VERIFICATION REPORT

LE "KRYMTEPLOCOMUNENERGO"

VERIFICATION OF THE REHABILITATION OF THE DISTRICT HEATING SYSTEM OF CRIMEA

PERIODIC 2008

BUREAU VERITAS CERTIFICATION

REPORT NO. UKRAINE- VER#/0031/2009

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VERIFICATION REPORT

Date of first issue:	Organizational unit:
31/03/2009	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
LE "Krymteplocomunenergo"	Mr. Igor Vail'

Summary:

Bureau Veritas Certification has made the verification of the **"Rehabilitation of the District Heating System of Crimea"** project of LE "Krymteplocomunenergo" located in Crimea, Ukraine on the basis of UNFCCC criteria for the JI, as well as the host country criteria and criteria given to provide for consistent project operations, monitoring and reporting, as well as the host country criteria.

The verification scope is defined as a periodic independent review and ex post determination by the Accrediting 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, Project Design Document 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 Requests, 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 planned and described in validated 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 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 valid project baseline and monitoring, and its associated documents. Based on information seen and evaluated we confirm that the implementation of the project has resulted in **148013,6**t CO2e reductions during period from 01/01/2008 up to 31/12/2008.

On the behalf of verification team, Flavio Gomes, the Bureau Veritas Certification Holding SAS Global Product Manager for Climate Change, approved final version of the Verification Report and it is signed by Ivan Sokolov authorized Bureau Veritas Certification Holding SAS Local product manager for Climate Change in Ukraine.

Report No.:	Subject Group:
UKRAINE- VER#/0031/2009	JI

Project title:
Rehabilitation of the District Heating System of Crimea

Work carried out by:

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Indexing terms

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Abbreviations change / add to the list as necessary

AIE	Accredited Independent Entity
BVCH	Bureau Veritas Certification Holding SAS
CAR	Corrective Action Request
CER	Certified Emission Reductions
CL	Clarification Request
CO_2	Carbon Dioxide
FAR	Forward Action Request
GHG	Green House Gas(es)
IETA	International Emissions Trading Association
JI	Joint Implementation
JISC	JI Supervisory Committee
MoV	Means of Verification
MP	Monitoring Plan
PCF	Prototype Carbon Fund
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change
DH	District Heating

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1 INTRODUCTION

LE “Krymteplocomunenergo” has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Rehabilitation of the District Heating System of Crimea" (hereafter called “the project”) in Crimea, Ukraine, UNFCCC JI Reference Number 0140.
This report summarizes the findings of the second periodic verification of the project, performed on the basis of criteria given to provide for consistent project operations, monitoring and reporting, and contains a statement for the verified emission reductions.
The order includes the second periodic verification of the project. Report is based on the Periodic Verification Report Template Version 3.0, December 2003, both part of the Validation and Verification Manual (VVM) published by International Emission Trading Association (IETA).

Second periodic verification has been performed with the account of findings and conclusions of the integral initial and first periodic verification report No. UKRAINE- VER#/2008 version 01 dated 08/12/2008.

The results of the determination were documented by "Climate and Energy" of TÜV Süddeutschland in the report: "Determination of the “Rehabilitation of the District Heating System of Crimea” JI-Project, Ukraine", Report No. 664242 dated 2005, September 30th. The changed monitoring plan was determined during initial verification (BVCH report No. UKRAINE- VER#/2008).

Project is approved by the Ministry of environmental protection in Ukraine and Ministry of Economical Affairs in Netherlands. (Letters of Approval are presented).

1.1 Objective

Verification is the periodic independent review and ex post determination by the AIE of the monitored reductions in GHG emissions during defined verification period.
The objective of verification can be divided in Initial Verification and Periodic Verification.
Initial Verification: The objective of an initial verification is to verify that the project is implemented as planned, to confirm that the monitoring system is in place and fully functional, and to assure that the project will generate verifiable emission reductions. A separate initial verification

prior to the project entering into regular operations is not a mandatory requirement.
Periodic Verification: The objective of the periodic verification is to verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan; furthermore the periodic verification evaluates the GHG emission reduction data and express a conclusion with a high, but not absolute, level of assurance about whether the reported GHG emission reduction data is free of material misstatements; and verifies that the reported GHG emission data is sufficiently supported by evidence, i.e. monitoring records.
In general, the verification follows UNFCCC criteria referring to the Kyoto Protocol criteria, the JI/CDM rules and modalities, and the subsequent decisions by the JISC, as well as the host country criteria.

1.2 Scope

Verification scope is defined as an independent and objective review and ex post determination by the Designated Operational Entity of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report and the determinated 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. Bureau Veritas Certification has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach in the verification, focusing on the identification of significant risks of the project implementation and the generation of ERUs. The verification is not meant to provide any consulting towards the Client. However, stated requests for forward actions and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.
The audit team has been provided with a Monitoring Report version 2 and underlying data records, covering the period 01 January 2008 to 31 December 2008 inclusive.

1.3 GHG Project Description

The project main goal is fuel consumption reduction, in particular reduction of natural gas (which is imported to Ukraine) and fuel oil consumption, by means of district heating system rehabilitation in the Autonomous Republic of Crimea (excluding the city of Sevastopol), including boiler and distribution network equipment replacement and rehabilitation, switching inefficient oil-fired boilers to gas, installation of combined heat and power production plants, heat exchangers

replacement, frequency controllers installation and landfill gas recovery and utilization at chosen boiler house. Such reduction of fuel consumption will result in decrease of greenhouse gas emissions (CO_2 and N_2O). The purpose of the project is sustainable development of the region through implementation of energy saving technologies.

Crimea region's district heating (DH) utility (system of heat supply enterprises) supplies and sells heat energy in forms of heat, hot water and steam, to local consumers, namely households, municipal consumers and state-owned organizations. It is a natural monopolist of heat production in the region. Heat supply market in the region is stable for years.

The project "Rehabilitation of the District Heating System of Crimea" was initiated in 2004 to rehabilitate Crimea region's district heating system. It consists of two parts:

- rehabilitation of the district heating system of Crimea, which includes boiler and distribution network equipment replacement and rehabilitation with installation of combined heat and power production plants (CHP) at the boiler houses, heat exchangers at the central heating points replacement and frequency controllers installation;
- landfill gas extraction at Simferopol city landfill, which will allow to reduce methane emissions, and its further utilization at closest to the landfill boiler house.

Rehabilitation of the district heating system includes 188 boiler-houses with 709 boilers, 634 of which are in operation, and 516 km of heat distributing networks that belong to LE "Krymteplocomunenergo". This is the large part of Crimea regional DH system, and project may be expanded by including the other DH objects in the region. Project provide replacement of 398 boilers and rehabilitation of 91 boilers, installation of cogeneration units at 5 boiler houses (6 gas engines, 0.5 MW each) with total installed capacity 3 MW. Deutz TBG 616 V12 K machines are considered as potential candidate for installation. Landfill gas extraction at Simferopol city landfill will allow to capture 3700 ths m^3 of methane annually.

The project employs the increase in fuel consumption efficiency to reduce greenhouse gas emissions relative to current practice. Over 21 million Nm^3 of natural gas and 15 thousand ton of fuel oil will be saved annually starting from 2010. Such reduction of fuel consumption is based on increase of the boiler efficiencies, reduction of heat losses in networks, installation of CHP units and replacement of natural gas consumption by landfill gas.

The following activities will ensure fuel saving:

- Replacement of old boilers by the new highly efficient boilers;
- Upgrading of boilers' burners for the combustion improvement;

- Switching of boiler-houses from fuel oil to natural gas;
- Improving of the network organization, application of the new insulation and the pre-insulated pipes;
- Installation of niche-flow burners;
- Installation of combined heat and power plants;
- Installation of heat-utilizers (contact heat-recovery gas-cleaning apparatuses) that provide utilization and recovery of flue gas heat as well as additional heat from steam condensation when temperature of flue gas falls below dew point;
- Replacement of heat exchangers at Central Heating Points;
- Installation of frequency controllers to electric drives of smoke exhausters, ventilators and network pumps;

Estimated project annual reductions of GHG emissions, in particular CO_2, are from 5.8 thousand tons to 100.5 thousand tons in 2005 – 2009, and are over 150.5 thousand tons per year starting from 2010 comparing to business-as-usual or baseline scenario.

Implementation of the project will provide substantial economic, environmental, and social benefits to the Crimea region. Social impact of the project is positive since after project implementation heat supply service will be improved and tariffs for heat energy will not be raised to cover construction costs. Environmental impact of the project is expected to be very positive as an emission of the exhaust gases such as CO_2, NO_x, and CO will be reduced. Also due to better after-implementation service, some part of population will cease to use electric heaters thus reducing electricity consumption, which is related to power plants emissions of CO_2, SO_x, NO_x, CO and particulate matter.

LE “Krymteplocomunenergo” fulfils annual minimal repairing of the DH system to keep it working. Particularly it executes repairing of network’s parts and boilers that might cause accidents. More economically feasible and realistic scenario without carbon credits sales is a baseline scenario with very slow reconstruction activities than to make a major overhaul of the heating system. Tariffs for heat do not include the resources for prospective reconstruction of the district heating system, only the resources for probable necessary repairing after possible accidents. Minimal annual repairing doesn’t lead to drooping of baseline emissions because of degradation of the whole system with efficiency droop at other objects, the overall actual emissions of Supplier would stay on the same level. This scenario is less environmentally favorable for the near future (including first commitment period 2008-2012), since GHGs emissions of Supplier will continue to be kept at the same level or even higher, but economically such scenario is more attractive.

Estimated project risks are limited and minimized. Ukraine has claimed district heating and municipal energy sector as a priority of the national energy-saving development.

2 METHODOLOGY

The verification is as a desk review and field visit including discussions and interviews with selected experts and stakeholders.

In order to ensure transparency, a verification protocol was customized for the project, according to the Validation and Verification Manual (IETA/PCF) a verification protocol is used as part of the verification. 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 organises, details and clarifies the requirements the project is expected to meet; and
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 verification protocol consists of one table under Initial Verification checklist and four tables under Periodic verification checklist. The different columns in these tables are described in Figure 1.

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

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

Initial Verification Protocol Table 1			
Objective	**Reference**	**Comments**	**Conclusion (CARs/FARs)**
The requirements the project must meet	Gives reference to where the requirement is found.	Description of circumstances and further comments on the conclusion	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance of the stated requirements. Forward Action Request (FAR) indicates essential risks for further periodic verifications.

Periodic Verification Checklist Protocol Table 2: Data Management System/Controls		
Identification of potential reporting risk	**Identification, assessment and testing of management controls**	**Areas of residual risks**

The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table.	A score is assigned as follows: • Full - all best-practice expectations are implemented. • Partial - a proportion of the best practice expectations is implemented • Limited - this should be given if little or none of the system component is in place.	Description of circumstances and further commendation to the conclusion. This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non compliance with stated requirements. The corrective action requests are numbered and presented to the client in the verification report. The Initial Verification has additional Forward Action Requests (FAR). FAR indicates essential risks for further periodic verifications.

