VERIFICATION REPORT
"VODOKANAL" MU

VERIFICATION OF THE

DEVELOPMENT AND UPGRADE OF DISTRICT WATER SUPPLY AND DISPOSAL SYSTEM IN ZAPORIZHZHIA CITY

(For the period 01/01/2009 – 31/12/2009)

REPORT NO. UKRAINE-VER/0361/2011

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0361/2011

VERIFICATION REPORT OF THE "DEVELOPMENT AND UPGRADE OF DISTRICT WATER SUPPLY AND DISPOSAL SYSTEM IN ZAPORIZHZHIA CITY"

Date of first issue:	Organizational unit:
09/09/2011	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
OJSC "Oblteplocomunenergo"	Iurii Barbarov

Summary:

Bureau Veritas Certification has made the 3d periodic verification of the "Development and upgrade of district water supply and disposal system in Zaporizhzhia city" project of "Vodokanal" MU located in Zaporizhzhia region in the South-Eastern part of Ukraine and applying the JI specific approach, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

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

In summary, Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements. The ERUs issued totalize 107763 tons of CO_2eq for the monitoring period from 01/01/2009 to 31/12/2009.

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

Report No.:	Subject Group:	
UKRAINE-ver/0361/2011	JI	
Project title:		
Development and upgrade of district water supply and disposal system in Zaporizhzhia city		
Work carried out by:		
Kateryna Zinevych – Team leader, Lead Verifier Alexey Dzhafarov – Team member, Verifier		
Work reviewed by:		
Ivan Sokolov - Internal Technical Reviewer		
Work approved by:		
Flavio Gomes – Operational Manager		
Date of this revision:	**Rev. No.:**	**Number of pages:**
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Bureau Veritas Certification Holding SAS

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Abbreviations

AIE	Accredited Independent Entity
CAR	Corrective Action Request
CL	Clarification Request
CO_2	Carbon Dioxide
ERU	Emission Reduction Unit
FI	Follow-up interview
GHG	Green House Gas(es)
IAET	International Association of Emission Trade
JI	Joint Implementation
NGO	Non-governmental organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change
VM	Verification means

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1 INTRODUCTION

OÜ Biotehnoloogia has commissioned Bureau Veritas Certification to verify its JI project "Development and upgrade of district water supply and disposal system in Zaporizhzhia city" (hereafter called "the project") in Zaporizhzhia Region in the South-Eastern part of Ukraine.

This report summarizes the findings of the verification of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

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

UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

1.2 Scope

Verification scope is defined as an independent and objective review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report, the determined project design document including the project's baseline study, revised monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

1.3 Verification Team

The verification team consists of the following personnel:

Kateryna Zinevych

Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Alexey Dzhafarov
Team member, Bureau Veritas Certification Climate Change Verifier

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Monitoring Report (MR) "Development and upgrade of district water supply and disposal system in Zaporizhzhia city", version 02 dated 23/09/2011 submitted by OJSC "Oblteplocomunenergo" and additional background documents related to the project design, baseline, and monitoring plan, i.e. country Law, Project Design Document (PDD) and Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

In order to meet the requirements of CARs and CLs issued by BVC, the project participants reviewed MR and submitted it 23/09/2011 as version 02.

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

2.2 Follow-up Interviews

On 08 September 2011 Bureau Veritas Certification verification team conducted a visit to the project site and performed (on-site) interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of OJSC "Oblteplocomunenergo" and "Vodokanal" MU were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
"Vodokanal" MU	• Project implementation status • Organizational structure • Responsibilities and authorities • Roles and responsibilities for data collection and processing • Training of personnel • Installation of equipment • Data logging, archiving and reporting • Internal audits and check-ups • Quality management procedures and technology • Metering equipment control • Cross-checking of the information provided in MR and in other sources
OJSC "Oblteplocomunenergo"	• Monitoring plan • Monitoring report • Deviations from PDD • ERU calculation model

2.3 Resolution of Clarification, Corrective and Forward Action Requests

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

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

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

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

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

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 6 Corrective Action Requests, 2 Clarification Requests and 0 Forward Action Requests.

