DETERMINATION REPORT

"VODOKANAL" MU

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

REPORT #UKRAINE-DET/0329/2011

REVISION № 02

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-det/0329/2011

DETERMINATION REPORT

Date of first issue:	Organizational unit:
25/08/2011	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
OJSC "Oblteplocomunenergo"	Iurii Barbarov

Summary:

Bureau Veritas Certification has made the determination 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 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 determination scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, 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 determination report and opinion. The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the determination process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the baseline and monitoring methodology developed according the Guidance on Criteria for Baseline Setting and Monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.:	Subject Group:
UKRAINE-det/0329/2011	JI

Project title:
Development and upgrade of district water supply and disposal system in Zaporizhzhia city

Work carried out by:
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Date of this revision:	Rev. No.:	Number of pages:
13/09/2011	02	70

Indexing terms

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1 INTRODUCTION

OJSC "Oblteplocomunenergo" has commissioned Bureau Veritas Certification to determine 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 determination 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

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emissions reductions units (ERUs).

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

1.2 Scope

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The determination 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 design.

1.3 Determination team

The determination team consists of the following personnel:

Kateryna Zinevych
Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Alexey Dzhafarov
Bureau Veritas Certification Climate Change Verifier

Denys Pishchalov
Bureau Veritas Certification Financial Specialist, Team member

This determination report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal technical reviewer

2 METHODOLOGY

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

In order to ensure transparency, a determination 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 determination and the results from determining the identified criteria. The determination protocol serves the following purposes:

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by OJSC "Oblteplocomunenergo" and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Approved CDM methodology and/or Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Institute of Engineering Ecology revised the PDD and resubmitted it on 05/09/2011.

The determination findings presented in this report relate to the project as described in the PDD versions 01 and 02.

2.2 Follow-up Interviews

On 29/08/2011 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. 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	Organizational structure Responsibilities and authorities Roles and responsibilities for data collection and processing Installation of equipment Data logging, archiving and reporting Metering equipment control Metering record keeping system, database IT management Training of personnel Quality management procedures and technology Internal audits and check-ups
OJSC "Oblteplocomunenergo"	Baseline methodology Revised monitoring plan Monitoring report

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination 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 project design.

Corrective Action Request (CAR) is issued, where:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;

(b) The JI requirements have not been met;

(c) There is a risk that emission reductions cannot be monitored or calculated.

The determination team may also issue Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable JI requirements have been met.

The determination team may also issue Forward Action Request (FAR), informing the project participants of an issue that needs to be reviewed during the verification.

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

3 PROJECT DESCRIPTION

Major goal of the project is to reduce electricity consumption by way of improving the district water supply and disposal system in Zaporizhzhia city. The improvements shall include replacement, rehabilitation and upgrades of water distributing networks and water disposal networks as well as installation of frequency controllers, new metering instruments and optimization of the engineering process for water pumping. Reduced electricity consumption shall provide for the reductions of greenhouse gas emission (t CO2e and N2O). The project's mission is to facilitate sustainable development of Zaporizhzhia city through energy-saving technologies implementation.

The historical details of "Vodokanal" MU development. The Municipal Utility "Vodokanal" is among the oldest enterprises in the city. It has a great history and long-term traditions. "Vodokanal" MU was established in 1993 pursuant to the order # 1375 of 03.09.1993 issued by the executive committee of Zaporizhzhia City Council of People's Deputies.
The first centralized water supply system in Zaporizhzhia (formerly Olexandrivsk) city was commissioned in June 1894. The water supply systems on the right and left banks of the Dnieper River were included into the list of operating ones in 1928.

Water suppliers always thought about water quality. Therefore, water treatment facilities with first lift pumping stations were commissioned under the water supply system in 1937 (Dnieper Water Station – DWS-1).
The Dnieper Water Station on the right bank of the Dnieper River was commissioned in 1970 (DWS-2).

Construction of the sewerage system started in 1933. The Central Treatment Facilities (CTF-1) on the left bank of the Dnieper River were commissioned in 1957; and the Central Treatment Facilities on the right bank (CTF-2) were commissioned in 1976.

Nowadays, Zaporizhzhia Municipal Utility “Vodokanal” supplies drinking water to people, enterprises and organizations of Zaporizhzhia, being a central city of the region, and of the three rural areas adjacent to it: Zaporizkyi, Novomykolaivskyi and Vilnianskyi.

Current Zaporizhzhia water supply system includes two water supply stations for drinking water treatment, 3 water intake facilities, 2522.5 km of water supply networks and 27 pumping stations. The two water stations, 200,000 cubic meters of wastewater. Total length of the networks and collectors is 923.97 km, diameter of the pipes ranges between 150 and 2,000 mm.

“Vodokanal” MU is provided with all types of transport, energy and engineering supplies, it possesses a developed industrial infrastructure and qualified personnel, maintains constructive links with scientific and research institutions. As per its performance targets, “Vodokanal” MU in Zaporizhzhia is among the largest water suppliers in Ukraine. The average registered number of “Vodokanal” MU personnel amounts to 3433 individuals.

a) Actual situation before the project start

Unsatisfactory technical condition of water supply and disposal systems in the city of Zaporizhzhia, continuous wearing of equipment and outdated engineering processes result in the increased water losses and inefficient electricity consumption during the water transfer process.
Without the Joint Implementation Project (JI Project), the volumes of water losses within the water supply and disposal system of “Vodokanal” MU would increase and the energy consumption needed to transport a unit of water volume would also increase (due to wear of equipment).

b) Baseline scenario

The baseline scenario is considered as “business as usual” scenario including implementation of minimal repairs against the background of general deterioration of technical condition of the water supply and disposal system.

There are no barriers in case this Baseline scenario is implemented (there are no investment barriers, since the scenario does not require involvement of additional investments; and there are no technological barriers, because equipment is operated by qualified personnel, who do not require additional training). The scenario reflects practice typical of Ukraine.

c) Project scenario

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 of frequency controllers – 18 pc., other energy-saving activities.

After a complete implementation of the project, 87.9 thousand MWt*hour of electricity shall be saved annually. Due to a reduced consumption of electricity used by pumping stations and consumed from the
Ukrainian power grid, combustion of the fossil fuel required to generate electricity for the power grid shall decrease, hence reducing emission of greenhouse gasses.

The project envisages greenhouse gases (GhGs) emission reductions due to:

- Upgrades of pumping equipment;
- Replacement of high-power pumps by new, more power efficient ones;
- Optimization of the engineering process for water pumping;
- Replacement of water supply and disposal networks;
- Installation of a new cluster of measurement instruments;
- Installation of frequency controllers.

After a complete implementation of the project, the estimated annual project emission reductions of GHGs, i.e. CO2, shall amount to 101.1 thousand tones per year if compared to the “business-as-usual” option or to the baseline scenario.

The project may contribute to sustainable development of “Vodokanal” MU in terms of the following:

- reduced dependability of the national economy on energy resources import and improved level of the national energy security;
- improved quality of water supply services;
- high rates of health and safety factors;
- improved state of the world ecology (counteraction to respond the global climate change by way of reducing emissions of carbon dioxide into the atmosphere);
- solving the problem of continuous water supply to consumers.

This shall take place after the implementation of the project, when water supply and disposal services become more efficient.
Analysis of the project activity’s similarity has demonstrated that there are no similar projects in Ukraine.

The identified areas of concern as to Project description, project participants response and BV Certification's conclusion are described in Appendix A.

4 DETERMINATION CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 24 Corrective Action Requests, 1 Clarification Requests.

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

4.1 Project approvals by Parties involved (19-20)

The National Environmental Investment Agency of Ukraine has issued the Letter of Endorsement for the JI Project "Development and upgrade of district water supply and disposal system in Zaporizhzhia city" (No. 2203/23/7 dated 17.08.2011).

The LoAs by Parties involved are expected to be issued after the project determination.

As the project has no approvals by the Parties involved, CAR 14 remains pending and will be closed after report finalizing (refer to the Appendix A).

4.2 Authorization of project participants by Parties involved (21)

The official authorization of each legal entity listed as project participant in the PDD by Parties involved will be provided in the written project approvals refer to 4.1 above (see Appendix A, CAR15).

4.3 Baseline setting (22-26)

The project activity refers to the "Energy demand" category. The current activities of "Vodokanal" MU are characterized by continuous deterioration of water supply and disposal system and high ineffective consumption of electricity. The reason of such a situation is a lack of funds needed for new technologies' buildup and implementation.