Periodic Verification Protocol Table 3: GHG calculation procedures and management control testing		
Identification of potential reporting risk	**Identification, assessment and testing of management controls**	**Areas of residual risks**
Identify and list potential reporting risks based on an assessment of the emission estimation procedures, i.e. ➢ the calculation methods, ➢ raw data collection and sources of supporting documentation, ➢ reports/databases/information systems from which data is obtained. Identify key source data. Examples of source data include metering records, process monitors, operational logs, laboratory/analytical data, accounting records, utility data and vendor data. Check appropriate calibration and maintenance of equipment, and assess the likely accuracy of data supplied. Focus on those risks that impact the accuracy, completeness and consistency of the reported data. Risks are weakness in the GHG calculation systems and may include: ➢ manual transfer of data/manual calculations,	Identify the key controls for each area with potential reporting risks. Assess the adequacy of the key controls and eventually test that the key controls are actually in operation. Internal controls include (not exhaustive): ➢ Understanding of responsibilities and roles ➢ Reporting, reviewing and formal management approval of data; ➢ Procedures for ensuring data completeness, conformance with reporting guidelines, maintenance of data trails etc. ➢ Controls to ensure the arithmetical accuracy of the GHG data generated and accounting records e.g. internal audits, and checking/ review procedures; ➢ Controls over the computer information systems; ➢ Review processes for identification and understanding of key	Identify areas of residual risks, i.e. areas of potential reporting risks where there are no adequate management controls to mitigate potential reporting risks Areas where data accuracy, completeness and consistency could be improved are highlighted.

➢ unclear origins of data, ➢ accuracy due to technological limitations, ➢ lack of appropriate data protection measures? For example, protected calculation cells in spreadsheets and/or password restrictions.	process parameters and implementation of calibration maintenance regimes ➢ Comparing and analysing the GHG data with previous periods, targets and benchmarks. When testing the specific internal controls, the following questions are considered: 1. Is the control designed properly to ensure that it would either prevent or detect and correct any significant misstatements? 2. To what extent have the internal controls been implemented according to their design; 3. To what extent have the internal controls (if existing) functioned properly (policies and procedures have been followed) throughout the period? 4. How does management assess the internal control as reliable?	

Periodic Verification Protocol Table 4: Detailed audit testing of residual risk areas and random testing		
Areas of residual risks	**Additional verification testing performed**	**Conclusions and Areas Requiring Improvement (including Forward Action Requests)**
List the residual areas of risks (Table 2 where detailed audit testing is necessary. In addition, other material areas may be selected for detailed audit testing.	The additional verification testing performed is described. Testing may include: 1. Sample cross checking of manual transfers of data 2. Recalculation 3. Spreadsheet 'walk throughs' to check links and equations 4. Inspection of calibration and maintenance records for key equipment ➢ Check sampling analysis results ➢ Discussions with process engineers	Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties should be highlighted. Errors and uncertainty can be due to a number of reasons: ➢ Calculation errors. These may be due to inaccurate manual transposition, use of inappropriate emission factors or assumptions etc. ➢ Lack of clarity in the monitoring plan. This could lead to inconsistent approaches to calculations or scope of reported data. ➢ Technological limitations. There may be inherent uncertainties (error bands) associated with the methods used to measure emissions e.g. use

	who have detailed knowledge of process uncertainty/error bands.	of particular equipment such as meters. ➢ Lack of source data. Data for some sources may not be cost effective or practical to collect. This may result in the use of default data which has been derived based on certain assumptions/conditions and which will therefore have varying applicability in different situations. The second two categories are explored with the site personnel, based on their knowledge and experience of the processes. High risk process parameters or source data (i.e. those with a significant influence on the reported data, such as meters) are reviewed for these uncertainties.

Verification Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	**Ref. to checklist question in tables 2/3**	**Summary of project owner response**	**Verification conclusion**
If the conclusions from the Verification are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 2, 3 and 4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the verification team should be summarized in this section.	This section should summarize the verification team's responses and final conclusions. The conclusions should also be included in Tables 2, 3 and 4, under "Final Conclusion".

Figure 1 Verification protocol tables

2.1 Review of Documents

The Monitoring Report (MR) version 2 submitted by LE "Krymteplocomunenergo" and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD) version 04, Monitoring Plan, applied methodology, Kyoto Protocol, , Clarifications on Verification Requirements to be Checked were reviewed.

The verification findings presented in this report relate to the project as described in the PDD version 04 and Project Monitoring Report version 2 for the year 2008.

2.2 Follow-up Interviews

On 19/03/2009 and 20/03/2009 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of LE „Krymteplocomunenergo" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
LE „Krymteplocomunenergo"	Organizational structure. Responsibilities and authorities. Training of personnel. Quality management procedures and technology. Rehabilitation /Implementation of equipment (records). Metering equipment control. Metering record keeping system, database.
Consultant: Institute of Engineering Ecology	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.

Corrective Action Requests (CAR) are issued, where:
i) there is a clear deviation concerning the implementation of the project as defined by the PDD;
ii) requirements set by the MP or qualifications in a verification opinion have not been met; or
iii) there is a risk that the project would not be able to deliver (high quality) ERUs.

Forward Action Requests (FAR) are issued, where:
iv) the actual status requires a special focus on this item for the next consecutive verification, or
v) an adjustment of the MP is recommended.

The verification team may also use the term Clarification Request (CL), which would be where:
vi) additional information is needed to fully clarify an issue.

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 FINDINGS

In the following sections, the findings of the verification are stated. The verification findings for each verification subject are presented as follows:
1) The findings from the desk review of the original project activity documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Verification Protocol in Appendix A.
2) The conclusions for verification subject are presented.

The discussions and the conclusions that followed the preliminary verification report and possible corrective action requests are encapsulated in this section.

3.1 Remaining issues CAR's, FAR's from previous determination

One task of verification is to check the remaining issues from the previous validation or issues which are clearly defined for assessment in the PDD. The initial and first verification report, prepared by Bureau Veritas Certification Holding SAS does not note any open issue.

3.2 Project Implementation

3.2.1 Discussion

The scrutiny of a proper implementation of a project is a key issue of an Initial Verification, in order to have a climate change project ready for successful operation. The project is implemented in the boiler-houses undertaking the JI project activities.

The project "Rehabilitation of the District Heating System of Crimea" was initiated in 2004 to rehabilitate Crimea region's district heating system. It consists of two parts:

- rehabilitation of the district heating system of Crimea, which includes boiler and distribution network equipment replacement and rehabilitation with installation of combined heat and power production plants (CHP) at the boiler houses, heat exchangers at the central heating points replacement and frequency controllers installation;
- landfill gas extraction at Simferopol city landfill, which will allow to reduce methane emissions, and its further utilization at closest to the landfill boiler house.

Rehabilitation of the district heating system includes 188 boiler-houses with 709 boilers, 634 of which are in operation, and 516 km of heat distributing networks that belong to LE "Krymteplocomunenergo". This is the large part of Crimea regional DH system, and project may be expanded by including the other DH objects in the region. Project provide replacement of 398 boilers and rehabilitation of 91 boilers, installation of cogeneration units at 5 boiler houses (6 gas engines, 0.5 MW each) with total installed capacity 3 MW. Deutz TBG 616 V12 K machines are considered as potential candidate for installation. Landfill gas extraction at Simferopol city landfill will allow to capture 3700 ths. m^3 of methane annually.

The project employs the increase in fuel consumption efficiency to reduce greenhouse gas emissions relative to current practice. Over 21 million Nm^3 of natural gas and 15 thousand ton of fuel oil will be saved annually starting from 2010. Such reduction of fuel consumption is based on increase of the boiler efficiencies, reduction of heat losses in networks, installation of CHP units and replacement of natural gas consumption by landfill gas.

The following activities will ensure fuel saving:

- Replacement of old boilers by the new highly efficient boilers;
- Upgrading of boilers' burners for the combustion improvement;
- Switching of boiler-houses from fuel oil to natural gas;
- Improving of the network organization, application of the new insulation and the pre-insulated pipes;
- Installation of niche-flow burners;
- Installation of combined heat and power plants;
- Installation of heat-utilizers (contact heat-recovery gas-cleaning apparatuses) that provide utilization and recovery of flue gas heat as well as additional heat from steam condensation when temperature of flue gas falls below dew point;
- Replacement of heat exchangers at Central Heating Points;
- Installation of frequency controllers to electric drives of smoke exhausters, ventilators and network pumps;

Implementation of boiler houses rehabilitation and network rehabilitation are realized according to project plan with some slippage from time-table.

None of the project stages has been finished yet. In several cases replacement of different (from planed before) diameters of network pipes takes place.
Landfill gas utilization was not provided because LE "Krymteplocomunenergo" did not get the corresponding letter of attorney from the owner of the Landfill.
Implemented energy saving measures are presented in the table below.

Implemented energy saving measures	Volume of performed works (number of boilers, etc.) 2004-2007	Volume of performed works (number of boilers, etc.) 2008	Total	By PDD till 2008	Percentage of project implementation
Boilers replacement	42	7	49	200	25
switch to gas	27	0	27	35	77
Replacement of boiler's burners	23	1	24	57	42
Installa-tion of heat utilizers	2	0	2	94	2
Replacement by heat exchangers	35	2	37	55	67
Reconstruction of boilers	105	8	113	105	108
Installation of frequency controllers	6	0	6	14	43
Installation of gas correctors	0	8	8		
Replacement of network pipes, m	6252,0	8027,0	14279	20382	69

Measurement equipment is in place and calibrated. All required metering systems have been identified and checked on the sampling basis. The following meters are relevant for the calculation of emission reductions:

G1600ЛГ-К-200-1/30-0,63-1Ex	Produced by Ivano-Frankivsk plant JSC "Promprylad"
G650ЛГ-К-150-1/20-0,63-1Ex	Produced by Ivano-Frankivsk plant JSC "Promprylad"
Kurs - 0.1	Produced by Ivano-Frankivsk plant and "Kurs" Ltd.
LFK-200-100 ... 1000	Produced by Ivano-Frankivsk plant JSC "Promprylad"
LG-200	Produced by Ivano-Frankivsk plant JSC "Promprylad"
LG-K-150-400 ... 650	Produced by Ivano-Frankivsk plant

	JSC "Promprylad"
LG-K-200-1600-1,0-01-Eh	Produced by Ivano-Frankivsk plant JSC "Promprylad"
RG-100 ...1000	Produced by Ivano-Frankivsk plant JSC "Promprylad"
RG-65	Produced by Ivano-Frankivsk plant JSC "Promprylad"
RGK-100 ... 1000	Produced by Ivano-Frankivsk plant JSC "Promprylad"
RG-K-100Eh ... 1000Eh	Produced by Ivano-Frankivsk plant JSC "Promprylad"
RG-K-40Eh	Produced by Ivano-Frankivsk plant JSC "Promprylad"
SU	Simferopol
SU-Sapfir	Ivano-Frankivsk
UNIVERSAL	Vinnitsa
ЛG-K-80-G250	Produced by Ivano-Frankivsk plant JSC "Promprylad"
ЛГ-100-250-1,6-0,1	Produced by Ivano-Frankivsk plant JSC "Promprylad"
ЛГ-200-1600-1,6	Produced by Ivano-Frankivsk plant JSC "Promprylad"
РГ-к-1000-0,1-0,1-2-10Ex	Produced by Ivano-Frankivsk plant JSC "Promprylad"
РГ-к-250-0,1-0,1-10Ex	Produced by Ivano-Frankivsk plant JSC "Promprylad"
РГ-к-600-0,1-0,1-2-10	Produced by Ivano-Frankivsk plant JSC "Promprylad"
РЛ-6	Produced by Ivano-Frankivsk plant JSC "Promprylad"

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

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.

3.2.2 Findings

CAR 1
Please, explain more detailed what “Improving of the network organization” means.

