ME "KTM" Kyivska branch
51. Letter № 35 of Regional Center of Hydrometeorology dated 03/01/2012 about the average air temperature in Kharkiv for December 2011
52. Letter № 625 of Regional Center of Hydrometeorology dated 01/12/2011 about the average air temperature in Kharkiv for November 2011
53. Letter № 566 of Regional Center of Hydrometeorology dated 01/11/2011 on the average air temperature in Kharkiv for October 2011
54. Letter № 290 of Regional Center of Hydrometeorology dated 04/05/2011 on the average air temperature in Kharkiv for April 2011
55. Letter № 235 of Regional Center of Hydrometeorology dated 01/04/2011 on the average air temperature in Kharkiv for March 2011
56. Letter № 166 of Regional Center of Hydrometeorology dated 01/03/2011 on the average air temperature in Kharkiv for February 2011
57. Letter № 97 of Regional Center of Hydrometeorology dated 01.02.2011 on the average air temperature in Kharkiv for January 2011
58. Report on heat consumption in December 2011
59. Act about natural gas consumption of ME "KTM" for December 2011
60. Report about gas consumption in the Zhovtneva branch for December 2011
61. Act about natural gas consumption of ME "KTM" for November 2011
62. Report on gas consumption by Chervonozavodska branch for November 2011
63. Act about natural gas consumption of ME "KTM" for October 2011
64. Act about natural gas consumption of ME "KTM" for March 2011
65. Act about natural gas consumption of ME "KTM" for February 2011
66. Act about natural gas consumption of ME "KTM" for January 2011
67. Report on balances and use of energy materials and products of oil in 2011 form number 4-MTP (annual)
68. Certificate number 26 of 21/10/2011 on the quality of coal
69. Reference about calorific value of gas in 2011
70. Reference about air temperature in Kharkov for 2011
71. The official Note on the low-quality provision of services on heat supply "Kharkivteplosbut" in 2011
72. Operational modes of boiler logbook (9a,Rodnykova str.)
73. Gas meter LG-K-200-1600 number 2517
74. Certificate of verification number 1881-B Gas meter LG-K-200-1600 number

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75. Certificate of verification number R-2019 / P Gas volume corrector KPLG-1.01 № 00155
76. Act of technical verification of electricity meter dated 01/30/2012
77. Temperature schedule of the central regulation of heat supply, depending on water flow and average daily air temperature from 05/09/2011
78. Shifts logbook boiler house at 9a,Rodnykova str
79. Passport boiler KVG-7,56-150 № 6178
80. Passport boiler KVG-7,56-150 № 6180
81. Rules of technical inspections of "Ukrnaftahazekspert" Ltd. dated 29/06/2009. Expert report number 164 boiler KVG-7,56-150 № 6180
82. Rules of technical inspections "Ukrnaftahazekspert" Ltd. dated 29/06/2009. Expert report number 182 boiler KVG-7,56-150 № 6178
83. Localization and liquidation of emergencies and accidents Plan at boiler house at 9a,Rodnykova str
84. Certificate number 4301 Mikhailov V.M. - boiler operator
85. Certificate number 8371 Sotnik N.V. - boiler operator
86. Photo. Boiler number 1 KVG-6 ,5-150 № 6179
87. Photo. Boiler number 2 KVG-6 ,5-150 № 6178
88. Photo. Boiler number 3 KVG-6 ,5-150 № 6180
89. Gas consumption logbook boiler house "Khartron"
90. Operating modes logbook boiler house "Khartron"
91. Electricity consumption logbook boiler house "Khartron"
92. Passport. Gas consumption calculator VK-011
93. Passport. Boiler PTVM-30 number 130920
94. Repair logbook. Boiler PTVM-30 number 4
95. Passport to the gas facilities boiler house "Khartron"
96. Certificate number 140 Zhaldak V.I. - Boiler operator
97. Certificate number 6405 Cherevatenko I.M. - Boiler operator
98. Certificate number 579/7 Churykov V.B. - Head of the boiler
99. Localization and liquidation of emergencies and accidents Plan at boilers house "Khartron"
100. Shifts logbook boiler house "Khartron"
101. Operating modes logbook boiler "Khartron"