The project activity is targeted at reduction of the GHGs emissions produced by the national power grid due to upgrades in Zaporizhzhia water supply network, replacement of old pumping units by new modern ones, replacement of water distribution and disposal networks, introduction of new water supply techniques.

The proposed project applies the specific approach for joint implementation projects basing on baseline methodology of Clean Development Mechanism approved by the Executive Committee of United Nations Framework Convention on Climate Change:

AM0020 "Baseline methodology for water pumping efficiency improvements"2, Version 02 Valid from 02 Nov 07 onwards.

Methodology AM0020, version 02 dated 02/11/2007, was used for the preliminary estimation and preliminary assessment of the project emissions over the period since 01 January 2008 (2005-2007) and during the first commitment period till 2010 included, as formulas of this Methodology include accurate measures of electricity consumption and volumes of water supplied to the system.

For the preliminary estimation and preliminary assessment of the project emissions over the period following the first commitment period (2013-2030), a specific approach based on extrapolation methodology, wherein values of estimated figures in future periods are calculated based on exploration of their dynamics over previous periods. The specific approach applied under the project ensures an opportunity to estimate electricity consumption required to pump water in a project year.

Application of AM0020 (version 02):Application of Methodology AM0020 (version 02) dated 02.11.2007	Project activities
This methodology is applicable to project activities that:	
(a) seek to reduce GHG emissions by explicitly reducing the amount of energy required to deliver a unit of water to end-users in municipal water utilities;	(a) the project activities envisage reducing the amount of energy required to deliver water to end-users in municipal water utilities.
(b) improve energy efficiency in the overall water pumping, including reducing technical losses and leaks as well as the energy efficiency of the pumping scheme, which consume electricity from the electricity grid, where:	(b) the project activities envisage improvement of energy efficiency in the overall water pumping system, including reducing technical losses and leaks, as well as the energy efficiency of the pumping schemes, which consume electricity from the electricity grid

(1) the efficiency (water and energy) of existing schemes is being improved.	(1) the project activities envisage improvement of the efficiency (water and energy) of existing water supply and disposal schemes.
(2) a new scheme is being developed to completely replace the old scheme, which will no longer be used. This methodology will apply to the new scheme only up to the measured delivery capacity (annual amount of delivered water) of the old scheme.	
(e) this methodology is not applicable to project activities cases where entirely new schemes are built to augment existing capacity. This will ensure that only emissions reductions up to the existing capacity of the system will be considered.	(e) the project activities envisage improving efficiency (water and energy) of existing water supply schemes.
(f) this methodology shall be used in conjunction with the approved monitoring methodology for water pumping efficiency improvements").	(f) The specific approach developed for this project applies AM0020 monitoring methodology ("Monitoring methodology for water pumping efficiency improvements").

Therefore, the project meets the applicability criteria of consolidated baseline methodology ACM0020.

The Bureau Veritas Certification hereby confirms that the selected baseline and monitoring methodology ACM0020 "Baseline methodology for water pumping efficiency improvements", Version 02 Valid from 02 Nov 07 onwards is previously approved by the CDM Executive Board, and is applicable to the project activity, which, complies with all the applicability conditions therein.

All explanations, descriptions and analyses pertaining to the baseline in the PDD are made in accordance with the referenced approved CDM methodology and the baseline is identified appropriately.

The identified areas of concern as to Baseline setting, project participants response and BV Certification's conclusion are described in Appendix A.

4.4 Additionality (27-31)

For the demonstration of additionality the project developer uses “Tool for the demonstration and assessment of additionality”, revision 05.2. The relevant PDD section totally meets the requirements of the Tool.

Among three standard methods of financial analysis offered by the Tool the Developer selected Simple cost analysis. Indeed the Decree of Cabinet of Ministers of Ukraine “On the approval of the calculation of tariffs for the services of district water supply and sewage” issued July 12th 2006 No959 in articles 3 and 5 states that tariffs shall be directly based on the operational and financial expenses of the enterprise.

As the result any savings achieved by the municipal operator will not generate any additional profits for the company and will lead to the proportional reduction of the selling tariff imposed by the regulator. The only sort of compensation available through existing procedure is allocation of the depreciation of the project assets using methodology introduced by Ukrainian tax legislation to the costs and in turn to the tariffs for the services of the enterprise.

In any case it will not provide any additional profits to the company and even will not compensate the full amount of capital expenses due to the nature of the declining balance depreciation method. Taking into account this fact the use of the simple cost analysis looks reasonable and correct for the present project.

The following 4 steps were applied for demonstrating the additionality:
Step 1. Identification of alternatives to the project activity consistent with the effective laws and regulations.
Step 2. Investment analysis
Step 3. Barrier analysis
Step 4. Common practice analysis.

All steps of additionality demonstration are satisfied, it is possible to make conclusion that the project activity is additional.

The identified areas of concern as to Additionality, project participants response and BV Certification’s conclusion are described in Appendix A (refer to CAR 16).

4.5 Project boundary (32-33)

Bureau Veritas Certification determined the project boundary by assessment of the documentation (see the documents of Category 2 of References); observations during site-visit (29/08/2011); analysis of the

usage of equipment (foreseen by project scenario) provided in the PDD version 01 and 02.

The project boundary for the baseline and project scenarios includes CO2 emissions caused by generation of electricity to the united power grid in the amount consumed by the pumps that ensure water transfer and are subject to energy-saving activities implementation. Therefore, the whole "Vodokanal" MU water supply and disposal system is included into the project boundary. The expanded project boundary includes a conditional power plant using fossil fuel to generate and supply electricity to the national power grid and to meet the needs of "Vodokanal" MU.

Based on the above assessment, the Bureau Veritas Certification hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

The identified areas of concern as to Additionality, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 17)

4.6 Crediting period (34)

Starting date of the project activity: 12/01/2004.
A working group to implement the activities aimed at development and improvement of the district water supply and disposal system in Zaporizhzhia city within the framework of the JI Project implementation was established on 12 January 2004.

Supporting document 4 includes the meeting minutes of the working group to implement the activities aimed at development and improvement of the district water supply and disposal system in Zaporizhzhia city within the framework of the JI Project implementation (dated 12 January 2004).

The PDD states the expected operational lifetime of the project as well as the crediting period, which is 26 years/312 months (2005-2030).

The PDD states the length of the crediting period, and its starting date is 01/01/2005, which is on the date the first emission reductions generated by the project. The end of the crediting period shall be on 31 December, 2012. Consequently, duration of the crediting period shall amount to 8 years/96 months.

If the Kyoto Protocol is prolonged after the first commitment period, the project crediting period will be prolonged for 18 years/216 months (01 January 2013 – 31 December 2027). Taking into account the period preceding to the crediting period, the crediting period and the period after

its expiration, the total crediting period shall amount to 26 years/312 months.

The PDD states that the crediting period for the issuance of ERUs starts only after the beginning of 2005 and does not extend beyond the operational lifetime of the project.

The PDD states that the extension of its crediting period beyond 2012 is subject to the host Party approval, and the estimates of emission reductions are presented separately for those until 2012 and those after 2012 in all relevant sections of the PDD.

The identified areas of concern as to Crediting period, project participants response and BV Certification's conclusion are described in Appendix A (refer to CL01).

4.7 Monitoring plan (35-39)

The proposed project applies the specific approach for joint implementation projects basing on baseline methodology of Clean Development Mechanism approved by the Executive Committee of United Nations Framework Convention on Climate Change: AM0020 "Baseline methodology for water pumping efficiency improvements"2, Version 02.

The PDD provides a description of why and how the referenced approved CDM methodology is applicable to the project, as per item 4.3 above.

All explanations, descriptions and analyses pertaining to monitoring in the PDD are made in accordance with the selected methodology.

The monitoring plan is established appropriately as a result.

The identified areas of concern as to Monitoring plan, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR18, CAR19, CAR20, CAR21, CAR22).

4.8 Leakage (40-41)

Leakage is not expected for this project.

The identified areas of concern as to Monitoring plan, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR23).

4.9 Estimation of emission reductions (42-47)

The estimation of emission reductions or enhancements of net removals is made in accordance with the approved CDM methodology ACM0020.