Response

Improvement of the heat networks system organization is provided by liquidation of Central Heating Points (CHP) with replacing 4-pipe lines by 2-pipe ones with simultaneous installation of heat exchangers directly at the consumers (Individual Heating Point – IHP), or reconstruction of CHP with modern heat exchangers installation. It is enable to liquidate of pipes with different diameters, to reduce heat losses and to reduce power consumption for power supply of circulation pumps. Technical characteristic of new heat exchangers (see fig. 1) are presented on the producer's website http://teploenergo.com.ua

Fig. 1 New heat exchangers

CAR 2

Please, explain operation principle of device for automatic control of natural gas consumption.

Response

LE "Krymteplocomunenergo" uses correctors of gas flue meters "Universal", see fig. 2.

Fig. 2 Automatic system "Universal"

Flowing readings are taken from correctors of gas flue meters "Universal"

- readings of gas flue meter numerator;
- current readings of gas flue meter at the corrector;
- difference of readings of gas flue meter and corrector;
- average daily average overpressure of gas;
- average daily temperature of gas;
- digital value of factor condensability;
- digital value of correction factor to standard conditions;
- daily volume of gas (standard conditions);
- accumulate volume of gas per month (standard conditions)

3.2.3 Conclusion

The project complies with the requirement.

3.3 Internal and External Data

3.3.1 Discussion

The 23 parameters should be monitored according to Monitoring Plan but considering that implementation of CHP units at LE "Krymteplocomunenergo" and landfill gas extraction at Simferopol city landfill have not been finished yet. The CO_2 emissions reduction due to power production was excluded according to the principle of conservatism. So six parameters presented in the table below have not been monitored and were excluded.

18	Scheduled electric power production
19	Scheduled heat energy production
20	Power consumption
21	Average methane fraction of the landfill gas
22	LFG temperature
23	LFG pressure

In fact 17 parameters are monitored within the projects but only one of them (volume of natural gas consumption) is measured directly. The remaining monitoring parameters used in calculation of the baseline and project line emissions are taken as statistic data.

The following parameters need to be obtained according to the monitoring plan:

1. Fuel consumption at boiler-houses (for natural gas and heavy oil in 1000 m3, manually recorded every day)
2. Average annual Heating Value of fuel (MJ/m3 for natural gas, MJ/t for heavy oil , data are provided by natural gas suppliers usually monthly, quality certificate is given by heavy oil supplier's for every consignment)
3. Average outside temperature during the heating season (0C (K), recorded every day of heating season)
4. Average inside temperature during the heating season (0C (K), recorded once per heating season)
5. Number of Customers (Customers update the contracts for hot water supply service with balance-owners (ZhEK) once per year. ZhEK give to LE “Krymteplocomunenergo” personal accounts of customers once per month.Contracts with organizations and legal entities are concludes directly with LE “Krymteplocomunenergo”, they are updated once per year)
6. Heating area (total, m2 the information is collected at the sales departments of district heating productive units of LE “Krymteplocomunenergo” in every town by the certificates of owners or balance-owners (ZhEK) in accordance with technical passport of building. Total area with balconies and stairs and Heating area are displayed in the special journal.)
7. Average heat transfer factor of heated buildings in the base year (W/m2*K, heat transfer factor is recorded ones per year at recording of connection or disconnection of any heating area to boiler-houses included in project)
8. Heating area of buildings (previously existed in the base year) with the renewed (improved) thermal insulation in the reported year (m2, once per year)
9. Heating area of newly connected buildings (assumed with the new (improved) thermal insulation) in the reported year (m2 , once per year)
10. Heat transfer factor of buildings with the new thermal insulation (W/m2*K)
11. Duration of the heating period (hours, once per year)
12. Duration of the hot water supply period (hours, once per day)
13. Maximum connected load to the boiler-house, that is required for heating (MW, once per year)
14. Connected load to the boiler-house, that is required for hot water supply service (MW, once per year)
15. Standard specific discharge of hot water per personal account (kWh/h, once per year)

16. Carbon emission factor (for natural gas and heavy oil kt CO2/TJ once per year)
17. Recalculating factor for average load during heating period (once per year).

The records are maintained on daily and annually basis, the boiler operation is statutory, so the chances of misstatement in the records are hereby low. In fact records are taken every 2 hours (manually) or semi-continuously where correctors are present (electronically), and after that manual daily summarizing record is performed. In both cases (manual or semi-continuous) monitoring is within the PDD where records are required every 2 hours.

The general director of LE "Krymteplocomunenergo", Mr. Igor Vayl', appointed a responsible person, Mr. Mihaylo Sheyman, for the implementation and management of the monitoring process at the LE "Krymteplocomunenergo". Mr. Mihaylo Sheyman is responsible for supervising data collection, measurements, calibration, data recording and storage.
In addition the developers of the project are responsible for baseline and monitoring methodology development and data processing. In particularly:
Dr. Vladimir Gomon, Managing Engineer of European Institute for safety, security, insurance and environmental techniques, is responsible for baseline and monitoring methodology development.
Dr. Dmitri Paderno, vice director of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development.
Ms. Tetiana Grechko, senior engineer of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development and data processing.

The external data used are following:

Average annual Heating Value of Natural Gas – used values are presented in the table below for every town.

	Average lower heating value of Natural gas, MJ/m^3
Town	2008

City of Simferopol	35.87-36.05
Alushta district	35.18
Dzhankoj district	33.16
Evpatoria district	37.54
Kerch district	32.84
Rozdolne district	38.13
Rozdolne uv.	34.14
Feodosia district	35.21
Jalta district	35.29

Average annual Heating Value of Heavy oil is by Lower Heating Value the values are presented in the table below for every town.

	Average lower heating value of Heavy oil, MJ/t
Town	2008
City of Simferopol	40.18
Alushta district	-
Dzhankoj district	40.18
Evpatoria district	36.78
Kerch district	39.96
Lenino v.	41.71
Feodosia district	41.06
Jalta district	39.89-45.22

Daily outside temperature is taken by dispatcher of LE "Krymteplocomunenergo" from Crimea Meteorological Centre every day of heating season. The information is sent to district heating productive units of LE "Krymteplocomunenergo" located in different towns.

For calculation of Heat transfer factor of buildings for every boiler-house, the method of Weighted average value was used, that depends on heating area of existing buildings and heating area of the new buildings. Values of the heat transfer factor for existing buildings were taken from SNiP 2-3-79 (1998) - not higher than 0.83. Values of the heat transfer factor of new buildings were taken according to State Buildings Norms (B.2.6-31:2006) - not higher than 0.36.

Heat transfer factor of new buildings and buildings with new thermal insulation - Not higher than 0.36, according to State Buildings Norms (B.2.6-31:2006)

Standard specific discharge of hot water per personal account - standard specific discharges of hot water per personal account for different types of consumers are presented in “KTM 204 Ukraine 244-941”.

Carbon emission factor for different fuels, which is determinated in PDD and is confirmed in the Monitoring Report 2 for the year 2008 without deviations.

- Cef (natural gas) = 0.0561 $ktCO_2/TJ$
- Cef (fuel oil) = 0.0774 $ktCO_2/TJ$; (taken as “Residual fuel oil”).

3.3.2 Findings

None.

3.3.3 Conclusion

The project complies with the requirements.

3.4 Environmental and Social Indicators

3.4.1 Discussion

No environmental and social indicators are defined in the monitoring plan. Implementation of the project “Rehabilitation of the District Heating System of Crimea” has a positive effect on environment. Following points give detailed information on environmental benefits.

1. Project implementation allowed to save over 68,5 million Nm^3 of natural gas and over 12.7 thousand ton of fuel oil during 2008.
2. Due to fuel economy and new environmentally friendlier technologies of fuel combustion, project implementation reduced emissions of SO_x, NO_x, CO and particulate matter (co-products of combustion). There are no negative social impacts associated with the project.

The auditor team on site met a sample of local stakeholders. They expressed their deep appreciations for the project. As per them the project has brought sustainable development in to the Crimea Region through implementation of energy saving technologies, as well as improving of living comfort through improving of heat and hot water supply service quality and reliability.

3.4.2 Findings

None

3.4.3. Conclusion

The project complies with the JI requirements as well as with the local requirements.

3.5 Management and Operational System

3.5.1 Discussion

In order to ensure a successful operation of a Client project and the credibility and verifiability of the emissions reductions achieved, the project must have a well defined management and operational system.
The LE "Krymteplocomunenergo" complies with all legal and statutory requirements of the Ukrainian Government and the same were made available to the verification team. Appropriate procedures reflect commitment in management and operational control. Job descriptions, technological instructions are in place. Calibration and maintenance procedures are followed according statutory requirements of Ukraine.

3.5.2 Findings

None

3.5.3 Conclusion

The Monitoring Report and the Management and Operational Systems are eligible for reliable project monitoring.

4 SECOND PERIODIC VERIFICATION FINDINGS

4.1 Completeness of Monitoring

4.1.1 Discussion

The reporting procedures reflect the monitoring plan completely. It is confirmed that the monitoring report does comply with the monitoring methodology and PDD.
The 23 parameters should be monitored according to Monitoring Plan but considering that implementation of CHP units at LE "Krymteplocomunenergo" and landfill gas extraction at Simferopol city landfill have not been finished yet CO_2 emissions reduction calculations by power production was not carried out according to the principle of

conservatism. So six parameters presented in the table below have not been monitored.

18	Scheduled electric power production (was not take into consideration)
19	Scheduled heat energy production (was not take into consideration)
20	Power consumption (was not take into consideration)
21	Average methane fraction of the landfill gas (was not take into consideration)
22	LFG temperature (was not take into consideration)
23	LFG pressure (was not take into consideration)

All parameters were determined as prescribed. The complete data is stored electronically and documented. The necessary procedures have been defined in internal procedures and additional internal documents relevant for the determination of the 17 parameters listed in the monitoring plan.
Project participants provided necessary documents for the verification – Project Design Document version 4 (PDD) and Monitoring Report version 2 (MR). Emission reductions for monitoring period 2005-2007 were expected to be 18523,0 t CO2e. According to the Monitoring Report the emission reductions achieved 215674,1 t CO2e. (Table 1)

Table1 Summarized amount of emissions and emission reductions for 2005-2007 (t CO2e)

Baseline emissions according to MR	Factual project emissions according to MR	Project emission reductions according to MR	Project emission reductions according to PDD
1750076,5	1501882,8	215674,1	18523,0

MR – Monitoring Report
PDD – Project Design Document

It must be taken into account that emission reductions is the difference between the baseline emissions, which are calculated according to the determined methodology with the use of particular data for each year, and project emissions, which are achieved during the project activity after implementation of the planned measures in the particular year. (Table 2). This difference is 10-14% from the baseline, which is rather sensitive for the different factors impact.