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

3.1 Remaining issues and FARs from previous verifications

Not applicable.

3.2 Project approval by Parties involved (90-91)

Written project approvals from Party Ukraine have been issued by the National Environmental Investment Agency, i.e. Letter of Endorsement #2203/23/7 dated 17/08/2011 and Letter of Approval #2722/23/7 dated 23/09/2011. The Letter of Approval from foreign Party is expected. CAR 01 is still pending.

3.3 Project implementation (92-93)

The findings of Bureau Veritas verification team during the site visit may conclude that the project is implemented in compliance to the PDD, the determination of which is deemed final.

The modernization activities at "Vodokanal" MU during the monitoring period are implemented in compliance to the project implementation scheme indicated in the determined PDD.

Pumping equipment upgrade, replacement of water supply and water disposal networks, installation of new meters group, introduction of frequency regulators and optimization of water pumping processes were implemented according to the project plan. The following measures were implemented during the monitoring period: replacement of gravel-sand filters, continuous reduction of illumination electrical energy demand, efficient utilization of pumping equipment motors (stop electrical motors idling), filters replacement within the sewage system, introduction of water supply schedules (agreed with consumers demanding considerable amounts of water) in order to reduce electrical energy consumption and maintain pressure in pipelines.

The following preventive measures also took place: elimination of accidents along pipelines and reduction of water losses during accidents along pipelines.

The identified areas of concern as to the project implementation, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 02).

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

The monitoring occurred in accordance with monitoring included to the PDD, thus it was listed on the UNFCCC website.

For calculating the emission reductions, key factors, influencing the baseline emissions and the activity level of the project and the emissions

as well as risks associated with the project were taken into account, as appropriate.

The key activities of the monitoring are described in the MR in details; no deviations from monitoring algorithm were identified. Monitoring factors including parameters to be monitored, measuring equipment and its calibration data are clearly described in Section B of the monitoring report and electronic additional documents and fully coincide with those one prescribed in PDD.

The MU 'Vodokanal' collects and keeps data on electric energy and acquired water. Information about consumed electric energy and process water is attached to Monitoring Report on electronic media.

Data and parameters that are not monitored over the entire crediting period, but specified only once, but are available at the stage of PDD development, include the total amount of water supplied during base year, m^3 (M^3_{wb}), total amount of sewage pumped during base year, $м^3$ (M^3_{vb}), overall electric energy necessary for water transport during the year of baseline scenario, kW*hour (kWh_{wb}), overall electric energy necessary to pump sewage during the year of baseline, kW*hour (kWh_{vb}), carbon dioxide emission factor for Ukraine during 2009 as per regulation from the Ukrainian legislation, in particular Order of the National Agency of Ecological Investments of Ukraine 'On approval of indexes for carbon dioxide specific emissions dated 2009'.

Data and parameters, which are not monitored over the entire crediting period, but determined only once, which are not available at the stage of PDD development, are absent.

Data and parameters monitored within the entire crediting period: total amount of water supplied through the water supply system during the project year, m^3 ($M^3_{i\ wr}$), amount of sewage pumped through the water disposal system during the project year, m^3 (M^3_{ivr}), electric energy, kW*hour, required for water transport water within the water supply system during the year of project scenario, (kWh_{wri}), electric energy, kW*hour, required to pump sewage within the water disposal system during the year of project scenario, ($kWh_{vr\ i}$).

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

Data used for emission reductions monitoring are sufficiently described in MR, Section B, paragraph 2.1 (List of constant, variable and provided values) and Annex 1 (Calculation of tCO2e emission reduction within the MU 'Vodokanal' system).

MR includes the data collection to be implemented including data that are measured or tested, that are taken from other sources (e. g. official statistics, IPCC, commercial and scientific literature).

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

The identified areas of concern as to the compliance of the monitoring plan with the monitoring methodology, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 03).

3.5 Revision of monitoring plan (99-100)

Not applicable.

3.6 Data management (101)

The data and their sources, provided in the monitoring report, are clearly identified, reliable and transparent. The implementation of data collection procedures is in accordance with the PDD and revised monitoring plan, including the quality control and quality assurance procedures. The function of the monitoring equipment, including its calibration status, is in order. The evidence and records used for the monitoring are maintained in a traceable manner.