The specific formulas based on extrapolation methodology, wherein the conclusions about values of estimated figures in future periods are drawn based on a study of their dynamics during the previous periods, were used to ensure preliminary estimation of the project emissions. The specific formulas for estimating the project emissions are presented in Section E.1.

The specific formulas based on extrapolation methodology, wherein conclusions about values of estimated figures in future periods are drawn based on a study of their dynamics during the previous periods, were used to ensure preliminary estimation of the baseline emissions under the project. The specific formulas for estimation of baseline emissions under the project are presented in Section E.4.

The estimates referred to above are given:

(a) On annual basis;

(b) From 01.01.2005 to 31.12.2030, covering the whole crediting period;

(c) On a source-by-source basis;

(d) For each GHG gas (in tonnes of CO_2 equivalent)

(e) In tonnes of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol;

Emission reductions for the period from 01/01/2005 till 31/12/2007 are 108 684 tonnes of CO_2 equivalent.
Total emission reductions for the period are 2 433 684 tonnes of CO_2 equivalent (emission reductions for the first commitment period are 505 801 tonnes of CO_2 equivalent).

The formulas used for calculating the estimates referred above, which are mentioned below, are consistent throughout the PDD.

GHGs emission reductions under the project were estimated using the following formulas:
$ER = E^b - E^r$

E^b and E^r - GHGs emissions that occur as a result of electricity consumption required for water supply and disposal in the baseline year and in a reported year, correspondingly, t CO2e;

[b] index is referred to the baseline year;

[r] index is referred to a reported year.

GHGs emissions that occur as a result of electricity consumption by the pumping equipment used in the water supply system:

$E^{wb} = M^3_{wr} * PPER * EF$

$E^{wr} = kWh_{wr} * EF$

PPER- pre-project efficiency factor, kWt*hour/m3;

EF- carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "On approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2011.

kWh_{wr} - total amount of electricity required to transport water to consumers within the water supply system during a project year, kWt*hour;

M^3_{wr} - total volume of water supplied to consumers within the water supply system during a project year, m3.

[b] index is referred to the baseline year;

[r] index is referred to a reported year.

$PPER = kWh_{wb} / M^3_{wb}$

kWh_{wb} - total amount of electricity required to transport water to consumers within the water supply system during the baseline year, kWt*hour;

M^3_{wb} – total volume of water supplied to consumers within the water supply system during the baseline year, m 3;

[b] index is referred to the baseline year;

$kWh_{wr} = \Sigma kWh_{wr,i}$

$kWh_{wr,i}$ - total amount of electricity required to transport water to consumers within "i" water supply system during a project year, kWt*hour;

[i] index – independent water supply system;

[r] index is referred to a reported year.

$M^3_{wr} = \Sigma M^3_{i,wr}$

where:

$M^3_{i,wr}$ - volume of water supplied to consumers within "i" water supply system during a project year, m3;

[i] index – independent water supply system;

[r] index - index is referred to a reported year.

GHGs emissions that occur as a result of electricity consumption by the pumping equipment used in the water disposal system:

$E^{vb} = M^3_{vr} * PPER * EF$

$E^{vr} = kWh_{vr} * EF$

where:

PPER- pre-project efficiency factor, kWt*hour/m3;

EF- carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "On approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2011;

kWh_{vr} – Total amount of electricity required to transport wastewater within the water disposal system during a project year, kWt*hour;

M^3_{vr} - Total volume of wastewater transported by the water disposal system during a project year, m3.

[b] index is referred to the baseline year;

[r] index is referred to a reported year.

$PPER = kWh_{vb} / M^3_{vb}$

where:

kWh_{vb} - total amount of electricity required to transport wastewater within the water disposal system during the baseline year, kWt*hour;

M^3_{vb} - total volume of wastewater transported by the water disposal system during the baseline year, m3;

[b] index is referred to the baseline year;

[r] index is referred to a reported year.

$kWh_{vr} = \Sigma kWh_{vr,i}$

$kWh_{vr,i}$ - total amount of electricity required to transport wastewater within "i" water disposal system during a project year, kWt*hour;

[i] index – independent water disposal system;

[r] index is referred to a reported year.

$M^3_{vr} = \Sigma M^3_{i,vr}$

where:

$M^3_{i,vr}$ - volume of wastewater transported by "i" water disposal system during a project year, m3;

[i] index – independent water disposal system;

[r] index is referred to a reported year.

The data and parameters that are not subject to control over the entire crediting period, though are estimated once and are available at the stage of PDD development: total volume of water supplied to consumers during the baseline year, m3 (M_{3wb}), total volume of wastewater transported by the water disposal system during the baseline year m3 (M_{3vb}), total amount of electricity required to transport water to consumers during the baseline year, kWt*hour (kWh_{wb}), total amount of electricity required to transport wastewater during the baseline year, kWt*hour (kWh_{vb}), carbon emission factors (EF) for Ukraine during "y" year of 2005-2007. The data were obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "on approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2011.

The data and parameters that are not subject to control over the entire crediting period, though are estimated once and are not available at the stage of PDD development: N/A.

The data and parameters that are subject to control over the entire crediting period: volume of water supplied to consumers within "i" water supply system during a project year, m3 ($M^3_{i,wr}$), volume of wastewater transported by "i" water disposal system during a project year, m3 ($M^3_{i,vr}$), amount of electricity kWt*hour required to transport water to consumers within "i" water supply system during a project year ($kWh_{wr,i}$), amount of electricity kWt*hour required to transport wastewater within "i" water disposal system during a project year, ($kWh_{vr,i}$).

Description of formulae used to estimate project emissions:

GHGs emissions that occur as a result of electricity consumption by the pumping equipment used in the water supply system:

$E^{wr} = kWh_{wr} * EF$

E^{wr} - CO2 emissions that occur as a result of electricity consumption for water supply in a project year, t CO2e;

where:

EF - carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "on approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2011;

kWh_{wr} - total amount of electricity required to transport water to consumers during a project year, kWt*hour;

[r] index is referred to a reported year.

$kWh_{wr} = \Sigma kWh_{wr,i}$

where:

$kWh_{wr,i}$ - amount of electricity required to transport water to consumers within "i" water supply system during a project year, kWt*hour;

[i] index – independent water supply system;

[r] index is referred to a reported year.

GHGs emissions that occur as a result of electricity consumption by the pumping equipment used in the water disposal system:

$E^{vr} = kWh_{vr} * EF$

E^{wr} - CO2 emissions that occur as a result of electricity consumption for water supply in a project year, t CO2e;

where:

EF - carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "on approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2011;

kWh_{wr} - total amount of electricity required to transport water to consumers during a project year, kWt*hour;

[r] index is referred to a reported year.

$kWh_{wr} = \Sigma kWh_{wr,i}$

where:

$kWh_{wr,i}$ - amount of electricity required to transport water to consumers within "i" water supply system during a project year, kWt*hour;

[i] index – independent water supply system;

[r] index is referred to a reported year.

Description of formulae used to estimate baseline emissions:

$E^{wb} = M^3_{wr} * PPER * EF$

$E^{wr} = kWh_{wr} * EF$

where:

PPER- pre-project efficiency factor, kWt*hour/m3;

EF- carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation,

namely from the orders entitled “on approval of indices for carbon dioxide specific emissions” issued by the National Environmental Investment Agency of Ukraine in 2008-2011;
M^3_{wr} - total volume of water supplied to consumers within the water supply system during a project year, m 3.
[b] index is referred to the baseline year;
[r] index is referred to a reported year.

$PPER = kWh_{wb} / M_{3wb}$

where:

kWh_{wb} - total amount of electricity required to transport water to consumers within the water supply system during the baseline year, kWt*hour;
M_{3wb} - total volume of water supplied to consumers within the water supply system during the baseline year, m 3;
[b] index is referred to the baseline year;

$M^3_{wr} = \Sigma M^3_{i,wr}$

$M^3_{i,wr}$ - volume of water supplied to consumers within “i” water supply system during a project year, m 3;
[i] index – independent water supply system;
[r] index is referred to a reported year.

GHGs emissions that occur as a result of electricity consumption by the pumping equipment used in the water disposal system:

$E^{vb} = M^3_{vr} * PPER * EF$

where:

PPER- pre-project efficiency factor, kWt*hour/m3;
EF- carbon emission factors (EF) for Ukraine during “y” year of 2005-2007 obtained from the document entitled “Ukraine - assessment of new calculation of CEF” verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders “on approval of indices for carbon dioxide specific emissions” issued by the National Environmental Investment Agency of Ukraine in 2008-2011;
M^3_{vr} - total volume of wastewater transported by the water disposal system during a project year, m3
[b] index is referred to the baseline year;
[r] index is referred to a reported year.