102. Logbook of the boiler room "Khartron"
103. Training on occupational safety logbook boiler house "Khartron"
104. Photo. Boiler PTVM-30m number 1
105. Operating logbook TRS 3/14 at 32, Karla Marksa str.
106. Electricity consumption logbook TRS 3/14 at 32, Karla Marksa str.
107. Defects and malfunctions logbook TRS 3/14 at 32, Karla Marksa str.
108. Operating modes logbook TRS 3/14 at 32, Karla Marksa str.
109. Certificate number 648 Brykulets Y.V. - Boiler operator
110. Act of replacement of electricity meter number 353190 TRS 3/14 at 32, Karla Marksa str., 32 dated 27/12/2010
111. Passport. Electricity meter "Mercury 230" Number 05461458 TRS 3/14 at 32, Karla Marksa str.
112. Photo. The heat exchanger plate TRS 3/14
113. Photo. Eliminated boiler house at 19, Katsarska str.
114. Operating logbook of boiler at 19a, Pyatysotnytska str.
115. Gas consumption logbook of boiler at 19a, Pyatysotnytska str
116. Heat consumption logbook of boiler at 19a, Pyatysotnytska str
117. Passport. Gas counter rotary GMS-G 65-50-1 № 019507
118. Passport. Gas volume corrector KPLG-1, 02R number 00639
119. Act of replacement of electricity meter № 053147 boiler at 19a, Pyatysotnytska str dated 19/02/2009
120. Certificate number 4375 Bessmertna S.P. - Boiler operator
121. Photo. Gas counter rotary GMS-G 65-50-1 № 019507
122. Photo. Gas volume corrector KPLG-1,02R number 00639
123. Photo. Boiler OVK № 1
124. Photo. Boiler OVK № 2
125. Photo. Boiler OVK № 3
126. Photo. Boiler OVK № 4
127. Photo. Boiler OVK № 5
128. Operating modes logbook at 70, Connoy Army str.
129. Logbook of the boiler room at 70, Connoy Army str.
130. Operating logbook of boiler at 70, Connoy Army str.
131. Schedule maintenance and repair of gas facilities in 2011



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132. Certificate of verification number 2263-B. Gas counter rotary RGA G16 № 00198
133. Certificate of verification number R-1079/PT. Gas volume corrector KPLG-2.01R number 01153
134. Act of replacement of electricity meter № 2146 at 70, Connoy Army str. dated 25/07/2008
135. Photo. Heating devices AOGV -100 E № 794
136. Photo. Heating devices AOGV-100 E № 769
137. Photo. Gas counter rotary RGA G16 № 00198
138. Photo. Gas volume corrector KPLG-2.01R number 01153
139. Gas consumption logbook of boiler house at 199/2, Gagarina Ave
140. Repair logbook of boiler house at 199/2, Gagarina Ave
141. Shifts logbook boiler house at 199/2, Gagarina Ave
142. Certificate of verification number 1260-B. Gas counter rotary RGK G400 № 0245 at 199/2, Gagarina Ave
143. Certificate of verification number R-2055 / AP. Gas volume corrector KPLG-1.02R number 00989 at 199/2, Gagarina Ave
144. Act of replacement of electricity meter number 374744 dated 18/01/2012
145. Passport. Gas counter rotary RGK G400 № 0245 at 199/2, Gagarina Ave
146. Passport. Gas volume corrector KPLG-1.02R number 00989 at 199/2, Gagarina Ave
147. Passport. Boiler NYYSTU-5 number 2
148. Passport. Boiler NYYSTU-5 number 4
149. Certificate number 3922 Vahnina L.A. - Boiler operator
150. Certificate number 677 Grechko. N.A. - Boiler operator
151. Photo. Boiler NYYSTU-5 number 2
152. Photo. Boiler NYYSTU-5 number 4
153. Photo. Gas counter rotary RGK G400 № 0245 at 199/2, Gagarina Ave
154. Photo. Gas volume corrector KPLG-1.02R number 00989 at 199/2, Gagarina Ave