Control and monitoring of the system lies in measuring electrical energy consumption by water supply and sewage pumping stations, recording of water supplied to the network and amount of sewage pumped by MU 'Vodokanal'. Other parameters shall be obtained by means of calculations or from statistical data.

Measures to control electrical energy consumed by the MU 'Vodokanal':

- Current control of electric energy meters operation is conducted during billing period (billing month is determined based on conditions of contract for electric energy supply);
- On the day stipulated by the contract (as a rule it is at 00 hours 00 minutes on the 1st day of the month following the billing month) area supervisor or his authorized representative shall take the readings of electric energy meters (electric energy meters are the devices that passed state certification, accepted for operation and jointly sealed by the representatives of power supplying organization and MU 'Vodokanal' subject to execution of act of sealing). Obtained information shall be delivered by area supervisor to the Chief Engineer Department;
- Act on electric energy consumption shall be executed according to the readings of electric energy meters obtained from shops.

Supplied water flow measurement at MU 'Vodokanal':

- Water supplied by MU 'Vodokanal' water facilities shall be measured by means of water meters installed at pumping stations;
- Readings shall be taken every hour and documented in logs of established form PID-11;
- Data on amount of water supplied by pumping stations over a previous day shall be submitted to control department of each production unit on a daily basis at 00:00 o'clock;
- Individuals responsible for statistical reporting following forms No.1- water supply, No.1-sewage shall prepare statements based on dispatching records on produced water before 10th day of each month, and submit them to proper departments of MU 'Vodokanal' administration;
- Reports No.1- water supply, No.1-sewage shall be annually delivered to the Statistics Administration.

All necessary information for monitoring of GHGs emission reductions are stored in paper or/and electronic formats.

The only type of external data that is used in the monitoring of GHG emissions at MU 'Vodokanal' is Carbon dioxide Emission Factor for Ukrainian electrical supply network as per regulation from the Ukrainian legislation, in particular Order of the National Agency of Ecological Investments of Ukraine 'On approval of indexes for carbon dioxide specific emissions' dated 2009. No other external data for emissions monitoring under the project are used.

The identified areas of concern as to the data management, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CL 01, CAR 04, CAR 05, CAR 06, CL 02, CAR 07).

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 3^{d} periodic verification of the "Development and upgrade of district water supply and disposal system in Zaporizhzhia city" project of "Vodokanal" MU located in Zaporizhzhia region in the South-Eastern part of Ukraine and applying the JI specific approach. The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) desk review of monitoring reports, project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of OJSC "Oblteplocomunenergo" is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring Report and Plan indicated in the final PDD version 02 dated 05/09/2011. The development and maintenance of records and reporting procedures are in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report, version 02 dated 23/09/2011, for the reporting period from 01/01/2009 to 31/12/2009 as indicated below. Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: from 01/01/2009 to 31/12/2009

Baseline emissions	: 150450	t CO_2 equivalents;
Project emissions	: 42687	t CO_2 equivalents;
Emission Reductions	: 107763	t CO_2 equivalents.

5 REFERENCES

Category 1 Documents:
Documents provided by OJSC "Oblteplocomunenergo" that relate directly to the GHG components of the project.

/1/ PDD of the project "Development and upgrade of district water supply and disposal system in Zaporizhzhia city", version 02 dated 05/09/2011

/2/ Determination Report No.UKRAINE/0329/2011 of 13/09/2011

/3/ Monitoring Report #1 Development and upgrade of district water supply and disposal system in Zaporizhzhia city" version 01 dated 06/09/2011

/4/ Monitoring Report #1 Development and upgrade of district water supply and disposal system in Zaporizhzhia city" version 02 dated 23/09/2011

/5/ Annex 1 to the Monitoring report 2005-2007

/6/ Annex 2 to the Monitoring report 2005-2007

/7/ Letter of endorsement #2203/23/7 dated 17/08/2011 of "Development and upgrade of district water supply and disposal system in Zaporizhzhia city" JI project

/8/ Letter of Approval No2722/23/7, issued on 23/09/2011, issued by the National Environmental Investment Agency of Ukraine

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ Water pipes layout of Public Utility Company "Vodokanal", Zaporizhzhia

/2/ Collecting pipe layout of Public Utility Company "Vodokanal", Zaporizhzhia

/3/ Contract № 49/08 dated 12.12.2008 «For annual monitoring of the composition and volume of pollutant emissions into the atmospheric air from the boilers DVS – 1.2 and CVS – 1.2».