$PPER = kWh_{vb} / M^3_{vb}$

where:

kWh_{vb} - total amount of electricity required to transport wastewater within the water disposal system during the baseline year, kWt*hour;
M^3_{vb} - total volume of wastewater transported by the water disposal system during the baseline year, m3;

[b] index is referred to the baseline year;

$M^3_{vr} = \Sigma M^3_{i,vr}$

where:

$M^3_{i,vr}$ - volume of wastewater transported by “i” water disposal system during a project year, m3;

[i] index – independent water disposal system;
[r] index is referred to a reported year.

GHGs emission reductions under the project were estimated using the following formulas:

$ER = E^b – E^r$

ERU - emission reduction units, t CO2e;

E^r – project emissions, t CO2e;
E^b - baseline emissions, t CO2e.

The specific formulas stated in Section D were used to perform preliminary estimation of the project emissions during the period before 01 January 2008 (2005-2007) and during the first commitment period up to 2010 included (The project monitoring plan).

The specific formulas based on extrapolation methodology, wherein the conclusions about values of estimated figures in future periods are drawn based on a study of their dynamics during the previous periods, were used to ensure preliminary estimation of the project emissions after the first commitment period. The specific formulas for estimating the project emissions after the first commitment period are presented in Section E.1.

The following formulas were used to estimate the project emissions, which occurred under the project as a result of electricity consumption by pumping equipment used in the water supply system, within the period before 01 January 2008 (2005-2007) and during the first commitment period till 2010 included:

$E^{wr} = kWh_{wr} * EF$

where:

EF- carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "on approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2010;
kWh_{wr} - total amount of electricity required to transport water to consumers during a project year, kWt*hour;

[r] index is referred to a reported year.

$kWh_{wr} = \Sigma kWh_{wr,i}$

where:

$kWh_{wr,i}$- amount of electricity required to transport water to consumers within "i" water supply system during a project year, kWt*hour;

[i] index – independent water supply system;
[r] index is referred to a reported year.

The following formulas were used to estimate the project emissions, which occurred as a result of electricity consumption by pumping equipment used in the water supply system, within the period of 2011-2012 under the project:

$$kWh_{cwr} = \frac{1}{t} \sum_{i=t-n+1}^{t} xi$$

where:

kWh_{cwr} - moving average of electricity required to transport water to consumers during a project year, kWt*hour;
t - amount of electricity consumption under the water supply system (value of the latest reported year),
kWt*hour;
n - surveyed interval for time series of the value of electricity consumption within the water supply system (3 years);
xi - indicator of the surveyed value for electricity consumption within the water supply system during "i" year, m3.

$E^{wr} = kWh_{cwr} * EF$

where:

EF- carbon emission factor (EF) for Ukraine in 2011 obtained from the regulatory document of Ukrainian legislation, namely from the order entitled "On approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2011. The value of carbon emission factor (EF) for Ukraine in 2012 under the project was estimated to be at the level of this value in 2011;

kWh_{cwr} – average electricity consumption required to transport water to consumers during a project year, kWt*hour;
[r] index is referred to a reported year.

$kWh_{cwr} = \Sigma\ kWh_{cwr,i}$

$kWh_{cwr,i}$ - average electricity consumption required to transport water to consumers within "i" water supply system during a project year, kWt*hour;

[i] index – independent water supply system;
[r] index is referred to a reported year.

Since long-term planning (forecasting) of a project emissions level during future periods may drastically mispresent actual values of project emissions in 2013-2030, the estimated value for the electricity consumption within the water supply system and carbon emission factor (EF) under the project with regard to a corresponding commitment period was determined using a conservative method and on default it corresponds to the latest year's level of the first commitment period.

The following formulas were used to estimate the project emissions, which occurred under the project as a result of electricity consumption by pumping equipment used in the water disposal system, within the period before 01 January 2008 (2005-2007) and during the first commitment period till 2010 included:

$E^{vr} = kW_{hvr} * EF$

where:

EF- carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "on approval of indices for carbon dioxide

specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2010;
kWhvr – total amount of electricity required to transport wastewater during a project year, kWt*hour;
[r] index is referred to a reported year.

$kWh_{vr} = \Sigma kW_{hvr,i}$

$kW_{hvr,i}$ - amount of electricity required to transport wastewater within "i" water disposal system during a project year, kWt*hour;
[i] index – independent water disposal system;
[r] index is referred to a reported year.

The following formulas were used to estimate the project emissions, which occur under the project as a result of electricity consumption by pumping equipment used in the water disposal system within the period of 2011-2012:

$$kWh_{cvr} = \frac{1}{t} \sum_{i=t-n+1}^{t} xi$$

where:

kWh_{cvr} - moving average of electricity required to transport wastewater during a project year, kWt*hour;

t - amount of electricity consumption under the water disposal system (value of the latest reported year), kWt*hour;

n - surveyed interval for time series of the value of electricity consumption within the water disposal system (3 years);

xi - indicator of the surveyed value for electricity consumption within the water disposal system during "i" year, m3.

$E^{vr} = kWh_{cvr} * EF$

where:

EF - carbon emission factor (EF) for Ukraine in 2011 obtained from the regulatory document of Ukrainian legislation, namely from the order entitled "on approval of indices for carbon dioxide specific emissions factor (EF) for Ukraine in 2012 under the project was estimated to be at the level of this value in 2011;
kWh_{cvr} - average electricity consumption required to transport wastewater during a project year, kWt*hour;
[r] index is referred to a reported year.

$kWh_{cvr} = \Sigma\ kWh_{cvr,i}$

$kWh_{cvr,i}$ - average electricity consumption required to transport wastewater within "i" water disposal system during a project year, kWt*hour;
[i] index – independent water disposal system;
[r] index is referred to a reported year.

Since long-term planning (forecasting) of a project emissions level during future periods may drastically mispresent actual values of project emissions in 2013-2030, the estimated value for the electricity consumption within the water disposal system and carbon emission factor (EF) under the project with regard to a corresponding commitment period was determined using a conservative method and on default it corresponds to the latest year's level of the first commitment period.

The specific formulas stated in Section D were used to perform preliminary estimation of the baseline emissions under the project in the period before 01 January 2008 (2005-2007) and during the first commitment period up to 2010 included (The project monitoring plan).
The specific formulas based on extrapolation methodology, wherein conclusions about values of estimated figures in future periods are drawn based on a study of their dynamics during the previous periods, were used to ensure preliminary estimation of the baseline emissions under the project after the first commitment period. The specific formulas for estimation of baseline emissions under the project after the first commitment period are presented in Section E.4.

The following formulas were used to estimate the baseline emissions, which occurred under the project as a result of electricity consumption by pumping equipment used in the water supply system, within the period before 01 January 2008 (2005-2007) and during the first commitment period till 2010 included:

$E^{wb} = M^3_{wr} * PPER * EF$

where:

PPER- pre-project efficiency factor, kWt*hour/m3;
EF- carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "on approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2010;

M^3_{wr} - total volume of water supplied to consumers within the water supply system during a project year, m3.
[b] index is referred to the baseline year;
[r] index is referred to a reported year.

$PPER = kWh_{wb}/M^3_{wb}$

kWh_{wb} – total amount of electricity required to transport water to consumers within the water supply system during the baseline year, kWt*hour;
M^3_{wb} – total volume of water supplied to consumers within the water supply system during the baseline year, m3;
[b] index is referred to the baseline year;

$M^3_{wr} = \Sigma M^3_{i,wr}$

$M^3_{i,wr}$ - volume of water supplied to consumers within "i" water supply system during a project year, m3;
[i] index – independent water supply system;
[r] index is referred to a reported year.

The following formulas were used to estimate the baseline emissions, which occur under the project as a result of electricity consumption by pumping equipment used in the water supply system within the period of 2011-2012:

$$M^3_{cwr} = \frac{1}{t} \sum_{i=t-n+1}^{t} xi$$

where:

M^3_{cwr} - moving average of water volume supplied to consumers within the water supply system during a project year, m3;
t - transported water volume (value of the latest reported year), m3;
n - surveyed interval for time series of the value for transported water volume (3 years);
xi - indicator of the surveyed value for transported water volume during "i" year, m3.