Table2 Emissions and emission reductions in years (t CO2e)

Year	Baseline emissions according to MR	Factual project emissions according to MR	Project emission reductions according to MR
2005	586943,9	516725,5	59181,7
2006	636511,4	506266,3	118817,3
2007	526621,2	478891,0	37675,1

MR – Monitoring Report

The conducted analysis showed that the difference between the amount of emission reductions in PDD and MR was caused by the cumulative impact of several factors:

1. PDD was developed for the commitment period of the Kyoto Protocol for 2008-2012. Emission reductions till 2008 were forecasted with a high level of uncertainty and in accordance with the slow implementation of the planned measures during 2004-2009.
2. Calculations of the baseline scenario were conducted according to the specific methodology, which means that baseline scenario in PDD is just an assumption.
3. Determination is based on the conservative approach, which means that the least favorable scenario is taken into consideration with the future ability to prove emission reductions.
4. Heat characteristics (factors) of the fuel, which is used, really differ from the ones used in the calculation process in PDD.
5. The amount of fuel consumption is not steady. It depends on seasonal and annual climate fluctuations. This fact influences the baseline and the amount of emission reductions (fuel expenditure is decreasing during warm winters in Crimea, and the GHG emission reductions amount is less then while the boilers are working fulltime).
6. Equipment and measures were implemented faster than it was planned in PDD. It is mentioned in PDD that proper measures and equipment would be implemented till 2009, however real implementation was conducted during 2004-2007, while near 50 % of the measures before 2005. The list of the measures implemented:
    - Replacement of old boilers by the new highly efficient boilers;
    - Upgrading of boilers' burners for the combustion improvement;
    - Switching of boiler-houses from fuel oil to natural gas;
    - Improving of the network organization;
    - Application of the new insulation and the pre-insulated pipes;
    - Installation of heat-utilizers;
    - Replacement of old boiler houses by new ones;

Hence, verified emission reductions in years during 2005-2007 approached to the annual emission reductions forecasted in PDD starting from 2008-2009. (Table 3)

Table 3 Forecasted and factual emission reductions in years (t CO2e)

Year	Project emission reductions according to PDD	Project emission reductions according to MR
2004	0	
2005	5 839,5	59181,7
2006	9664,4	118817,3

2007	13335,7	37675,1
2008	20076,7	148013,6*
2009	100483,7	
2010	150464,2	
2011	155141,2	
2012	155506,0	

* Emission reductions according to MR for the next monitoring period 2008.

4.1.2 Findings

None.

4.1.3 Conclusion

The project complies with the requirements.

4.2 Accuracy of Emission Reduction Calculations

4.2.1 Discussion

Due to the methodology corrections for data uncertainty should be made. The audit team confirms that emission reduction calculations have been performed according to the Monitoring Plan and to the calculation methodology reported in the Section D.3.4. of the Monitoring Report version 2.
Possible uncertainties and errors for such type project may arise from two main reasons: measurement and stipulation. Measurement error is due to metering equipment inaccuracies. Stipulation occurs when some values are required to complete calculations, but these values cannot be measured directly. In these cases estimates are used in place of actual measurements, and therefore error may be introduced. The stipulation error itself may be estimated based on the expected accuracy of the stipulated values.

The project error can be calculated from the two error components described above. The total project error (Standard Error, SE) can be calculated by taking the square root of the sum of the squares of the individual error components, as below:
$SE = \sqrt{[(\text{measurement error})^2 + (\text{stipulation error})^2]}$

The monitoring plan developed for this project does not rely on any estimates and is therefore free of any stipulation errors.

Thus, $SE = \sqrt{[(\text{measurement error})^2 + (0)^2]} = (\text{measurement error})$

Although the project has 23 monitoring parameters, only one of them (volume of natural gas consumption) is measured directly. The remaining monitoring parameters used in calculation of the baseline and project line emissions are taken as statistic data. Furthermore, they are used for adjustment factors calculation. Calculations of adjustment factors are based on reported and base year parameters ratio. For example, temperature change factor is calculated as ratio of inside and outside temperature differences in reported and base years: $K_2 = (T_{in\ r} - T_{out\ r}) / (T_{in\ b} - T_{out\ b})$. Therefore any error in statistic data will be cancelled.

The volume of natural gas consumption measurement errors which impact the Standard Error and their level of accuracy are: ± 1.0 % (usual value for the majority of meters).
Corresponding metered values of natural gas consumption, according to the conservatizm principle, are corrected by accuracy of meters.

4.2.2 Findings

None

4.2.3 Conclusion

All requested corrections have been considered in the final Monitoring Report version 2. The project complies with the requirements.

4.3 Quality Evidence to Determine Emissions Reductions

4.3.1 Discussion

Concerning verification the calculation of emission reductions is based on internal data. The origin of those data was explicitly checked. Further on, entering and processing of those data in the monitoring workbook Excel sheet was checked where predefined algorithms compute the annual value of the emission reductions. All equations and algorithms used in the different workbook sheets were checked. Inspection of calibration and maintenance records for key equipment was performed for all relevant meters.
Necessary procedures have been defined in internal procedures and additional internal documents relevant for the determination of the various parameters on daily basis.

4.3.2 Findings

None

4.3.3 Conclusion

The project complies with the requirements.

4.4 Management System and Quality Assurance

4.4.1 Discussion

The general director of LE "Krymteplocomunenergo", Mr. Igor Vayl', appointed a responsible person, Mr. Mihaylo Sheyman, for the implementation and management of the monitoring process at the LE "Krymteplocomunenergo". Mr. Mihaylo Sheyman is responsible for supervising data collection, measurements, calibration, data recording and storage.
In October 2007 European Institute for safety, security, insurance and environmental techniques carried out a comprehensive training "Organization and training of special group for necessary data collection according with Monitoring plan". The group consist of staff LE "Krymteplocomunenergo" in particular:
Mr. Mihaylo Sheyman – Chief engineer;
Mr. Sergiy Zhukovskiy – Head of furl-energy resources departement;
Mrs. Olga Travina – Head of production department;
Mrs. Irina Bakaldina – senior engineer of production department;
Mrs. Nadiya Kim – senior engineer of fuel-energy resources departerment.
In addition the developers of the project are responsible for baseline and monitoring methodology development and data processing. In particularly:
Dr. Vladimir Gomon, Managing Engineer of European Institute for safety, security, insurance and environmental techniques, is responsible for baseline and monitoring methodology development.
Dr. Dmitri Paderno, vice director of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development.
Ms. Tetiana Grechko, senior engineer of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development and data processing.
As far as the main activity of LE "Krymteplocomunenergo" will not change in course of the JI project implementation, the special technical trainings for personnel are not necessary. The technical personnel of the enterprise have sufficient knowledge and experience for implementation of the project activity and maintenance of the usual equipment.

LE "Krymteplocomunenergo" provides personnel retraining according to protection of labor norms. The enterprise has the Labor protection department, which is responsible for raising the level of personnel skills and trainings.

In course of the JI project development, specialists of Institute of Engineering Ecology and then also of the European Institute for safety,

security, insurance and environmental techniques carried out a comprehensive consultations and trainings for involved representatives of LE "Krymteplocomunenergo" on the necessary data collection according to Monitoring plan for the project.

4.4.2 Findings

None

4.4.3 Conclusion

The project complies with the requirements.

5 PROJECT SCORECARD

Risk Areas		Conclusions			Summary of findings and comments
		Baseline Emissions	Project Emissions	Calculated Emission Reductions	
Completeness	Source coverage/ boundary definition	✓	✓	✓	All relevant sources are covered by the monitoring plan and the boundaries of the project are defined correctly and transparently.
Accuracy	Physical Measurement and Analysis	✓	✓	✓	State-of-the-art technology is applied in an appropriate manner. Appropriate backup solutions are provided.
	Data calculations	✓	✓	✓	Emission reductions are calculated correctly
	Data management & reporting	✓	✓	✓	Data management and reporting were found to be satisfying.
Consistency	Changes in the project	✓	✓	✓	Results are consistent to underlying raw data.

6 SECOND PERIODIC VERIFICATION STATEMENT

Bureau Veritas Certification has performed a verification of the JI project "Rehabilitation of the District Heating System Rehabilitation of Crimea". The verification is based on the currently valid documentation of the United Nations Framework Convention on the Climate Change (UNFCCC).

The management of the LE "Krymteplocomunenergo" is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD version 4. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 2 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in validated 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 ready to generate 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 valid 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 01/01/2008 to 31/12/2008
Baseline emissions : 567106,9 t CO2 equivalents.
Project emissions : 419093,3 t CO2 equivalents.
Emission Reductions : 148013,6 t CO2 equivalents.

7 REFERENCES

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

/1/ Project Design Document, version 2, dated 16 of August 2006

/2/ Monitoring Report version 01, dated 12 of March 2009

/3/ Monitoring Report version 02, dated 25 of March 2009

/4/ Verification Report by Bureau Veritas Certification Holding SAS UKRAINE-VER#/2008 version 01dated 8 of December 2008

/5/ Project Design Document, version 4, dated 23 of April 2008

Category 2 Documents:

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

/6/ Documents checked during the verification onsite are presented in Annex C

Persons interviewed:

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

/1/ Sigal Aleksandr – Director of the Institute of Engineering Ecology

/2/ Paderno Dmitriy – Vice -director of the Institute of Engineering Ecology

/3/ Grechko Tetyana – Senior engineer of the Institute of Engineering Ecology

/4/ Vail' Igor – General director of LE "Krymteplocomunenergo"

/5/ Gukovsky Sergey – Head of the heat–and-power engineering service at the LE "Krymteplocomunenergo"

/6/ Kim Nadiya – Senior Engineer Head of the of the heat–and-power engineering service at the LE "Krymteplocomunenergo"

/7/ Sheyman Mihail– Lead Engineer at the LE "Krymteplocomunenergo"

/8/ Jivica Vladimir – Head of the permanent of the House and Communal service Comission in the Simferopol town council.

/9/ Padalka Vitaliy – Chief engineer at the Alushta department of LE "Krymteplocomunenergo"

/10/ Lysyi Nikolay – Director of the Evpatoriya department of LE "Krymteplocomunenergo"