/4/ Report on atmospheric air protection for 2008, 23 Vuzlova Str.

/5/ Report on atmospheric air protection for 2008, 156 Naberezhna Str.

/6/ Report on atmospheric air protection for 2008, 223 Kulturna Str.

/7/ Report on atmospheric air protection for 2008, Nyzhnia Khortytsia village, 21 Kooperatyvna Str.

/8/ Report on atmospheric air protection for 2009, 23 Vuzlova Str.

/9/ Report on atmospheric air protection for 2009, 156 Naberezhna Str.
/10/ Report on atmospheric air protection for 2009, 223 Kulturna Str.
/11/ Report on atmospheric air protection for 2009, Nyzhnia Khortytsia village, 21 Kooperatyvna Str.
/12/ Permission №2310136300-46 for pollutant emission into the atmospheric air by stationary sources
/13/ Permission №2310136700-55 for pollutant emission into the atmospheric air by stationary sources
/14/ Permission №2310136600-57 for pollutant emission into the atmospheric air by stationary sources
/15/ License № 342873, Series AB.
/16/ Certificate of Attestation №23
/17/ Certificate of Attestation №24
/18/ Certificate of Attestation №44
/19/ Certificate of Attestation №45
/20/ Certificate of Attestation №37
/21/ Certificate of Attestation №38
/22/ Passport on electric power meter type Alfa A1140
/23/ Passport on electric power meter type Alfa A1800
/24/ Public Utility Company "Vodokanal" journal ARCHIVE «Completed facility acceptance certificate approved by the State Acceptance Commission».
/25/ Statement dated 14/12/2007 of the State working commission on acceptance of the finished by the construction object
/26/ Annex 1. The list of Statements of the State working commission on acceptance of the finished by the construction object that are the part of "Zaporizhzhia city DWSP-1 reconstruction"
/27/ Annex 2. The list of Statements of the State working commission on acceptance of the equipment after complex and individual testing, that are the part of "Zaporizhzhia city DWSP-1 reconstruction"
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/31/ The schedule of flow-meters check for 2009
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/34/ The schedule of flow-meters calibration for 2010
/35/ The list of measuring equipment that are in operation and are to be calibrated in 2010
/36/ The list of measuring equipment that are in operation and are to be calibrated in 2009
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/38/ Calibration certificate of flow-meter type IPKA, serial #03350

/39/ Calibration certificate of flow-meter type IPKA, serial #03349

/40/ Calibration certificate of flow-meter type IPKA, serial #03351

/41/ Calibration certificate of flow-meter type IPKA, serial #03352

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/44/ Photo – Ultrasound heat energy meter type Січ-Узв Виконання2, serial # UF120

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/47/ Photo – Ultrasound heat energy meter type Січ-Узв Виконання2, serial # UH121

/48/ Calibration certificate #1-5282-10 on measuring equipment, serial #36356

/49/ Calibration certificate #1-5112-11 on measuring equipment, serial #9108470

/50/ Calibration certificate #1-0319-11 on measuring equipment, serial #46363

/51/ Calibration certificate #1-0156-11 on measuring equipment, serial #0261

/52/ Calibration certificate #2-0675-10 on measuring equipment, serial #10472

/53/ Calibration certificate #2-0674-10 on measuring equipment, serial #46410

/54/ Water pipe functioning report (separate water supply network) for 2010, 61 Artema Str.

/55/ Water pipe functioning report (separate water supply network) for 2009, 61 Artema Str.

/56/ Water pipe functioning report (separate water supply network) for 2008, 61 Artema Str.

/57/ Water pipe functioning report (separate water supply network) for 2007, 61 Artema Str.