$E^{wb} = M^3_{cwr}*PPER*EF$

where:

PPER- pre-project efficiency factor, kWt*hour/m3;

EF- carbon emission factor (EF) for Ukraine in 2011 obtained from the regulatory document of Ukrainian legislation, namely from the order entitled “on approval of indices for carbon dioxide specific emissions” issued by the National Environmental Investment Agency of Ukraine in 2011.

The value of carbon emission factor (EF) for Ukraine in 2012 under the project was estimated to be at the level of this value in 2011.
M^3_{cwr} – average volume of water supplied to consumers within the water supply system during a project year, m3.
[b] index is referred to the baseline year;
[r] index is referred to a reported year.

$PPER = kWh_{wb}/M^3_{wb}$
kWh_{wb} – total amount of electricity required to transport water to consumers within the water disposal
system during the baseline year, kWt*hour;
$M3_{vb}$ – total volume of water supplied to consumers within the water supply system during the baseline year, m3;
[b] index is referred to the baseline year;

$M^3_{cwr} = \Sigma\ M^3_{i,cwr}$

$M^3_{i,cwr}$ - average transported water volume within “i” water supply system during a project year, m3;
[i] index – independent water supply system;
[r] index is referred to a reported year.

Since long-term planning (forecasting) of the baseline emissions level during future periods may drastically mispresent actual values of baseline emissions in 2013-2030, the estimated value for the volume of water supplied to consumers and carbon emission factor (EF) under the project with regard to a corresponding commitment period was determined using a conservative method and on default it corresponds to the latest year’s level of the first commitment period.

The following formulas were used to estimate the baseline emissions, which occur under the project as a result of electricity consumption by pumping equipment used in the water disposal system, within the period before 01 January 2008 (2005-2007) and during the first commitment period till 2010 included:

$E^{vb} = M^3_{vr} * PPER * EF$

where:

PPER – pre-project efficiency factor, kWt*hour/m3;

EF- carbon emission factors (EF) for Ukraine during "y" year of 2005-2007 obtained from the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007 and from regulatory documents of Ukrainian legislation, namely from the orders entitled "on approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2010;
M^3_{vb} – total volume of wastewater transported by the water disposal system during a project year, m3;

[b] index is referred to the baseline year;
[r] index is referred to a reported year.

$PPER = kWh_{vb}/M^3_{vb}$

kWh_{vb} – total amount of electricity required to transport wastewater within the water disposal system during the baseline year, kWt*hour;
M^3_{vb} - total volume of wastewater transported by the water disposal system during the baseline year, m3;
[b] index is referred to the baseline year;

$M^3_{vr} = \Sigma M^3_{i,vr}$

$M^3_{i,vr}$ - volume of wastewater transported by "i" water disposal system during a project year, m3;
[i] index – independent water disposal system;
[r] index is referred to a reported year.

The following formulas were used to estimate the baseline emissions, which occur under the project as a result of electricity consumption by pumping equipment used in the water disposal system within the period of 2011-2012:

$$M^3_{cvr} = \frac{1}{t} \sum_{i=t-n+1}^{t} xi$$

where:

M^3_{cvr} - moving average of wastewater volume transported by the water disposal system during a project year, m3;
t - wastewater volume (value of the latest reported year), m3;
n - surveyed interval for time series of the value for wastewater volume (3 years);
xi - indicator of the surveyed value for wastewater volume during "i" year, m3.

$E^{vb} = M^3_{cvr} * PPER * EF$

where:

PPER- pre-project efficiency factor, kWt*hour/m3;
EF- carbon emission factor (EF) for Ukraine in 2011 obtained from the regulatory document of Ukrainian legislation, namely from the order entitled “on approval of indices for carbon dioxide specific emissions” issued by the National Environmental Investment Agency of Ukraine in 2011.The value of carbon emission factor (EF) for Ukraine in 2012 under the project was estimated to be at the level of this value in 2011.
M^3_{cvr} – average wastewater volume transported by the water disposal system during a project year, m3;
[b] index is referred to the baseline year;
[r] index is referred to a reported year.

$PPER = kWh_{vb}/M^3_{vb}$

kWh_{vb} – total amount of electricity required to transport wastewater within the water disposal system during the baseline year, kWt*hour;
M^3_{vb} - total volume of wastewater transported by the water disposal system during the baseline year, m3;
[b] index is referred to the baseline year;

$M^3_{cvr} = \Sigma M^3_{i,cvr}$

$M^3_{i,cvr}$ - average wastewater volume transported by “i” water disposal system during a project year, m3;
[i] index – independent water disposal system;
[r] index is referred to a reported year.

Since long-term planning (forecasting) of the baseline emissions level during future periods may drastically mispresent actual values of baseline emissions in 2013-2030, the estimated value for the volume of transported wastewater and carbon emission factor (EF) under the project with regard to a corresponding commitment period was determined using a conservative method and on default it corresponds to the latest year’s level of the first commitment period.

After a complete implementation of the project, 87.9 thousand MWt*hour of electricity shall be saved annually. Due to a reduced consumption of electricity used by pumping stations and consumed from the Ukrainian power grid, combustion of the fossil fuel required to generate electricity for the power grid shall decrease, hence reducing emission of greenhouse gasses.

The estimates referred to above are consistent throughout the PDD.

The identified areas of concern as to Estimation of emission reductions, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR24).

4.10 Environmental impacts (48)

Pursuant to the Ukrainian legislative framework "On natural environment protection"13 and "STRUCTURE AND CONTENT OF THE MATERIALS ON ENVIRONMENTAL IMPACTS ASSESSMENT DURING DESIGN AND CONSTRUCTION OF ENTERPRISES, BUILDINGS AND STRUCTURES", "Vodokanal" MU is not obliged to develop Environmental Impacts Assessment for this project type. The only environmental impact is the dismantled equipment, which shall further be used as recyclable materials.

Implementation of this project will facilitate improvements in servicing the water consumers. Experience of "Vodokanal" MU personnel and adherence to the standard "On drinking water and drinking water supply"5 provide for minimization of emergencies' occurrence probability during the project progress.

Pursuant to the definition in the text of "Convention on Long-range Transboundary Air Pollution" that has been ratified by Ukraine, there shall be no transboundary impacts produced by the project activity.
Implementation of the Project does not provide any detrimental effects on the environment. "Vodokanal" MU has authorizations for "Special use of water".

The identified areas of concern as to Environmental impacts, project participants response and BV Certification's conclusion are described in Appendix A.

4.11 Stakeholder consultation (49)

Since the project activities do not imply any negative environmental impacts and negative social effects, special public discussions were not necessary. Consultations with Stakeholders were conducted during the meetings of local authorities.

Stakeholders provided no comments.

The identified areas of concern as to Stakeholder consultation, project participants response and BV Certification's conclusion are described in Appendix A.

5 SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES

No comments, pursuant to paragraph 32 of the JI Guidelines, were received.

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of "Development and upgrade of district water supply and disposal system in Zaporizhzhia city" project in Ukraine. The determination 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 determination consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final determination report and opinion.

Project participant/s used the "Tool for the demonstration and assessment of additionality", revision 05.2 for demonstration of the additionality. In line with this tool, the relevant section of PDD meets the requirements of this tool and defines that the implementation of the simple cost analysis is sufficient.

Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The determination revealed the pending issue related to the current determination stage of the project (the issue of the written approval of the project and the authorization of the project participant by the host Party). If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 02 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (version 02) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

The determination is based on the information made available to us and the engagement conditions detailed in this report.

7 REFERENCES

Category 1 Documents:
Documents provided by the Institute of Engineering Ecology that relate directly to the GHG components of the project.