/11/ Kovalenko Hennadiy – Head of the Kiev district in Simpferopol

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APPENDIX A: COMPANY JI PROJECT VERIFICATION PROTOCOL

Initial Verification Protocol Table 1

Objective	Reference	Comments	Conclusion (CARs/FARs)
1. Opening Session			
1.1. Introduction to audits	/8/	The intention and the target of the audit were illustrated to the participants of the audit. Participants at the audit were the following persons: Verification team: Mr. Ivan Sokolov Lead Auditor, Bureau Veritas Ukraine, Mrs. Nadiia Kaiiun, Auditor, Bureau Veritas Ukraine, Oleg Skoblyk, specialist, Bureau Veritas Ukraine, Mrs. Kateryna Zinevych, specialist Bureau Veritas Ukraine. Interviewed persons: LE “Krymteplocomunenergo”: The general director of LE “Krymteplocomunenergo”, Mr. Mihaylo Sheyman is responsible for the implementation and management of the monitoring process at the LE “Krymteplocomunenergo” and supervising data collection, measurements, calibration, data recording and storage. Dr. Vladimir Gomon, Managing Engineer of European Institute for safety, security, insurance and environmental techniques, is responsible for baseline and monitoring methodology development Institute of Engineering Ecology: Dr. Dmitri Paderno, vice director of Institute of Engineering Ecology, is responsible for baseline and monitoring	**OK**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		methodology development. Ms. Tetiana Grechko, senior engineer of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development and data processing.	
1.2. Clarification of access to data archives, records, plans, drawings etc.	/8/	The verification team got open access to all required plans, data, records, drawings and to all relevant facilities.	**OK**
1.3. Contractors for equipment and installation works	/8/	Project has been implemented as defined in the PDD and the implementation is evidenced by statements of work completion.	**OK**
1.4. Actual status of installation works	/8/	Implementation of boiler houses rehabilitation and network rehabilitation is realized according to the project plan. In several cases replacement of network pipes with different (from planned before) diameters took place. Same changes also were made in the monitoring methodology developed for “District Heating” projects in Ukrainian conditions”. Those changes concerned Adjustment factors calculations and allow to calculate GHG emissions reduction more transparent. Explain more detail what “Improving of the network organization” means. *Response*	**CAR1**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		Improvement of the heat networks system organization is provided by liquidation of Central Heating Points (CHP) with replacing 4-pipe lines by 2-pipe ones with simultaneous installation of heat exchangers directly at the consumers (Individual Heating Point – IHP), or reconstruction of CHP with modern heat exchangers installation. It is enable to liquidate of pipes with different diameters, to reduce heat losses and to reduce power consumption for power supply of circulation pumps. Technical characteristic of new heat exchangers (see fig. 1) are presented on the producer's website http://teploenergo.com.ua	
2. Open issues indicated in validation report			
2.1. Missing steps to final approval	/4/	Based on the validation report the verification team identified no missing steps. The project has been approved by NFP.	**OK**
3. Implementation of the project			
3.1. Physical components	/8/	Implementation of boiler houses rehabilitation and network rehabilitation are realized according to project plan. In several cases take place replacement of different (from planed before) diameters of network pipes. Implementation of CHP units at LE "Krymteplocomunenergo" and landfill gas extraction at Simferopol city landfill have not been finished yet. So follow the principle of conservatism the CO2 emissions reduction calculations by power production were not carried out. Installation of frequency controllers have not finished yet.	**OK**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		Calculations of CO2 emissions reduction by power saving was not carried out.	
3.2. Project boundaries	/8/	Yes the project boundaries are as defined in the PDD.	**OK**
3.3. Monitoring and metering systems	/8/	The installations have the metering and measurement devices such as gas flow meters, electric power consumption meters to monitor parameters related to project. All equipments are of reputed make and included in the structured calibration plans where they are periodically calibrated. The procedures have been documented for the equipment operation. Explain operation principle of device for automatic control of natural gas consumption *Response* LE "Krymteplocomunenergo" uses correctors of gas flue meters "Universal". Flowing readings are taken from correctors of gas flue meters "Universal" - readings of gas flue meter numerator;	**CAR 2**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		- current readings of gas flue meter at the corrector; - difference of readings of gas flue meter and corrector; - average daily average overpressure of gas; - average daily temperature of gas; - digital value of factor condensability; - digital value of correction factor to standard conditions; - daily volume of gas (standard conditions); - accumulate volume of gas per month (standard conditions)	
3.4. Data uncertainty	/8/	All measuring equipment corresponds to the regulatory requirements on accuracy of meters and measurement deviations that is calculated and certified. This ensures the required by the technology level of uncertainty of the estimations.	**OK**
3.5. Calibration and quality assurance	/8/	All monitoring equipment is part of detailed calibration plan. The strict control is maintained over the calibration process. On the date of verification, Calibration records of the measuring and monitoring equipment has been verified at site. All the meters have been found to be calibrated regularly as per determined calibration plan for each site.	**OK**
3.6. Data acquisition and data processing systems	/8/	1. For automatic fuel control: gas flue commercial system installed at gas distributing units of the boiler-houses that consist of - gas flow meter and automatic corrector for	**OK**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		temperature and pressure. Gas consumption registered automatically. Every day operator of a boiler house make registration of daily gas consumption in the special paper journal. For manual fuel control: gas flue commercial system installed at gas distributing units of the boiler-houses that consist of - gas flow meter, air temperature and temperature of the natural gas sensors and gas pressure at the entrance to the boiler-house sensor. Operators register gas consumption and parameters of gas: temperature and pressure in operational journals every hour. These parameters are used to bring gas consumption to normal conditions. Data is summarized daily and transferred to calculating centers of LE “Krymteplocomunenergo” branches located in City of Simferopol and towns: Alushta, Dzhankoj, Evpatoria, Kerch, Rozdolne, Feodosia and Jalta. Data from branches transferred to calculating centers of LE “Krymteplocomunenergo” where it is archiving. 3. Every month calculating center transferred data to gas supplying company. All measuring equipment and calibration is presented in Annex 3. of the Monitoring Report version 02.	
3.7. Reporting procedures	/8/	The Monitoring Plan defines the responsibilities to consolidate the data required for emission reduction calculations. Calculations are transparent and restricted to	**OK**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		entering annually the production data into a predefined Excel spreadsheet.	
3.8. Documented instructions	/8/	Section B.3. Data processing and archiving (including software used) of the Monitoring Report version 2 provides with the necessary information relating the procedures for the monitoring, measurements and reporting. These were verified onsite and found satisfactory.	**OK**
3.9. Qualification and training	/8/	The overall authority of the project is personally supervised by Mihaylo Sheyman who is responsible for collection and compilation of all data related to this JI Project at LE "Krymteplocomunenergo". The responsibilities and authorities are described for each individual in job descriptions as required statutorily.	**OK**
3.10. Responsibilities	/8/	The overall authority of the project is personally supervised by Mihaylo Sheyman who is responsible for collection and compilation of all data related to this JI Project at LE "Krymteplocomunenergo". The responsibilities and authorities are described for each individual in job descriptions as required statutorily.	**OK**

Objective	Reference	Comments	Conclusion (CARs/FARs)
3.11. Troubleshooting procedures	/8/	Procedure exists to react in the case incorrect data appear or equipment failure. There is a separate procedure laid down for measuring and recording energy related parameters .These procedures include the troubleshooting tips.	**OK**
4. Internal Data			
4.1. Type and sources of internal data	/8/	The internal parameters are obtained according to the monitoring plan: Monitoring report version 2, Annex 1 contains internal parameters that are monitored.	**OK**
4.2. Data collection	/8/	The responsibility for data collection is described in the monitoring plan. Natural gas consumption at boiler houses of LE "Krymteplocomunenergo" was carried out by the following scheme: 1. For automatic fuel control: gas flue commercial system installed at gas distributing units of the boiler-houses that consist of - gas flow meter and automatic corrector for temperature and pressure. Gas consumption registered automatically. Every day operator of a boiler house make registration of daily gas consumption in the special paper journal. For manual fuel control: gas flue commercial system installed at gas distributing units of the boiler-houses that consist of - gas flow meter, air temperature and temperature of the natural gas sensors and gas pressure at the entrance	**OK**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		to the boiler-house sensor. Operators register gas consumption and parameters of gas: temperature and pressure in operational journals every hour. These parameters are used to bring gas consumption to normal conditions. Data is summarized daily and transferred to calculating centers of LE "Krymteplocomunenergo" branches located in City of Simferopol and towns: Alushta, Dzhankoj, Evpatoria, Kerch, Rozdolne, Feodosia and Jalta. Data from branches transferred to calculating centers of LE "Krymteplocomunenergo" where it is archiving. 3. Every month calculating center transferred data to gas supplying company.	
4.3. Quality assurance	/8/	Section B.3. Data processing and archiving (including software used) of the Monitoring Report version 2 provides with the necessary information relating the procedures for the monitoring, measurements and reporting. These were verified onsite and found satisfactory.	**OK**
4.4. Significance and reporting risks	/8/	As the records are maintained on daily basis and the consumption natural gas is a statutory records the chances of misstatement are hereby low.	**OK**
5. External Data			

Objective	Reference	Comments	Conclusion (CARs/FARs)
5.1. Type and sources of external data	/8/	The external data used are following: •Emission factor of fuels – IPCC values are used. •Calorific Values of fuels – calculated values are used. The external parameters are obtained according to the monitoring plan: Monitoring Report, Annex1 contains external parameters that are monitored.	**OK**
5.2. Access to external data	/8/	Origin of the external data is indicated in the monitoring report, Annex1.	**OK**
5.3. Quality assurance	/8/	See chapter 5.1..	**OK**
5.4. Data uncertainty	/8/	See chapter 5.1.	**OK**
5.5. Emergency procedures	/8/	See chapter 5.1.	**OK**
6. Environmental and Social Indicators			

Objective	Reference	Comments	Conclusion (CARs/FARs)
6.1. Implementation of measures	/8/	Environmental and social indicators are not defined in the monitoring plan. Hence the question is not applicable. But the client takes action on a voluntary basis regarding environmental and social issues: The auditor team on site was informed on local stakeholders' opinion. They expressed their appreciations for the project. As per them the project has brought improvements in heat supply system, which the project has brought in.	**OK**
6.2. Monitoring equipment	/8/	See chapter 6.1.	**OK**
6.3. Quality assurance procedures	/8/	See chapter 6.1.	**OK**
6.4. External data	/8/	See chapter 6.1.	**OK**
7. Management and Operational System			
7.1. Documentation	/8/	The company complies with all legal and statutory requirements of the Ukraine and the same were made available to the verification team. LE "Krymteplocomunenergo" has all the necessary permissions and licenses, issued by the State Inspection on Labor Safety, that allow performing of the following activities: to operate, repair and install the steam and hot-water boilers, steam and hot-water pipelines; to perform building and installation works;	**OK**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		to perform designing works; to conduct adjustment and alignment of fuel-using equipment.	
7.2. Qualification and training	/8/	The overall authority of the project is personally supervised by Mihaylo Sheyman who is responsible for collection and compilation of all data related to this JI Project at LE "Krymteplocomunenergo". The responsibilities and authorities are described for each individual in job descriptions as required statutorily.	**OK**
7.3. Allocation of responsibilities	/8/	The responsibilities and authorities are described for each individual in job descriptions as required statutorily. Persons working at sites are aware of their responsibilities, and relative records are maintained.	**OK**
7.4. Emergency procedures	/8/	The emergency procedures with respect to operation controls are available in data control	**OK**
7.5. Data archiving	/8/	Data are archived in the physical and electronic forms and then stored electronically.	**OK**
7.6. Monitoring report	/8/	Calculations are laid down in the monitoring report.	**OK**
7.7. Internal audits and management review	/8/	In the Section B.1.3 and Section C of the Monitoring Report version 2 internal audits and control measures are performed. Measurement equipment calibration for LE "Krymteplocomunenergo" was carried out by Crimea center of standardization and metrology and Vinnitsa regional state	**OK**

Objective	Reference	Comments	Conclusion (CARs/FARs)
		scientific-production center standardization and metrology for Promenergovuzol boiler-house and some boiler-houses in Evpatoria district. Performance review for the project is made by Production Technical department.	