/58/ Water pipe functioning report (separate water supply network) for 2006, 61 Artema Str.

/59/ Water pipe functioning report (separate water supply network) for 2005, 61 Artema Str.

/60/ Sewer system functioning report (separate water supply network) for 2010, 61 Artema Str.

/61/ Sewer system functioning report (separate water supply network) for 2009, 61 Artema Str.

/62/ Sewer system functioning report (separate water supply network) for 2008, 61 Artema Str.

/63/ Sewer system functioning report (separate water supply network) for 2007, 61 Artema Str.
/64/ Sewer system functioning report (separate water supply network) for 2006, 61 Artema Str.
/65/ Sewer system functioning report (separate water supply network) for 2005, 61 Artema Str.
/66/ Public Utility Company "Vodokanal" journal ARCHIVE «State Acceptance Commission certificate».
/67/ Statement dated 04/05/2005 of the State working commission on acceptance of the finished by the construction object
/68/ Annex 1. The list of Statements of the State working commission on acceptance of the suction system after complex testing
/69/ Annex 2. The list of Statements of the State working commission on acceptance of the suction system after individual testing
/70/ Order #45 dated 02/03/2005 on State working commission assigning
/71/ Statement dated 05/10/2004 of the State working commission on acceptance of the finished by the construction building, enterprise, rooms.
/72/ Statement dated 05/10/2004 of the State working commission on acceptance of the equipment after complex testing
/73/ Statement dated 05/10/2004 of the State working commission on acceptance of the equipment after individual testing
/74/ Delivery contract №530/05 dated 24.10.2005
/75/ Delivery contract №354/08 dated 04.06.2008
/76/ Organizational structure of Public Utility Company "Vodokanal" administration
/77/ Protocol #P-528 of the State working commission
/78/ Protocol #C-593-1 of the State working commission on labour safety knowledge testing
/79/ Register of theoretical and practical learning of the group #P-528
/80/ Register of practical learning of the group #P-528
/81/ Public Utility Company "Vodokanal", the financial report with the report of independent auditors
/82/ Permit for special water use dated 01.01.2004
/83/ Permit for special water use dated 01.01.2007
/84/ Permit for special water use dated 01.01.2008
/85/ Permit for special water use dated 01.01.2009
/86/ Permit for special water use dated 01.01.2010
/87/ Decision №554 «On setting the rate of drinking water consumption in Zaporizhzhia».
/88/ Register of "stationery sources of pollution and their specifications" form №POD – 1
/89/ Information on water and drainage supply for 2008; 2009; 2010
/90/ Statement dated 02/02/2010 on supplied water
/91/ Statement dated 02/03/2010 on supplied water
/92/ Statement dated 02/04/2010 on supplied water

/93/ Statement dated 05/05/2010 on supplied water
/94/ Statement dated 02/06/2010 on supplied water
/95/ Statement dated 02/07/2010 on supplied water
/96/ Statement dated 03/09/2010 on supplied water
/97/ Statement dated 04/10/2010 on supplied water
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/99/ Statement dated 02/12/2010 on supplied water
/100/ Statement dated 04/01/2011 on supplied water
/101/ List of electricity meters, their type and serial number
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/103/ Certificate on Alfa A1800 three-phase electricity meter type A1805RAL-4P4G-DW-4, serial #01172392
/104/ Certificate on Alfa A1800 three-phase electricity meter type A1805RAL-4P4G-DW-4, serial #01173769
/105/ Certificate on Alfa A1800 three-phase electricity meter type A1805RAL-4P4G-DW-4, serial #01186844
/106/ Certificate on Alfa A1800 three-phase electricity meter type A1805RAL-4P4G-DW-4, serial #01186872
/107/ Programming (parameters indication) statement on electric power meter type SL 7000
/108/ Programming (parameters indication) statement on electric power meter type SL 7000, serial #30018746
/109/ Attestation certificate dated 10/08/2010 on working place for oxygen monometers calibration #П-02-04-01
/110/ Attestation certificate dated 10/08/2010 on working place for 0-60кгс/см2 technical monometers calibration #П-02-04-02
/111/ Attestation certificate dated 10/08/2010 on working place for КСМ calibration #П-02-06-02
/112/ Attestation certificate dated 04/03/2009 on working place for water monometers calibration #2-03-09
/113/ 61125-ТСЧ-у.2.234.000 ФО form on heat power and water meter type Січ-Узв
/114/ Passport 636128.010 ПС on flow-meter – ultrasound meter type УВР – 011
/115/ Calibration protocol on ultrasound water meter type Січ-Узв, serial #UF132
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/127/ Annex to the License #529015, Series AB
/128/ Working educational programmes for professional and technical training for working profession. Profession code - 8163.2
/129/ Working educational programmes for professional and technical training for working profession. Profession code - 7233.2
/130/ Order #693/axo dated 06/09/2011
/131/ Control panel НС П.Кічкас
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/135/ Photo - DWSP-1 control panel, Block #1
/136/ Photo - DWSP-1 control panel, Block #2
/137/ Photo - DWSP-1 control board
/138/ "Vodokanal" MU water supply system control parameters. Central control board.