/1/ PDD “Development and upgrade of district water supply and disposal system in Zaporizhzhia city”, version 01 of 10.08.2011.
/2/ PDD “Development and upgrade of district water supply and disposal system in Zaporizhzhia city”, version 02 of 05.09.2011.
/3/ Additional document “Vodokanal” MU 1
/4/ Additional document “Vodokanal” MU 2
/5/ Additional document “Vodokanal” MU 3
/6/ 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

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/ Public Utility Company “Vodokanal” journal ARCHIVE «Completed facility acceptance certificate approved by the State Acceptance Commission».
/23/ Water pipe functioning report (separate water supply network) for 2010, 61 Artema Str.
/24/ Water pipe functioning report (separate water supply network) for 2009, 61 Artema Str.
/25/ Water pipe functioning report (separate water supply network) for 2008, 61 Artema Str.
/26/ Water pipe functioning report (separate water supply network) for 2007, 61 Artema Str.
/27/ Water pipe functioning report (separate water supply network) for 2006, 61 Artema Str.
/28/ Water pipe functioning report (separate water supply network) for 2005, 61 Artema Str.
/29/ Sewer system functioning report (separate water supply network) for 2010, 61 Artema Str.
/30/ Sewer system functioning report (separate water supply network) for 2009, 61 Artema Str.
/31/ Sewer system functioning report (separate water supply network) for 2008, 61 Artema Str.
/32/ Sewer system functioning report (separate water supply network) for 2007, 61 Artema Str.
/33/ Sewer system functioning report (separate water supply network) for 2006, 61 Artema Str.
/34/ Sewer system functioning report (separate water supply network) for 2005, 61 Artema Str.
/35/ Public Utility Company “Vodokanal” journal ARCHIVE «State Acceptance Commission certificate».
/36/ Delivery contract №530/05 dated 24.10.2005
/37/ Delivery contract №354/08 dated 04.06.2008
/38/ Organizational structure of Public Utility Company “Vodokanal” administration
/39/ Public Utility Company “Vodokanal”, the financial report with the report of independent auditors
/40/ Permit for special water use dated 01.01.2004
/41/ Permit for special water use dated 01.01.2005
/42/ Permit for special water use dated 01.01.2006
/43/ Permit for special water use dated 01.01.2007

/44/ Permit for special water use dated 01.01.2008
/45/ Permit for special water use dated 01.01.2009
/46/ Permit for special water use dated 01.01.2010
/47/ Decision №554 «On setting the rate of drinking water consumption in Zaporizhzhia».
/48/ Contractual arrangement №191 dated 17.05.2001
/49/ Statement №000142 dated April 28th, 2011
/50/ Register of “stationery sources of pollution and their specifications” form №POD – 1.

Persons interviewed:

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

/1/ 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/ O. Bardina – chief of the economical activity legal support department of OJSC “Oblteplocomunenergo”
/15/ Ia. Bechko – economist of the business activity legal support department of OJSC “Oblteplocomunenergo”