Periodic Verification Checklist Protocol Table 2: Data Management System/Controls

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
1. Defined organizational structure, responsibilities and competencies		
1.1. Position and roles	Full	The general director of LE “Krymteplocomunenergo”, Mr. Igor Vail’, appointed a responsible person, Mr. Mihaylo Sheyman, for the implementation and management of the monitoring process at the LE

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
		"Krymteplocomunenergo". Mr. Mihaylo Sheyman is responsible for supervising data collection, measurements, calibration, data recording and storage. Dr. Vladimir Gomon, Managing Engineer of European Institute for safety, security, insurance and environmental techniques, is responsible for baseline and monitoring methodology development. Dr. Dmitri Paderno, vice director of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development. Ms. Tetiana Grechko, senior engineer of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development and data processing.
1.2. Responsibilities	Full	Mihaylo Sheyman, Head of the production and Technical Department is responsible for supervising data collection, measurements, calibration, data recording and storage at LE "Krymteplocomunenergo". Dr. Vladimir Gomon, Managing Engineer of European Institute for safety, security, insurance and environmental techniques, is responsible for baseline and monitoring methodology development Dr. Dmitri Paderno, vice director of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development. Ms. Tetiana Grechko, senior engineer of Institute of Engineering Ecology, is responsible for baseline and monitoring methodology development and data processing.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
1.3. Competencies needed	Full	The overall authority of the project is personally supervised by Mihaylo Sheyman who is responsible for collection and compilation of all data related to this JI Project at LE “Krymteplocomunenergo”. The responsibilities and authorities are described for each individual in job descriptions as required statutorily.
2. Conformance with monitoring plan		
2.1. Reporting procedures		The monitoring plan is as per the registered PDD. The applauded version of PDD is publicly available at the site http://ji.unfccc.int/JI_Projects/DeterAndVerif/Verification/PDD/index.html where it was placed during determination process. The monitoring methodology developed for “District Heating” projects in Ukrainian conditions” was used in monitoring process.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
2.2. Necessary Changes	Full	Implementation of boiler houses rehabilitation and network rehabilitation is realized according to the project plan. Same changes also were made in the monitoring methodology developed for “District Heating” projects in Ukrainian conditions”. Those changes concerned Adjustment factors calculations and allow to calculate GHG emissions reduction more transparent.
3. Application of GHG determination methods		
3.1. Methods used	Full	The reporting procedures reflect the monitoring plan content. The calculation of the emission reduction is correct.
3.2. Information/process flow	Full	The necessary procedures have been defined in internal procedures and additional internal documents relevant for the determination of the various parameters on regular basis. Natural gas consumption at boiler houses of LE “Krymteplocomunenergo” was carried out by the following scheme: 1. For automatic fuel control: gas flue commercial system installed at gas distributing units of the boiler-houses that consist of - gas flow meter and automatic corrector for temperature and pressure. Gas consumption registered

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
		automatically. Every day operator of a boiler house make registration of daily gas consumption in the special paper journal. 2. For manual fuel control: gas flue commercial system installed at gas distributing units of the boiler-houses that consist of - gas flow meter, air temperature and temperature of the natural gas sensors and gas pressure at the entrance to the boiler-house sensor. Operators register gas consumption and parameters of gas: temperature and pressure in operational journals every hour. These parameters are used to bring gas consumption to normal conditions. Data is summarized daily and transferred to calculating centers of LE “Krymteplocomunenergo” branches located in City of Simferopol and towns: Alushta, Dzhankoj, Evpatoria, Kerch, Rozdolne, Feodosia and Jalta. Data from branches transferred to calculating centers of LE “Krymteplocomunenergo” where it is archiving. 3. Every month calculating center transferred data to gas supplying company.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
3.3. Data transfer	Full	The complete data is stored electronically and also the part of Management information system which is controlled by accounts
3.4. Data trails	Full	The necessary procedures have been defined in internal procedures and additional internal documents relevant for the determination of the all the parameters listed in the monitoring plan
4. Identification and maintenance of key process parameters		
4.1. Identification of key parameters	Full	The critical parameters for the determination of GHG emissions are the parameters listed in section D of the approved PDD
4.2. Calibration/maintenance	Full	The company maintains the elaborate calibration plan for each of the equipment. The audit team verified the status for all the equipment at the sites sampled for the audit and found them to be complying with the plan.
5. GHG Calculations		
5.1. Use of estimates and default data	Full	The carbon emission factor & Net calorific values is used as a predetermined default value which has been defined in the PDD and confirmed during validation of the project.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
5.2. Guidance on checks and reviews	Full	Internal audits and control measures are performed. Measurement equipment calibration for LE "Krymteplocomunenergo" was carried out by Crimea center of standardization and metrology and Vinnitsa regional state scientific-production center standardization and metrology for Promenergovuzol boiler-house and same boiler-houses in Evpatoria district.
5.3. Internal validation and verification	Full	Monitoring procedure for JI Project includes the responsibility and frequency for carrying out internal audits. The audit team did verify all the parameters listed in monitoring report
5.4. Data protection measures		The necessary procedures relating to Information technology are in place to provide necessary data security, and also prevent the unauthorized use of the same.
5.5. IT systems	Partial	The IT system does not exist at the moment at LE "Krymteplocomunenergo" but there is planned development of such departments for Regional Districts of Crimea.

Periodic Verification Protocol Table 3: GHG calculation procedures and management control testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
Potential reporting risks based on an assessment of the emission estimation procedures can be expected in the following fields of action: ➢ the calculation methods, ➢ raw data collection and sources of supporting documentation, ➢ reports/databases/information systems from which data is obtained. Key source data applicable to the project assessed are hereby: ➢ metering records (gas and power consumption per heat generated), ➢ process monitors (heat generation), ➢ operational logs (metering records), ➢ laboratory/analytical data (for energy content of fuels), ➢ accounting records, Appropriate calibration and maintenance of equipment resulting in high accuracy of data supplied should be in place. It is hereby needed to focus on those	Regarding the potential reporting risks identified in the left column the following mitigation measures have been observed during the document review and the on site mission: Key source data for this parameter are: • meter reading. • Invoices and record for Fuels (and coal) for consumption and purchase. The metering equipments are installed appropriately in the enclosure panels and same are of reputed make. Calculation methods: The reporting procedures reflect the monitoring plan content and the calculation of the emission reduction is correct and also additionally deducting the project emissions caused by fossil fuel.	The issue remaining is the way the data obtained is used to calculate the emission reduction in a conservative manner according to the approach prescribed in the PDD as well as the way data obtained is used to calculate the emissions reductions/

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
risks that impact the accuracy, completeness and consistency of the reported data. Risks are weakness in the GHG calculation systems and may include: ➢ manual transfer of data/manual calculations, ➢ position of the metering equipment, ➢ unclear origins of data, ➢ accuracy due to technological limitations, ➢ lack of appropriate data protection measures (for example, protected calculation cells in spreadsheets and/or password restrictions).		

Periodic Verification Protocol Table 4: Detailed audit testing of residual risk areas and random testing

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
The issue remaining is the way the data	There has been a complete check of data transferred from daily	Having investigated the residual risks, the audit team comes to the following conclusion: Immediate action is not needed with respect to the current emission reduction

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
obtained is used to calculate the emission reduction in a conservative manner according to the approach prescribed in the PDD.	consumption and generation readings to the calculation tool. There was no error in such transfer. The correct installation of the metering equipment can be confirmed.	calculation. Those corrections have been considered during the verification process, so no residual risk is open.

Verification Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	**Ref. to checklist question in tables 2/3**	**Summary of project owner response**	**Verification conclusion**
CAR1. Explain more detail what “Improving of the network organization” means.	1.4.	Improvement of the heat networks system organization is provided by liquidation of Central Heating Points (CHP) with replacing 4-pipe lines by 2-pipe ones with simultaneous installation of heat exchangers directly at the consumers (Individual Heating Point – IHP), or reconstruction of CHP with modern heat exchangers installation. It is enable to	

Verification Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
		liquidate of pipes with different diameters, to reduce heat losses and to reduce power consumption for power supply of circulation pumps. Technical characteristic of new heat exchangers (see fig. 1) are presented on the producer's website http://teploenergo.com.ua	
CAR2. Explain operation principle of device for automatic control of natural gas consumption	3.3	LE "Krymteplocomunenergo" uses correctors of gas flue meters "Universal". Flowing readings are taken from correctors of gas flue meters "Universal" - readings of gas flue meter numerator; - current readings of gas flue meter at the corrector; - difference of readings of gas flue meter and corrector; - average daily average overpressure of gas; - average daily temperature of gas; - digital value of factor condensability; - digital value of correction factor to standard conditions; - daily volume of gas (standard conditions); - accumulate volume of gas per month (standard conditions)	

APPENDIX B: VERIFICATION TEAM

The verification team consists of the following personnel:

Flavio Gomes, M.Sci. (civil engineering)

Team Leader

Bureau Veritas Certification, Climate Change Verifier
Flavio Gomes is a Chemical and Safety Engineer graduated from «UNICAMP – Universidade Estadual de Campinas», with a MSc title in Civil Engineer (Sanitation). He spent four years at RIPASA Pulp and Paper as Environmental Process Engineer. He is, since 2006 the Global Manager for Climate Change. Previously and since 1997, he was senior consultant for Bureau Veritas Consulting in fields of Environment, Health, Safety, Social Accountability and Sustainability audit and management systems. He also acted as Clean Development Mechanism verifier, and Social/Environmental Report auditor, in the name of Bureau Veritas Certification. Flavio is pursuing his PhD on Energy Management at the Imperial College – London.

Ivan G. Sokolov, Dr. Sci. (biology, microbiology)
Team member

Bureau Veritas Ukraine HSE Department manager.

He has over 25 years of experience in Research Institute in the field of biochemistry, biotechnology, and microbiology. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered), Quality Management System (IRCA registered), Occupational Health and Safety Management System, and Food Safety Management System. He performed over 130 audits since 1999. Also he is Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and Lead Tutor of the IRCA registered ISO 9000 QMS Lead Auditor Training Course. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the validation of 6 JI projects.

Nadiya Kaiiun, M. Sci. (environmental science)
Team member

Bureau Veritas Ukraine HSE Department project manager.

She has graduated from National University of Kyiv-Mohyla Academy with the Master Degree in Environmental Science. She is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered). She performed over 15 audits since 2008. She has undergone intensive training on Clean Development Mechanism /Joint Implementation and she is involved in the validation of 6 JI projects.

Oleg Skoblyk, Specialist (Energy Management)
Team member

Bureau Veritas Ukraine HSE Department project manager.

He has graduated from National Technical University of Ukraine 'Kyiv Polytechnic University" with specialty Energy Management. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered). He performed over 10 audits since 2008. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the validation of 3 JI projects.

Kateryna Zinevych, M. Sci. (environmental science)
Team member

Bureau Veritas Ukraine HSE Department project manager.

She has graduated from National University of Kyiv-Mohyla Academy with the Master Degree in Environmental Science. She is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered). She performed 6 audits since March of 2009. She has undergone intensive training on Clean Development Mechanism /Joint Implementation and she is involved in the validation of 3 JI projects.

Ashok Mammen - PhD (Oils & Lubricants)

Bureau Veritas Certification Internal reviewer
Over 20 years of experience in chemical and petrochemical field. Dr. Mammen is a lead auditor for environment, safety and quality management systems and

a lead verifier for GHG projects. He has been involved in the validation and verification processes of more than 60 CDM/JI and other GHG projects.