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/ V. Bychykhin – director general of "Vodokanal" MU
/2/ S. Bondarenko - deputy chief of safety service of "Vodokanal" MU
/3/ A. Loik – technical director, first deputy director of "Vodokanal" MU
/4/ M. Kliuiev - chief engineer of "Vodokanal" MU
/5/ Zh. Samoilenko – engineer of the chief engineer department "Vodokanal" MU
/6/ V. Tkachuk – deputy director of the technical department "Vodokanal" MU
/7/ Iu. Bryn – chief of the planning economical department "Vodokanal" MU
/8/ P. Repitun – chief of the investment projects realization group of "Vodokanal" MU
/9/ Iu. Perevoznyi – chief of the human resources department of "Vodokanal" MU
/10/ V. Hulbasov – chief of the central automatics and measuring laboratory of "Vodokanal" MU
/11/ O. Boiko – chief of the technological processes automatization and

communication department of "Vodokanal" MU

/12/ L. Baskina – chief engineer on personnel training of "Vodokanal" MU

/13/ O. Hrivtsov – chief of the production department "Vodokanal" MU

/14/ K. Bohdan – head of the "Vodokanal" MU KNS shops

/15/ O. Bibik – chief engine-driver of the shift KNS #1 at "Vodokanal" MU

/16/ O. Podalan – head of the shop #4 at "Vodokanal" MU

/17/ L. Zhovnyrenko – "Vodokanal" MU suction stations craftsman

/18/ O. Krutyi – head of the "Vodokanal" MU DWSP #1 suction station

/19/ L. Deikun – "Vodokanal" MU DWSP #1 suction unit engine driver

/20/ I. Bochka – head of the "Vodokanal" MU DWSP #1 АСКТП district

/21/ O. Bardina – chief of the business activity legal support department of OJSC "Oblteplocomunenergo"

/22/ Ia. Bechko – economist of the business activity legal support department of OJSC "Oblteplocomunenergo"