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DETERMINATION PROTOCOL

Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
General description of the project				
Title of the project				
-	Is the title of the project presented?	The title of the project "Development and upgrade of district water supply and disposal system in Zaporizhzhia city" is presented.	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Yes. Sectoral scope 3: Energy demand	OK	OK
-	Is the current version number of the document presented?	The current version number of the document is presented.	OK	OK
-	Is the date when the document was completed presented?	10/08/2011 is the date of the document completion.	OK	OK
Description of the project				
-	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description)?	**CAR 01.** There is no information concerning the situation existing prior to the starting date of the project. Please provide such information. **CAR 02.** There is no information concerning the project scenario, namely, its expected results and technical summary. Please provide such information.	CAR 01 CAR 02	OK OK
-	Is the history of the project (incl. its JI component) briefly summarized?	**CAR 03.** Please, describe brief history of JI component of the project.	CAR 03	OK
Project participants				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
-	Are project participants and Party(ies) involved in the project listed?	Parties involved are listed in the section A.3 of the PDD. **CAR 04.** Please, make the format of the A.3 table correct.	CAR 04	OK
-	Is the data of the project participants presented in tabular format?	The data of the project participants is presented in the tabular format.	OK	OK
-	Is contact information provided in Annex 1 of the PDD?	Contact information is provided in Annex 1 of the PDD.	OK	OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	Party involved Ukraine is a host Party.	OK	OK
Technical description of the project				
Location of the project				
-	Host Party(ies)	Ukraine is a host Party.	OK	OK
-	Region/State/Province etc.	Zaporizhzhia Region.	OK	OK
-	City/Town/Community etc.	Zaporizhzhia city	OK	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page).	Detail of the physical location of the project is indicated in the section A.4.1.4 of the PDD.	OK	OK
Technologies to be employed, or measures, operations or actions to be implemented by the project				
-	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described?	The technologies to be employed and measures to be implemented are described in the implementation schedule of the PDD section A.4.2. **CAR 05.** The table 2 in the section A.4.2 is not totally filled. Please make the corresponding corrections. **CAR 06.** The table 3 in the section A.4.2 «Instrument gages' characteristics» (p. 20) does not correspond to the content. Please provide the instrument gages' characteristic. **CAR 07.** The table 4 in the section A.4.2 «Frequency controllers characteristics» (p. 20) does not correspond to	CAR 05 CAR 06 CAR 07	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		the content. Please provide the Frequency controllers characteristics.		
Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances				
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	In the section A.4.3, it is stated how anthropogenic GHG emission reductions are to be achieved.	OK	OK
-	Is it provided the estimation of emission reductions over the crediting period?	**CAR 08.** Please provide the estimation of emission reductions over the crediting period in the section A.4.3.	CAR 08	OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO_2e?	The estimated annual reduction for the chosen credit period in tCO_2e is provided in the section A.4.3.1.	OK	OK
-	Are the data from questions above presented in tabular format?	The data from questions above are presented in tabular format.	OK	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period indicated?	**CAR 09.** The length of the crediting period is not indicated. Please, indicate in the section A.4.3.1 the length of the crediting period (please, pay attention that duration of the crediting period in the PDD section A.4.3.1 should coincide with the duration in the PDD section C.1).	CAR 09	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO_2 equivalent provided?	**CAR 10.** The estimated average annual emission reductions in tonnes of CO_2 equivalent in the table 6 were calculated incorrectly. Please make the relevant corrections. **CAR 11.** Please correct the format of the table 6 in the section A.4.3.1. (p. 22) **CAR 12.** Please correct the format of the table 7 in the section A.4.3.1. (p. 22) **CAR 13.** Please correct the format of the table 8 in the section A.4.3.1. (p. 22)	CAR 10 CAR 11 CAR 12 CAR 13	OK OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties				
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	**CAR 14.** There are no letters of approval from Parties involved.	CAR 14	Pending
19	Does the PDD identify at least the host Party as a "Party involved"?	The PDD identifies the host Party as a Party involved.	OK	OK
19	Has the DFP of the host Party issued a written project approval?	See CAR 14 of this table.	See CAR 14	Pending
20	Are all the written project approvals by Parties involved unconditional?	See CAR 14 of this table.	See CAR 14	Pending
Authorization of project participants by Parties involved				
21	Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: − A written project approval by a Party involved, explicitly indicating the name of the legal entity? or − Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	**CAR 15.** Please indicate if the person/entity is also a project participant listed in Annex 1.	CAR 15	OK
Baseline setting				
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? − JI specific approach − Approved CDM methodology approach	PDD indicates that JI specific approach based on the approved CDM methodology ACM0020 AM0020 "Baseline methodology for water pumping efficiency improvements"2, Version 02 is used for identifying the baseline.	OK	OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	The PDD provides a detailed theoretical description in a complete and transparent manner.	OK	OK
23	Does the PDD provide justification that the	The baseline is established by listing and describing	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? − Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors? (d) Taking into account of uncertainties and using conservative assumptions? (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure? (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?	plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one.		
24	If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above?	For baseline setting the selected elements or combinations of approved CDM methodology ACM0020 "Baseline methodology for water pumping efficiency improvements", Version 02 is used, all the selected elements or combinations together with the elements supplementary developed by the project participants are in line with 23 above.	OK	OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	Ukraine has a united power grid. Therefore, an average value of Carbon Emission Factor (CEF) is applied to electricity generation. The Carbon Emission Factors (CEF) for 2005-2007 were obtained from the data table "Emission	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Factors for Ukrainian power grid" in the document entitled "Ukraine - assessment of new calculation of CEF" verified by TUV SUD Industrie Service GmbH on 17.08.2007. The Carbon Emission Factors (CEF) for 2008-2011 were obtained from regulatory documents of Ukrainian legislation, namely from the orders "On approval of indices for carbon dioxide specific emissions" issued by the National Environmental Investment Agency of Ukraine in 2008-2011. In case other carbon emission factors will be approved for Ukrainian national power grids, the baseline shall be re-calculated for any reporting year in accordance with the monitoring plan.		
Approved CDM methodology approach only				
26 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
26 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	N/A	N/A
26 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	N/A	N/A
26 (c)	Are all explanations, descriptions and analyses pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?	N/A	N/A	N/A
26 (d)	Is the baseline identified appropriately as a result?	The baseline is appropriately identified.	OK	OK
Additionality				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
JI specific approach only				
28	Does the PDD indicate which of the following approaches for demonstrating additionality is used? (a) Provision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board".	For the demonstration of additionality the project developer uses "Tool for the demonstration and assessment of additionality", revision 05.2. The relevant PDD section totally meets the requirements of the Tool. **CAR 16.** Please delete all the information that goes after the table 1 of Annex 4, because it includes the list of investment costs, which don't correspond to the project additionality analysis data.	CAR 16	OK
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	The PDD provides full justification of the applicability of the approach. The justification is unconditional.	OK	OK
29 (b)	Are additionality proofs provided?	Additionality proofs are provided.	OK	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	Among three standard methods of financial analysis offered by the Tool the Developer selected Simple cost analysis. Indeed the Decree of Cabinet of Ministers of Ukraine "On the approval of the calculation of tariffs for the services of district water supply and sewage" issued July 12th 2006 No959 in articles 3 and 5 states that tariffs shall be directly based on the operational and financial expenses of the enterprise. As	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		the result any savings achieved by the municipal operator will not generate any additional profits for the company and will lead to the proportional reduction of the selling tariff imposed by the regulator. The only sort of compensation available through existing procedure is allocation of the depreciation of the project assets using methodology introduced by Ukrainian tax legislation to the costs and in turn to the tariffs for the services of the enterprise. In any case it will not provide any additional profits to the company and even will not compensate the full amount of capital expenses due to the nature of the declining balance depreciation method. Taking into account this fact the use of the simple cost analysis looks reasonable and correct for the present project.		
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	See paragraph 29 (c).	OK	OK
Approved CDM methodology approach only				
31 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
31 (b)	Does the PDD provide a description of why and how the referenced approved CDM methodology is applicable to the project?	N/A	N/A	N/A
31 (c)	Are all explanations, descriptions and analyses with regard to additionality made in accordance with the selected methodology?	N/A	N/A	N/A
31 (d)	Are additionality proofs provided?	N/A	N/A	N/A
31 (e)	Is the additionality demonstrated appropriately as a result?	N/A	N/A	N/A
Project boundary (applicable except for JI LULUCF projects				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
JI specific approach only				
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: (i) Under the control of the project participants? (ii) Reasonably attributable to the project? (iii) Significant?	The project boundary defined in the PDD encompass all anthropogenic emissions of GHGs are defined and under the control of the project participants.	OK	OK
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	See paragraph 32 (a).	OK	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	**CAR 17.** Please justify the project boundary.	CAR 17	OK
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	All gases and sources included are explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified.	OK	OK
Approved CDM methodology approach only				
33	Is the project boundary defined in accordance with the approved CDM methodology?	N/A	N/A	N/A
Crediting period				
34 (a)	Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	**CL 01.** Please, give documented evidence of the project starting date.	CL 01	OK
34 (a)	Is the starting date after the beginning of 2000?	The starting date is after the beginning of 2000.	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	See section C.2 of the PDD.	OK	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	Yes. The PDD states the length of the crediting period in years and months. See section C.3 of the PDD.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	The starting date of the crediting period is on the date of the first emission reductions generated by the project.	OK	OK
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	The PDD states that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project.	OK	OK
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	The estimates of emission reductions are presented separately for those until 2012 and those after 2012.	OK	Ok
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	The PDD explicitly indicates that for baseline setting the JI specific approach based on the approved by the UNFCCC CDM methodology ACM0020 "Baseline methodology for water pumping efficiency improvements", Version 02 is used.	OK	OK
JI specific approach only				
36 (a)	Does the monitoring plan describe: − All relevant factors and key characteristics that will be monitored? − The period in which they will be monitored? − All decisive factors for the control and reporting of project performance?	The monitoring plan describes all relevant factors and key characteristics that will be monitored. **CAR 18.** The period in which the monitoring will be conducted is not indicated in the Section D of the PDD. Please make the relevant corrections.	CAR 18	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	The monitoring plan specifies the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (b)	If default values are used: − Are accuracy and reasonableness carefully balanced in their selection? − Do the default values originate from recognized sources? − Are the default values supported by statistical analyses providing reasonable confidence levels? − Are the default values presented in a transparent manner?	The default values used are presented in a transparent manner and are unconditional.	OK	OK
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	The information was provided.	OK	OK
36 (b) (ii)	For other values, − Does the monitoring plan clearly indicate the precise references from which these values are taken? − Is the conservativeness of the values provided justified?	The Monitoring plan clearly indicates that other values were taken from the AM0020 methodology and from regulatory documents of Ukrainian legislation, namely from the orders entitled “On approval of indices for carbon dioxide specific emissions” issued by the National Environmental Investment Agency of Ukraine.	OK	OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	In case metering devices are damaged, they shall be replaced or repaired as soon as possible. Such cases shall be described in the monitoring reports.	OK	OK
36 (b) (iv)	Are International System Unit (SI units) used?	International System units are not used in the project.	OK	OK
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	Such data is not used.	OK	OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	The parameters, coefficients, variables, etc. used to calculate the baseline and monitoring plan are consistent.	OK	OK