APPENDIX C: DOCUMENTS CHECKED DURING VERIFICATION

№ п/п	Simferopil city
1.	Contract № 107-ф from a November, 01 in 2007about sale-bye of heat energy between Rent enterprise “Crimteplocomounenergo” and Communal enterprise “GEU of Central district”.
2.	Contract № 1348 from a April, 01 in 2008 about sale-bye of heat energy between Rent enterprise “Crimteplocomounenergo” and “Ambulance station of Simferopol town”.
3.	Agreement № 3 from a December, 14 in 2007about the providing of hydrometeorological services between the Rent enterprise «Crimteplocomounenergo» and Center on hydrometeorology in ARC at MNS Ukraine.
4.	Letter of the Executive committee of Sholcinscoi City Rady № 02-5/142 from 10.03.2009
5.	Act about actual consumption of natural gas. City Soudak on a December, 31 2008.
6.	Act about actual consumption of natural gas. City Simferopol on a December, 31 2008.
7.	Act about actual consumption of natural gas. City Sholcino on a December, 31 2008.
8.	Act about actual consumption of natural gas. City Armjansk on a December, 31 2008.
9.	Act about actual consumption of natural gas. City Pervomajskoe on a December, 31 2008.
10.	Act about actual consumption of natural gas. City Alushta on a December, 31 2008.
11.	Act about actual consumption of natural gas. City Jalta on a December, 31 2008.
12.	Act about actual consumption of natural gas. City Jalta on a December, 31 2008.
13.	Act about actual consumption of natural gas. City Feodosia on a December, 31 2008.
14.	Act about actual consumption of natural gas. City Kerch on a December, 31 2008.
15.	Act about actual consumption of natural gas. S.c.t.Krasnogvardejskoe on a December, 31 2008.
16.	Act about actual consumption of natural gas. s. Sovetsky a

	December, 31 2008.
17.	Act about actual consumption of natural gas. s. Nizhnegorsky a December, 31 2008.
18.	Act about actual consumption of natural gas. City Djankoy a December, 31 2008.
19.	City Evpatoria
20.	Act of receiving commission on acceptance to exploitation of the finished build object from June, 04 2008 «Replacement of heating main of D=219 mm – 120 m from a boiler room for Chapaeva str., 26. City Evpatoria.»
21.	Act of receiving commission on acceptance to exploitation of the finished build object from July, 04 2008 «Replacement of heating main of D=159 mm – 372 m from a boiler room for Chapaeva str., 26. City Evpatoria.»
22.	Act of receiving commission on acceptance to exploitation of the finished build object from March, 24 2008 «Replacement of heating main of D=125 mm – 48 m from a boiler room for Internatsionalnaja str., 135. City Evpatoria.»
23.	Act of receiving commission on acceptance to exploitation of the finished build object from July, 02 2008 «Replacement of heating main of D=57 mm – 56 m, D=89 mm – 62 m from a boiler room for Frunze str., 83a. City Evpatoria.»
24.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 16 2008 «Replacement of heating main of D=273 mm – 176 m from a boiler room for Frunze str., 35a. City Evpatoria.»
25.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 19 2007 «Replacement of surface of caldron DCVR-20/13-20/13 № 3 at boiler room for Internatsionalnaja str., 135. City Evpatoria.»
26.	Act of receiving commission on acceptance to exploitation of the finished build object from August, 18 2008 «Replacement of heat surface of caldron DCVR-10/13 № 4 at boiler room for Krupskaja str., 48a. City Evpatoria.»
27.	City Soudak
28.	Act of receiving commission on acceptance to exploitation of the finished build object from October, 28 2008 « Replacement of heating main of D=159 mm – 334 m from a boiler room for Zhovtneva str., 7. City Soudak.»
29.	City Alushta
30.	Act of receiving commission on acceptance to exploitation of the

	finished build object from July, 07 2008 « Replacement of heating main of D=219 mm – 460 m by preliminary isolated pipe from a boiler room for Zarechnaja str., 43. City Alushta.»
31.	Act of receiving commission on acceptance to exploitation of the finished build object from July, 07 2008 « Replacement of heating main of D=250 mm – 46.5 m by from a boiler room for Zarechnaja str., 43. City Alushta.»
32.	City Simferopol
33.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 17 2004 « A reconstruction CTP-44 from a boiler room on Vuzlova str., 9 with replacement of Casing pipe water heaters on Lamellar water heaters : SWEP GX – 26 H*51 1/4401/EPDM-P (P=2330 cVt) City Simferopol
34.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 17 2004 « A reconstruction CTP-26 from a boiler room on Vuzlova str., 9 with replacement of Casing pipe water heaters on Lamellar water heaters : SWEP GX – 51 L*77 1.4401/EPDM-P (P=4655 кВт) – 2 things City Simferopol
35.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 23 2004 Setting of frequency transformers on the electric engines of smoke delete system and fans in PTVM st.№4 in a boiler room on Vuzlova str., 9 City Simferopol
36.	Act of receiving commission on acceptance to exploitation of the finished build object from October, 18 2005 Setting of frequency transformers on electric engines to the Recirculation pump in a boiler room on Vuzlova str., 9 City Simferopol
37.	Act of receiving commission on acceptance to exploitation of the finished build object from July, 23 2004 Replacement of heating main sites of D=80 mm – 200 m by twopipe calculation from a boiler room on Vuzlova str., 9 City Simferopol
38.	Act of receiving commission on acceptance to exploitation of the finished build object from July, 23 2004 Replacement of heating main sites of D=250 mm – 175 m by two-pipe calculation from a boiler room on Vuzlova str., 9 City Simferopol
39.	Act of receiving commission on acceptance to exploitation of the finished build object from July, 27 2004 Replacement of heating main sites of D=150 mm – 210 m by two-pipe calculation from a boiler room on Vuzlova str., 9 City Simpferopol
40.	Checking Certificate of working mean of measuring technique № 02309 Name and conditional denotation – “Gas-meter RGC-600 Ser. № 2264 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol”
41.	Certificate about Acceptance and Checking “Calculator of volume of

	gas UNIVERSAL-01 Ser. № 5237 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol”
42.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1577 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol”
43.	Checking Certificate of working mean of measuring technique № 031153 Name and conditional denotation – “Signalling-explosimetr device CET-1 Ser. № 062 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol”
44.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1517 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol”
45.	Certificate about Acceptance “Sensor of absolute pressure MIDA-13P-01 Ser. № 02407819 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol
46.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-02 Ser. № 1628 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol”
47.	Certificate about Acceptance and Checking “Sensor Metran-43-FExDD model 3494-02 Ser. № 36325 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol”
48.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex/0-400 cPa ABS/PD/M Ser. № 11063198 CTCE Belongs, located to the address: 1 Konnoj Army str., 37a City.Simpferopol
49.	Act of receiving commission on acceptance to exploitation of the finished build object from November, 19 2008 Repair of heating main located Sevastopolskaja str.,114, D=133 mm – 15 m from a boiler room 1 Konnoj Army str., 37a City Simpferopol
50.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 24 2008 Repair of convective part of caldron PTVM-30 № 1 at boiler room 1 Konnoj Army str., 37a City Simpferopol
51.	Act of receiving commission on acceptance to exploitation of the finished build object from March, 25 2008 Repair of convective part of caldron PTVM-30 № 1 at boiler room 1 Konnoj Army str., 37a City Simpferopol
52.	Act of receiving commission on acceptance to exploitation of the finished build object from August, 20 2008 Repair of heating main located 1 Konnoj Army str., 82, D=426 mm – 23 m from a boiler room 1 Konnoj Army str., 37a City Simpferopol
53.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 25 2008 «Reconstruction CTP-44

	at Zamisky str., 70 from a boiler room on 1 Konnoj Army str., 37a with replacement of Casing pipe water heaters on Lamellar water heaters : DAN FP -50-2 things, 21lamellars. City Simpferopol
54.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 25 2008 «Reconstruction CTP-44 at Aralscaja str., 59 from a boiler room on 1 Konnoj Army str., 37a with replacement of Casing pipe water heaters on Lamellar water heaters : DAN FP -50-1 things, 25 lamellars. City Simpferopol
55.	Checking Certificate of working mean of measuring technique № 033615 Name and conditional denotation – “Gas-meter RGC-1000 Ser. № 1404 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
56.	Checking Certificate of working mean of measuring technique № 026494 Name and conditional denotation – “Gas-meter RGC-1000 Ser. № 1415 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
57.	Checking Certificate of working mean of measuring technique № 0266623 Name and conditional denotation – “Gas-meter RGC-1000 Ser. № 4997 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
58.	Checking Certificate of working mean of measuring technique № 031092 Name and conditional denotation – “Signalling-explosimetr device Ser. № 052 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
59.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 02082115 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol
60.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1259 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
61.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1493 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
62.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1509 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
63.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-02 Ser. № 1567 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
64.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 02073858 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol

65.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 02073862. CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol
66.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-02 Ser. № 1396 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
67.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-02 Ser. № 1600 CTCE Belongs, located to the address: Batumsky lane., 2., City.Simpferopol”
68.	Act of receiving commission on acceptance to exploitation of the finished build object from February, 15 2007 Building of heating main located Ushakova str., D=57 mm – 348 m from a boiler room Batumsky lane., 2., City Simpferopol
69.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 22 2005 Change of heating main located Trubachenko lane, 16a., D=219 mm – 40 m from a boiler room Batumsky lane., 2., City Simpferopol
70.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 22 2005 Change of heating main located Millera str,-Trubachenko str., D=76 mm – 18 m D=89 mm – 74 m D=108 mm – 155 m, D=159 mm – 228 m from a boiler room Batumsky lane., 2., City Simpferopol
71.	Act of receiving commission on acceptance to exploitation of the finished build object from February, 27 2008 Repair of convective part of caldron TVG-8 № 2 at boiler room Turgeneva str., 11a City Simpferopol
72.	Checking Certificate of working mean of measuring technique № 033614 Name and conditional denotation – “Gas-meter RGC-1000 Ser. №1110 CTCE Belongs, located to the address: Turgeneva str., 11a City.Simpferopol”
73.	Checking Certificate of working mean of measuring technique № 026493 Name and conditional denotation – “Gas-meter RGC-1000 Ser. №1407 CTCE Belongs, located to the address: Turgeneva str., 11a City.Simpferopol”
74.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. №1576 CTCE Belongs, located to the address: Turgeneva str., 11a City.Simpferopol”
75.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. №1011 CTCE Belongs, located to the address: Turgeneva str., 11a City.Simpferopol”
76.	Certificate about Acceptance “Transformer pressure measuring PC-28/Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 02082114 CTCE Belongs,

	located to the address: Turgeneva str., 11a City.Simpferopol”
77.	Certificate about Acceptance “Transformer pressure measuring PC-28/Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 01082812 CTCE Belongs, located to the address: Turgeneva str., 11a City.Simpferopol”
78.	Checking Certificate of working mean of measuring technique № 031227 Name and conditional denotation – “Signalling-explosimetr device CTX -1 Ser. № 839 CTCE Belongs, located to the address: Turgeneva str., 11a City.Simpferopol”
79.	Checking Certificate of working mean of measuring technique № 031089 Name and conditional denotation – “Signalling-explosimetr device CET -1 Ser. № 049 CTCE Belongs, located to the address: Turgeneva str., 11a City.Simpferopol”
80.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-02 Ser. № 1347 CTCE Belongs, located to the address: Turgeneva str., 11a City.Simpferopol”
81.	Checking Certificate of working mean of measuring technique № 020358 Name and conditional denotation – “Gas-meter RGC-1000 Ser. № 0813 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
82.	Checking Certificate of working mean of measuring technique № 013156Name and conditional denotation – “Gas-meter RGC-1000 Ser. № 0015 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
83.	Checking Certificate of working mean of measuring technique № 031094 Name and conditional denotation – “Signalling-explosimetr device CET -1 Ser. № 055 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
84.	Checking Certificate of working mean of measuring technique № 031178 Name and conditional denotation – “Signalling-explosimetr device CET -1 Ser. № 833 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
85.	Certificate about Acceptance “Transformer pressure measuring PC-28/Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 02082122 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
86.	Certificate about Acceptance “Transformer pressure measuring PC-28/Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 02082120 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
87.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1550 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
88.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1544 CTCE Belongs, located to the

	address: Severny lane., 17., City.Simpferopol”
89.	Certificate about Checking “Heat metre STU-1.№ 1094 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
90.	Certificate about Acceptance “Complete set of Thermo transformer resistance KTSP-N. Ser. № 4107 CTCE Belongs, located to the address: Severny lane., 17., City.Simpferopol”
91.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-02 Ser. № 1564 CTCE Belongs, located to the address: Severny lane., 17. City.Simpferopol”
92.	Act of receiving commission on acceptance to exploitation of the finished build object from November, 19 2008 Building of heating main with using preliminary isolated pipe D=325 mm – 520 m from a boiler room Severny lane., 17, City Simpferopol
93.	Act of receiving commission on acceptance to exploitation of the finished build object from Fabruary, 25 2008 «Reconstruction CTP at Lermontova str., 14b with replacement of Casing pipe water heaters on Lamellar water heaters : DAN FP -50-2 things, 124 lamellars from a boiler room Severny lane., 17, City Simpferopol
94.	Act of receiving commission on acceptance to exploitation of the finished build object from Fabruary, 25 2008 «Reconstruction CTP at Lermontova str., 14b with replacement of Casing pipe water heaters on Lamellar water heaters : DAN FP -31-2 things, 59 lamellars from a boiler room Severny lane., 17, City Simpferopol
95.	Act of receiving commission on acceptance to exploitation of the finished build object from November, 19 2008 «Reconstruction CTP at Lermontova str., 5a with replacement of Casing pipe water heaters on Lamellar water heaters : DAN FP -20-2 things, 45 lamellars from a boiler room Severny lane., 17, City Simpferopol
96.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 24 2008 Repair of heating main located Kujbysheva str., 29 D=426 mm – 50 m from a boiler room Severny lane., 17, City Simpferopol
97.	Act of receiving commission on acceptance to exploitation of the finished build object from December, 29 2008 Repair of heating main located Franko bul.- Severny lane D=57 mm – 80 m from a boiler room Severny lane., 17, City Simpferopol
98.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 30 2008 Repair of screen pipes of caldron TVG-8 № 4 at boiler room Severny lane., 17, City Simpferopol
99.	Act of receiving commission on acceptance to exploitation of the finished build object from March, 25 2008 Repair of convective part of caldron KVGM-20 № 1 at boiler room Fructovy lane., 13, City