APPENDIX A: VERIFICATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

VERIFICATION PROTOCOL

Table 1. Check list for verification, according to the JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	The letters of approval by Estonia have not been issued. **CAR01.** The project approvals from Parties involved are absent.	**CAR01**	Pending
91	Are all the written project approvals by Parties involved unconditional?	See section 90 and CAR01	See CAR01	Pending
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	The project envisages upgrading of pumping equipment – 14 pc., installation of about 90 new pumping units, replacement of water supply and disposal lines – 11 km, installation of a new measurement instruments cluster – 114 pc., installation	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		of frequency controllers – 18 pc., other energy-saving activities. The modernization activities at "Vodokanal" MU has been implemented in accordance with the PDD regarding which the determination has been deemed final.		
93	What is the status of operation of the project during the monitoring period?	Pumping equipment upgrade, replacement of water supply and water disposal networks, installation of new meters group, installation of new meters group, and introduction of frequency regulators and optimization of water pumping processes were implemented according to the table 2 "Project progress status" provided in the PDD version 02.	OK	OK
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	The monitoring occurred in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.	OK	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as	Key factors, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account for calculating the emission reductions.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	appropriate?			
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	All the data sources used for calculating emission reductions are clearly identified, reliable and transparent.	OK	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	Emission factors, including default emission factors used for calculating the emission reductions are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.	OK	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	The performed calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner. **CAR02** MR provides references on Annexes 1 and 2. However only Annex 1 is presented in the document, also there is a reference to the Annex 4. Please indicate in MR that the Annex 2 is a separate document presented as supplementary in electronic form and also explain what Annex 4 is (p. 6).	**CAR 02**	OK
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?			
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	N/a	N/a	N/a
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	N/a	N/a	N/a
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	N/a	N/a	N/a
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	N/a	N/a	OK
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?			
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures. The verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring. **CL01** Please, submit the documents confirming the internal audits at "Vodokanal" MU, that were indicated in Section C.3. of MR.	**CL01**	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, in order?	The function of the monitoring equipment, including its calibration status, is in order. **CAR 03** The ordinal number is absent in the table "for transported water amount, pumped sewage" at MR p.11. Please provide the number or adjoin this table to the table 5. **CAR 04** Please delete table 6 and adjoin the column with accuracy parameters to the table 7. Make appropriate	**CAR 03** **CAR 04** **CAR 05**	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		corrections. **CAR 05** The data on last and next calibration date are absent in the table 7 "Types of water flow and electrical meters, their calibration frequency". Please make corresponding corrections.		
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidence and records used for the monitoring are kept in the archive of "Vodokanal" MU and are maintained in a traceable manner.	OK	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection and management system for the project is in accordance with the monitoring plan. **CL 02** Please provide the schedule of personnel training on labour safety for the monitoring period.	**CL 02**	OK OK
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	N/a	N/a	N/a
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/a	N/a	N/a
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	N/a	N/a	N/a
104	Does the monitoring period not overlap with previous monitoring periods?	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	N/a	N/a	N/a
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: − The types of JPAs; − The complexity of the applicable technologies and/or measures used; − The geographical location of each JPA; − The amounts of expected emission reductions of the JPAs being verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior	N/a	N/a	N/a

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

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by verification team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR01 The project approvals from Parties involved are absent.	90	The Letter of Approval from another Party is expected.	Pending
CAR02 MR provides references on Annexes 1 and 2. However only Annex 1 is presented in the document, also there is a reference to the Annex 4. Please indicate in MR that the Annex 2 is a separate document presented as supplementary in electronic form and also explain what Annex 4 is (p. 6).	95 (d)	The Annex 2 is a separate document presented as supplementary in electronic form to the MR version 02 dated 23/09/2010. The Annex 4 to MR is absent. This was a misspelling. Instead of the Annex 4, the Annex 2 was indicated in the MR version 02.	OK
CL01 Please, submit the documents confirming the internal audits at "Vodokanal" MU, that were indicated in Section C.3. of MR.	101 (a)	The documents confirming the internal audits at "Vodokanal" MU were presented in MR.	OK
CAR 03 The ordinal number is absent in the table "for transported water amount, pumped sewage" at MR p.11. Please provide the number or adjoin this table to the table 5.	101 (b)	The table "for transported water amount, pumped sewage" at MR p.11 was adjoined to the table 5.	OK

CAR 04 Please delete table 6 and adjoin the column with accuracy parameters to the table 7. Make appropriate corrections.	101 (b)	The table 6 was deleted and the column with accuracy parameters was adjoined to the table 7.	OK
CAR 05 The data on last and next calibration date are absent in the table 7 "Types of water flow and electrical meters, their calibration frequency". Please make corresponding corrections.	101 (b)	The table 7 "Types of water flow and electrical meters, their calibration frequency" was corrected. The data on last and next calibration date was added to the table 7.	OK
CL 02 Please provide the schedule of personnel training on labour safety for the monitoring period.	101(d)	The schedule of personnel training on labour safety for the monitoring period was provided in the Section C.3.	OK
CAR06 The title of the JI project is absent in the page header. Please make corresponding corrections.		The corresponding corrections were made. The title of the JI project is provided in the page header of MR version 02.	OK