**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/ Repin A. P. – Head of the Production-Technical Department at ME “ Kharkivski teplovi merezhi”, Manager of the JI Project;
- /2/ Sudakevych Z.G. – Manager of the supporting group of the JI Project in the Production-Technical Department
- /3/ Chuieva L.F. - Head of Environmental group of ME “Kharkivski teplovi merezhi”
- /4/ Churiakov V.B. - Head of the boiler
- /5/ Mikhailov V.M. - Boiler operator
- /6/ Sotnik N.V. - Boiler operator
- /7/ Zhaldak V.I. - Boiler operator
- /8/ Cherevatenko I.M. - Boiler operator
- /9/ Brykulets Y.V. - Boiler operator
- /10/ Bezsmertna S.P. - Boiler operator
- /11/ Vakhnina L.A. - Boiler operator
- /12/ Hrechko N.A. - Boiler operator
- /13/ Korinchuk Kateryna - engineer of the Institute of Engineering Ecology



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APPENDIX A: VERIFICATION PROTOCOL

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?	DFP of Netherlands have issued written project approvals (LoA) when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines.	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	OK	OK
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	At the time of previous and current monitoring periods the delay in the installation of some project units as to the determined PDD was noted. In several cases replacement of different (from planned before) diameters of network pipes takes place. Installation of frequency controllers and cogeneration units are not finished yet. It is postponed because of significant increasing of natural gas price and corresponding shift of the priorities for implementation of the energy saving measures.	OK	OK
93	What is the status of operation of the project during the monitoring period?	On the whole project has been implemented as defined in the PDD and the implementation is evidenced by statements of work completion (see list of verified documents). CAR 01. Please describe at what stage are the measures to implement frequency regulators and cogeneration.	CAR 01	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	In order to improve the accuracy and applicability of data and calculations, in accordance to the "Guidance on criteria for baseline setting and monitoring" (version 03) the revisions	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	and is so listed on the UNFCCC JI website?	were made to the registered monitoring plan.		
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	All key factors influencing the baseline and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate for calculating the emission reductions.	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	<p>The majority of boiler-houses are equipped with automatic correctors for gas temperature and pressure. Gas consumption is registered automatically. Every day operator of a boiler house makes registration of daily gas consumption in the special paper journal "Journal of registration of boiler-house's operation parameters". At the boiler-houses that are not equipped with gas volume correctors, operator of a boiler house every 2 hours registers parameters of natural gas (temperature and pressure) in the paper journal "Journal of registration of boiler-house's operation parameters". These parameters are used to bring gas consumption to standard conditions. Every day operators report values of gas consumption by phone to dispatcher of the regional branch of ME "Kharkivski teplovi merezhi". Regional branches transfer data to Techno-Economic Activities Department (TEAD) of Production-Technical Service (PTS) of ME "Kharkivski teplovi merezhi", where they are stored and used for payments to gas suppliers.</p> <p>CAR 02. Internet link 7 is not working. Please make the appropriate corrections.</p>	CAR 02 CL 01	OK OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CL 01. Please add to MR names of normative documents.		
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?	<p>Emission factors, including default emission factors are presented in Section B.2.1 and Annex 1 of the MR. The newly developed officially approved valid country-specific values of parameter electricity generation and consumption in Ukraine were used for calculations.</p> <p>CL 02. Please provide justification why objects ME "KTM" refers to the second class of consumers of electricity.</p>	CL 02	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?	<p>Yes, the calculation of emission reductions are based on conservative assumptions and the most plausible scenarios in a transparent manner.</p> <p>CAR 03. The rounding "Total" doesn't correct for total emission reductions during the monitoring period. Please make the appropriate corrections.</p>	CAR 03	OK
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	N/a	N/a	N/a
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	N/a	N/a	N/a
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the	N/a	N/a	N/a