	Simpferopol
100.	Act of receiving commission on acceptance to exploitation of the finished build object from October, 27 2008 Repair of heating main located Fructovy lane., 13, D=630 mm – 26 m at boiler room Fructovy lane., 13, City Simpferopol
101.	Act of receiving commission on acceptance to exploitation of the finished build object from December, 21 2005 Partial change of screen pipes of caldron KVGM-20 № 3 at boiler room Fructovy lane., 13 City Simpferopol
102.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 17 2007 Change of screen pipes of caldron KVGM-20 № 2 at boiler room Fructovy lane., 13 City Simpferopol
103.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 18 2006 Change of convective part of caldron KVGM-20 № 3 at boiler room Fructovy lane., 13 City Simpferopol
104.	Act of receiving commission on acceptance to exploitation of the finished build object from October, 13 2005 Change of convective part of caldrons KVGM-20 №1 №2 №3 at boiler room Fructovy lane., 13 City Simpferopol
105.	Act of receiving commission on acceptance to exploitation of the finished build object from August, 28 2007 Change of convective part of caldron KVGM-20 №2 at boiler room Fructovy lane., 13 City Simpferopol
106.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 08 2005 Change of convective part of caldron KVGM-20 №1 at boiler room Fructovy lane., 13 City Simpferopol
107.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 23 2008 Change of convective part of caldron KVGM-20 №1 at boiler room Fructovy lane., 13 City Simpferopol
108.	Act of receiving commission on acceptance to exploitation of the finished build object from June, 21 2007 Change of convective part of caldron KVGM-20 №1 №2 at boiler room Fructovy lane., 13 City Simpferopol
109.	Act of receiving commission on acceptance to exploitation of the finished build object from February, 25 2008 Change of convective part of caldron KVGM-20 №1 at boiler room Fructovy lane., 13 City Simpferopol
110.	Act of receiving commission on acceptance to exploitation of the finished build object from June, 21 2007 «Replacement of heating

	main of D=400mm – 1800m from a boiler room Fructovy lane., 13 along Kujbysheva str.,Kievskaja str. City Simpferopol.»
111.	Act of receiving commission on acceptance to exploitation of the finished build object from February, 27 2007 «Replacement of output devise of D=400mm on D=600mm at a boiler room Fructovy lane., 13 City Simpferopol.»
112.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 19 2006 «Replacement of input pressure collector of net pumps at a boiler room Fructovy lane., 13 City Simpferopol.»
113.	Act of receiving commission on acceptance to exploitation of the finished build object from June, 26 2008 «Building of heating main of D=108 mm – 150m from a boiler room Fructovy lane., 13 along Dekabristov str.,14/28 City Simpferopol.»
114.	Act of receiving commission on acceptance to exploitation of the finished build object from January, 23 2008 «Change of heating main of D=325 mm – 65.5m from a boiler room Fructovy lane., 13 along Franko bul.,35 City Simpferopol.»
115.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-01 Ser. № 5729 CTCE Belongs, located to the address: Fructovy lane., 13 City.Simpferopol”
116.	Certificate about Acceptance “Sensor “Sapfir Ex” Ser. № 06375607 CTCE Belongs, located to the address: 1 Fructovy lane., 13 City.Simpferopol
117.	Checking Certificate of working mean of measuring technique № 031154 Name and conditional denotation – “Signalling-explosimetr device CET -1 Ser. № 063 CTCE Belongs, located to the address: Fructovy lane., 13 City.Simpferopol”
118.	Checking Certificate of working mean of measuring technique № 031174 Name and conditional denotation – “Signalling-explosimetr device CTX -17 Ser. № 796 CTCE Belongs, located to the address: Fructovy lane., 13 City.Simpferopol”
119.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex/0-400 cPa ABS/PD/M Ser. № 11063202 CTCE Belongs, located to the address: : Fructovy lane., 13 City.Simpferopol
120.	Checking Certificate of working mean of measuring technique № 026624 Name and conditional denotation – “Gas-meter RGC-600 Ser. № 2065 CTCE Belongs, located to the address: Kirova str., 47a., City.Simpferopol”
121.	Checking Certificate of working mean of measuring technique № 029769 Name and conditional denotation – “Gas-meter RGC-250 Ser. № 5749 CTCE Belongs, located to the address: Kirova str., 47a.,

	City.Simpferopol”
122.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1000 CTCE Belongs, located to the address: : Kirova str., 47a., City.Simpferopol”
123.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 02082127 CTCE Belongs, located to the address: : Kirova str., 47a., City.Simpferopol
124.	Checking Certificate of working mean of measuring technique № 031175 Name and conditional denotation – “Signalling-explosimetr device CTX -17 Ser. № 798 CTCE Belongs, located to the address: Kirova str., 47a., City.Simpferopol”
125.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-02 Ser. № 490 CTCE Belongs, located to the address: Kirova str., 47a., City.Simpferopol”
126.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 23 2005 Change of feed up pumps 2K6-2 things by feed up pumps K20/30 - 2 things in a boiler room on Kirova str., 47a., City Simferopol
127.	Act of receiving commission on acceptance to exploitation of the finished build object from Juli, 12 2005 Change of main line pipes Dy=250mm -120 m in a boiler room on Kirova str., 47a., City Simferopol
128.	Act of receiving commission on acceptance to exploitation of the finished build object from August, 09 2006 Change of net pumps 6NDV-60 with electric engine 65 cVt by net pumps 6NDV-60 with electric engine 75 cVt in a boiler room on Kirova str., 47a., City Simferopol
129.	Act of receiving commission on acceptance to exploitation of the finished build object from April, 11 2006 Change of down collector of net pumps and install DU-600 device in a boiler room on Kirova str., 47a., City Simferopol
130.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 25 2007 Capital repairmen of caldron KB-2/95 №2 in a boiler room on Kirova str., 47a., City Simferopol
131.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 25 2007 Capital repairmen of caldron KB-2/95 №2 in a boiler room on Kirova str., 47a., City Simferopol
132.	Act of receiving commission on acceptance to exploitation of the finished build object from April, 22 2008 Repairmen of heating main at Kirova str.,47a, D=273 mm – 132 m from a boiler room in a boiler

	room on Kirova str., 47a., City Simferopol
133.	Act of receiving commission on acceptance to exploitation of the finished build object from May, 27 2008 Change of screen pipes of caldron KVU-2-95 № 2 in a boiler room on Kirova str., 47a., City Simferopol
134.	Checking Certificate of working mean of measuring technique № 015306 Name and conditional denotation – “Gas-meter RGC-1000 Ser. № 4999 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol”
135.	Checking Certificate of working mean of measuring technique № 013285 Name and conditional denotation – “Gas-meter RGC-600 Ser. № 2274 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol”
136.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 01082819 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol
137.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 01082818 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol
138.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1534 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol”
139.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1530 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol”
140.	Checking Certificate of working mean of measuring technique № 031156 Name and conditional denotation – “Signalling-explosimetr device CET-1 Ser. № 066 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol”
141.	Checking Certificate of working mean of measuring technique № 031173 Name and conditional denotation – “Signalling-explosimetr device CTX-17 Ser. № 791 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol”
142.	Certificate about Acceptance and Checking “Calculator of volume of gas UNIVERSAL-02 Ser. № 1006 CTCE Belongs, located to the address: Strelkovaja str., 91a., City.Simpferopol”
143.	Act of receiving commission on acceptance to exploitation of the finished build object from November, 25 2008 Repair of heating main located Ketchemetskaja str.,1, D=219mm – 46 m from a boiler room Strelkovaja str., 96., City Simpferopol

144.	Act of receiving commission on acceptance to exploitation of the finished build object from November, 25 2008 Repair of heating main located Kievskaja str.,135, D=57mm – 58 m from a boiler room Strelkovaja str., 96., City Simpferopol
145.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 19 2006 Repair of convective part of caldron KVG – 6.5 № 3 at boiler room Radischeva str., 78 City Simpferopol
146.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 5 2006 Replacement of net pump 5NDV by net pump D 200 at boiler room Radischeva str., 78 City Simpferopol
147.	Act of receiving commission on acceptance to exploitation of the finished build object from September, 25 2004 Repairing fire slots at boiler room Radischeva str., 78 City Simpferopol
148.	Act of receiving commission on acceptance to exploitation of the finished build object from November, 17 2005 Replacement of heating main located Bespalova str.,106, D=159mm – 100 m from a boiler Radischeva str., 78 City Simpferopol
149.	Certificate about Acceptance and Checking “Transformer measuring of temperature PVT-01-1 Ser. № 1535 CTCE Belongs, located to the address: boiler Radischeva str., 78 City.Simpferopol”
150.	Certificate about Acceptance “Transformer of pressure of measuring RS-28/Ex Ex(-30)/0,,,160 кПа ABS/PD/M Ser. № 02082124 CTCE Belongs, located to the address: Radischeva str., 78 City.Simpferopol
151.	Checking Certificate of working mean of measuring technique № 031088 Name and conditional denotation – “Signalling-explosimetr device CET-1 Ser. № 048 CTCE Belongs, located to the address: Radischeva str., 78 City.Simpferopol”
152.	Checking Certificate of working mean of measuring technique № 031176 Name and conditional denotation – “Signalling-explosimetr device CTX-17 Ser. № 800 CTCE Belongs, located to the address: Radischeva str., 78 City.Simpferopol”
153.	Checking Certificate of working mean of measuring technique № 013155 Name and conditional denotation – “Gas-meter RGC-1000 Ser. № 1428CTCE Belongs, located to the address Radischeva str., 78 City.Simpferopol”
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290.	Photo, the calculator of gas volume Universal-02. Serial №1347.
291.	SNiP 2-3-79 (1998)
292.	State Buildings Norms (B.2.6-31:2006)
293.	KTM 204 Ukraine 244-941