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	project participants submitted a common monitoring report?			
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	N/a	N/a	N/a
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	The project participants provided an appropriate justification for the proposed revision. In order to improve the accuracy and applicability of data and calculations the following revisions were made to the registered monitoring plan: The newly developed officially approved valid country-specific values of Carbon emission factor were used for calculations: For all types of fuels – according to the “National inventory report of Ukraine for 1990 – 2009”; For electricity generation and consumption in Ukraine – the values according to the Order of the National Environmental Investment Agency of Ukraine #75 dated 12/05/2011.	OK	OK
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	The proposed revision improves the 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.	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	<p>All data necessary for the CO₂ emission reductions calculation is collected. The scheme of data flow and a description of reporting procedures introduced in Monitoring report.</p> <p>Training logbook and Results of operator training were presented to the verification team during the site visit.</p> <p>Position and roles of person in the GHG data management process are defined in the monitoring report and are implemented on-site.</p> <p>CL 03. Please provide positive opinion of environmental assessment on implemented measures (reconstruction of boiler)</p>	CL 03	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	<p>All monitoring equipment has calibration. It is calibrated with periodic frequency (passport states the calibration frequency for every device) according to the national regulations.</p> <p>During site visit verifiers received and reviewed passports and/or certificates on calibration of all measurement equipments.</p> <p>CAR 04. Date of calibration gas volume corrector number 00989 is incorrect. Please make the appropriate corrections.</p> <p>CAR 05. Date of calibration gas meter number 0245 is incorrect. Please make the appropriate corrections.</p> <p>CAR 06. Date of calibration gas meter number 2517 is incorrect. Please make the appropriate corrections.</p>	CAR 04 CAR 05 CAR 06 CL 04	OK OK OK OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CL 04. Please provide explanations why there is no information about the calibration of the electric meter number 05461458.		
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	<p>The evidence and records used for the monitoring are maintained on site of some devices and in responsible departments in a traceable manner.</p> <p>CL 05. Please provide clarification about the coolant temperature (72⁰C) at air temperature 1⁰C in temperature schedule dated 05/09/2011.</p>	CL 05	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	<p>The data collection and management system for the project is in accordance with the approved monitoring plan. Implementation of monitoring system was checked through site visit, and concluded that monitoring system is completely in accordance with the monitoring plan. This fact is also confirmed by the documents.</p> <p>CL 06. Please provide clarification on the address boiler "199/1, Gagarina Ave" - in Annex 3, "199/2, Gagarina Ave" - in documents ME "KTM".</p>	CL 06	OK
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	N/A	N/A	N/A
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/A	N/A	N/A
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or	N/A	N/A	N/A



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: - The types of JPAs; - The complexity of the applicable technologies and/or measures used; - The geographical location of each JPA; - The amounts of expected emission reductions of the JPAs being verified; - The number of JPAs for which emission reductions are being verified; - The length of monitoring periods of the JPAs being verified; and - The samples selected for prior verifications, if any?	N/A	N/A	N/A
107	Is the sampling plan ready for publication through the secretariat along with the	N/A	N/A	N/A



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	verification report and supporting documentation?			
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



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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
CAR 01. Please describe at what stage are the measures to implement frequency regulators and cogeneration.	93	<p>According to PDD, 117 frequency controllers were planned to be installed during 2008. Actually, installation of frequency controllers was not finished in 2008 and continues till present. 73 frequency controllers were installed during 2008-2010, 22 - in 2011. Thus, as it provided in Section A.6 of MR, installation of frequency controllers is not finished yet.</p> <p>In 2009 the agreement on designing of technical project for building the cogeneration unit at boiler house of Saltivskiy Living Area (KSZHM, Stoletova str., 4) was signed with SPKTB "TOR". To the present time, the project is designed, the state expertise is provided by territorial governmental department inspection of energy efficiency, and project of allotment of land for building is approved. The project is under obtaining endorsement of relevant organizations.</p>	Explanation provided is exhaustive. Issue is closed.
CAR 02. Internet link 7 is not working. Please make the appropriate corrections.	95 (b)	The link is changed to http://oscill.com/files/27082006.pdf in MR version 02.	CAR 02 is closed.



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CL 01. Please add to MR names of normative documents.	95 (b)	Normative documents, data from which were used for determination of parameters 10, 15, 16, are listed in Annex 1 "Data" in detailed description of these parameters with respective links.	Explanation is accepted. Issue is closed
CL 02. Please provide justification why objects ME "KTM" refers to the second class of consumers of electricity.	95 (c)	According to Regulation of NERC of Ukraine No. 1234 dated 29/10/2009 [http://search.ligazakon.ua/search/law/monitoring/MN012732.html], consumers and sub-consumers that receive electricity from supplier at the point of electricity sale with power voltage below 27.5 kV belong to the second category of consumers. All objects of ME "KTM" that are included into ERUs calculations for electricity saving, except the boiler-house KKR (#161 in the project) and CHP-4 (#278 in the project), belong to the second category of customers. The letter of ME "KTM" is provided. In MR version 02 recalculation was made with taking into account the objects that belong to first category of customers.	Issue is closed due to the amendments made in the PDD.
CAR 03. The rounding "Total" doesn't correct for total emission reductions during the monitoring period. Please make the appropriate corrections.	95 (d)	This is corrected in MR version 02.	CAR 03 is closed.



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CL 03. Please provide positive opinion of environmental assessment on implemented measures (reconstruction of boiler)	101 (a)	Ecological expertise of implemented measures (rehabilitation of boiler-houses) was not provided, that meets the requirements of Ukrainian regulations, as far as rehabilitation of boiler-houses is not an object to compulsory state environmental assessment (see Art. 13, 14 of the Law of Ukraine "On ecological expertise" [http://zakon1.rada.gov.ua/laws/show/45/95-%D0%B2%D1%80]). Implementation of project measures does not lead neither to violation of ecological standards nor to negative impact onto the environment.	Based on the explanation received, CL 03 is closed.
CAR 04. Date of calibration gas volume corrector number 00989 is incorrect. Please make the appropriate corrections.	101 (b)	According to calibration certificate #P-2055/П the calibration date is changed to 11/08/2011 in MR version 02.	CAR 04 is closed due to the amendments made in the PDD.
CAR 05. Date of calibration gas meter number 0245 is incorrect. Please make the appropriate corrections.	101 (b)	In MR the calibration date 16/08/2010 is provided that correlates to the calibration certificate #1260-B, the copy of which is provided.	CAR 03 is closed.
CAR 06. Date of calibration gas meter number 2517 is incorrect. Please make the appropriate corrections.	101 (b)	In MR the calibration date 25/07/2011 of the corrector only was mistakenly provided. According to gas flow meter calibration certificate #1881-B, its calibration date is 11.07.2011. This is corrected in MR version 02.	CAR 06 is closed due to the amendments made in the PDD.
CL 04. Please provide explanations why there is no information about the calibration of the electric meter number 05461458.	101 (b)	According to MR there is information on calibration of electricity meter # 05461458 in Annex 5, the calibration date is IV q. 2010. The copy of act dated 27/12/2010 is provided.	Due to the information provided, the issue is closed.



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CL 05. Please provide clarification about the coolant temperature (72 ⁰ C) at air temperature 1 ⁰ C in temperature schedule dated 05/09/2011.	101 (c)	Indeed, in the temperature scheme of central regulation of heat energy output, in dependence on the network water consumption and average daily outside temperature, approved on 05/09/2011, misprint at air temperature 10 ⁰ C, at heat-carrying agent supplying 72 ⁰ C back 73 ⁰ C was made – there should be 43 ⁰ C. The temperature scheme is corrected.	The issue is closed due to the corrections made.
CL 06. Please provide clarification on the address boiler "199/1,Gagarina ave " - in Annex 3, "199/2,Gagarina ave " - in documents ME "KTM".	101 (d)	According to Order of Kominternivsky district Council #272 dated 16/10/2007, the new address 199/2,Gagarina ave, was given to boiler-house 199/1 Gagarina ave.,. The copy of the Order is provided. The respective changes are provided in Annexes 2-5 as well as the address change is reflected in Section A.9 of MR.	CL 06 is closed due to the corrections made in the PDD.