36 (c)	Does the monitoring plan draw on the list of	**CAR 19.** The standard variable indicated in the Section	CAR 19	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	D.1.1.1 does not draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring". Please make the necessary corrections. **CAR 20.** The standard variable indicated in the Section D.1.1.3 does not draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring". Please make the necessary corrections.	CAR 20	OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored throughout the crediting period?	The monitoring plan explicitly and clearly distinguishes data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination and also data and parameters that are monitored throughout the crediting period.	OK	OK
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	See CAR 18.	OK	OK
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of	The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline and project emissions/removals.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reductions from the project, leakage, as appropriate?			
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	The underlying rationale for the algorithms/formulae is clear and transparent.	OK	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	The consistent variables, equation formats, subscripts etc. are used.	OK	OK
36 (f) (iii)	Are all equations numbered?	All equations are numbered.	OK	OK
36 (f) (iv)	Are all variables, with units indicated defined?	All variables, with units indicated are defined.	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	The conservativeness of the algorithms/procedures is justified.	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	N/A	N/A	N/A
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	The consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline is ensured.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	All parts of the algorithms or formulae that are not self-evident are explained.	OK	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	**CAR 21.** Please provide the justification that the procedure is consistent with standard technical procedures in the relevant sector.	CAR 21	OK
36 (f) (vii)	Are references provided as necessary?	References are provided as necessary.	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	The implicit and explicit key assumptions are explained in a transparent manner.	OK	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	It is clearly stated in the PDD which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed.	OK	OK
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the calculation of emission reductions or enhancements of net removals provided?			
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project? Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?	N/A	N/A	N/A
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	N/A	N/A	N/A
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?	The Annex 3 of the PDD presents the quality assurance and control procedures for the monitoring process, information on calibration and on how records on data and/or method validity and accuracy are kept .	OK	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	The section D.3 of the PDD identifies the responsibilities and the authority regarding the monitoring activities. More detailed information is presented in the Annex 3 to the PDD.	OK	OK
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	The monitoring plan, on the whole, reflects good monitoring practices appropriate to the project type.	OK	OK
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with	The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	equations?			
36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	**CAR 22**. Please indicate in the PDD that the data monitored and required for determination/verification are to be kept for two years after the last transfer of ERUs for the project.	CAR 22	OK
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	The proposeв project implements the JI specific approach based on approved by the UNFCCC CDM methodology ACM0020 "Baseline methodology for water pumping efficiency improvements", Version 02. Thus, the project is in line with the paragraph 36 above.	OK	OK
Approved CDM methodology approach only				
38 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
38 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	N/A	N/A
38 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	N/A	N/A
38 (c)	Are all explanations, descriptions and analyses pertaining to monitoring in the PDD made in accordance with the referenced approved CDM methodology?	N/A	N/A	N/A
38 (d)	Is the monitoring plan established appropriately as a result?	N/A	N/A	N/A
Applicable to both JI specific approach and approved CDM methodology approach				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
39	If the monitoring plan indicates overlapping monitoring periods during the crediting period: (a) Is the underlying project composed of clearly identifiable components for which emission reductions or enhancements of removals can be calculated independently? (b) Can monitoring be performed independently for each of these components (i.e. the data/parameters monitored for one component are not dependent on/effect data/parameters to be monitored for another component)? (c) Does the monitoring plan ensure that monitoring is performed for all components and that in these cases all the requirements of the JI guidelines and further guidance by the JISC regarding monitoring are met? (d) Does the monitoring plan explicitly provide for overlapping monitoring periods of clearly defined project components, justify its need and state how the conditions mentioned in (a)-(c) are met?	The monitoring plan does not indicate overlapping monitoring periods during the crediting period. See CAR 18.	See CAR 18	OK
Leakage				
JI specific approach only				
40 (a)	Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains which sources of leakage are to be calculated and which can be neglected. **CAR 23.** The estimated emissions reduction in tones CO_2 equivalent was calculated incorrectly in the table 17. Please make the relevant corrections.	CAR 23	OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	See paragraph 40 (a).	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Approved CDM methodology approach only				
41	Are the leakage and the procedure for its estimation defined in accordance with the approved CDM methodology?	N/A	N/A	N/A
Estimation of emission reductions or enhancements of net removals				
42	Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the baseline scenario and in the project scenario (b) Direct assessment of emission reductions	The PDD indicates that direct assessment of emission reductions is the approach chosen.	OK	OK
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	N/A	N/A	N/A
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	PDD provides ex ante estimates of emission reductions. Leakage is not estimated because it is not expected for the project.	OK	OK
45	For both approaches in 42 (a) Are the estimates in 43 or 44 given: (i) On a periodic basis? (ii) At least from the beginning until the end of the crediting period?	The estimates of emission reductions are given on a periodic basis; from the beginning until the end of the crediting period. The formulas used for calculating emission reductions are	CAR 24	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(iii) On a source-by-source/sink-by-sink basis? (iv) For each GHG? (v) In tones of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? (b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD? (c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate? (d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent? (e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice? (f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner? (g) Are the estimates in 43 or 44 consistent throughout the PDD? (h) Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total	consistent throughout the PDD. Emission factors used for calculating emission reductions are selected by carefully balancing accuracy and reasonableness. The estimations of emission reductions are based on conservative assumptions. The annual average of estimated emission reductions is calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period and multiplying by twelve. **CAR 24.** The estimated emissions reduction was calculated incorrectly in the table 20 of Section E.6. Please make the		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?	relevant corrections.		
46	If the calculation of the baseline emissions or net removals is to be performed ex post, does the PDD include an illustrative ex ante emissions or net removals calculation?	PDD includes an illustrative ex ante emissions calculation.	OK	OK
Approved CDM methodology approach only				
47 (a)	Is the estimation of emission reductions or enhancements of net removals made in accordance with the approved CDM methodology?	N/A	N/A	N/A
47 (b)	Is the estimation of emission reductions or enhancements of net removals presented in the PDD: − On a periodic basis? − At least from the beginning until the end of the crediting period? − On a source-by-source/sink-by-sink basis? − For each GHG? − In tones of CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? − Are the formula used for calculating the estimates consistent throughout the PDD? − Are the estimates consistent throughout the PDD? − Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	removals over the crediting period by the total months of the crediting period and multiplying by twelve?			
Environmental impacts				
48 (a)	Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	Pursuant to the Ukrainian legislative framework "On natural environment protection" and "STRUCTURE AND CONTENT OF THE MATERIALS ON ENVIRONMENTAL IMPACTS ASSESSMENT DURING DESIGN AND CONSTRUCTION OF ENTERPRISES, BUILDINGS AND STRUCTURES, "Vodokanal" MU is not obliged to develop Environmental Impacts Assessment for this project type.	OK	OK
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	See paragraph 48 (a) above.	OK	OK
Environmental impacts				
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects have been received, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	See section G.1 of the PDD.	OK	OK
Determination regarding small-scale projects (additional elements for assessment)				
50	Does the PDD appropriately specify and justify	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the SSC project type(s) and category(ies) that fall under: (a) One of the types and thresholds of JI SSC projects as defined in Provisions for joint implementation small-scale projects? If the project contains more than one JI SSC project type component, does each component meet the relevant threshold criterion? (b) One of the SSC project categories defined in the most recent version of appendix B of annex II to decision 4/CMP.1, or an additional project category approved by the JISC in accordance with the relevant provision in "Provisions for joint implementation small-scale projects"?			
51	Does the SSC PDD confirms and shows that the proposed JI SSC project is not a debundled component of a large project by explaining that there does not exist a JI (SSC) project with a publicly available determination in accordance with paragraph 34 of the JI guidelines: (a) Which has the same project participants; and (b) Which applies the same technology/measure and pertains to the same project category; and (c) Whose determination has been made publicly available in accordance with paragraph 34 of the JI guidelines within the previous 2 years; and (d) Whose project boundary is within 1 km of the project boundary of the proposed JI SSC project at the closest point?	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Applicable to bundled JI SSC projects only				
52 (a)	Do all projects in the bundle: (i) Have the same crediting period? (ii) Comply with the provisions for JI SSC projects defined in "Provisions for joint implementation small-scale projects", in particular the thresholds referred to in 50 (a) above? (iii) Retain their distinctive characteristics (i.e. location, technology/measure etc.)?	N/A	N/A	N/A
52 (b)	Does the composition of the bundle not change over time?	N/A	N/A	N/A
52 (c)	Has the AIE received (from the project participants): (i) Information on the bundle using the form developed by the JISC (F-JI-SSCBUNDLE)? (ii) A written statement signed by all project participants indicating that they agree that their individual projects are part of the bundle and nominating one project participant to represent all project participants in communicating with the JISC? (iii) Indication by the Parties involved that they are aware of the bundle in their project approvals referred to in 19 above?	N/A	N/A	N/A
53	If the project participants prepared a single SSC PDD for the bundled JI SSC projects, do(are) all the projects: (a) Pertain to the same JI SSC project category? (b) Apply the same technology or measure? (c) Located in the territory of the same host Party?	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
54	If the project participants prepared separate SSC PDDs for the bundled JI SSC projects, do(are) all the projects: (a) Have SSC PDDs been prepared for all JI SSC projects in the bundle? (b) Does each SSC PDD contain a single JI SCC project in the bundle?	N/A	N/A	N/A
55	If the projects in the bundle use the same baseline, does the F-JI-SSC-BUNDLE provide an appropriate justification for the use of the same baseline considering the particular situation of each project in the bundle?	N/A	N/A	N/A
56	Does the PDD indicate which of the following approaches is used for establishing a monitoring plan? (a) By preparing a separate monitoring plan for each of the constituent projects; (b) By preparing an overall monitoring plan including a proposal of monitoring of performance of the constituent projects on a sample basis, as appropriate.	N/A	N/A	N/A
56 (b)	If the approach 57 (b) above is used, (i) Are all the JI SSC projects located in the territory of the same host Party? (ii) Do all the JI SSC projects pertain to the same project category? (iii) Do all the JI SSC projects apply the same technology or measure? (iv) Does the overall monitoring plan reflect good monitoring practice appropriate to the bundled JI SSC projects and provide for collection and archiving of the data needed to calculate the emission reductions achieved by	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the bundled projects?			
Applicable to all JI SSC projects				
57	Is the leakage only within the boundaries of non-Annex I Parties considered?	N/A	N/A	N/A
Determination regarding land use, land-use change and forestry projects (additional/alternative elements for assessment)				
58	Does the PDD appropriately specify how the LULUCF project conforms to: (a) The definitions of LULUCF activities included in paragraph 1 of the annex to decision 16/CMP.1, applying good practice guidance for LULUCF as decided by the CMP, as appropriate? (b) In the case of afforestation, reforestation and/or forest management projects, the definition of "forest" selected by the host Party, which specifies: (i) A single minimum tree crown cover value (between 10 and 30 per cent)? and (ii) A single minimum land area value (between 0.05 and 1 hectare)? and (iii) A single minimum tree height value (between 2 and 5 metres)?	N/A	N/A	N/A
JI specific approach only				
59	Baseline setting - in addition to 22-26 above Does the PDD provide an explanation how the baseline chosen: − Takes into account the good practice guidance for LULUCF, developed by the IPCC? − Ensures conformity with the definitions, accounting rules, modalities and guidelines under Article 3, paragraphs 3 and 4, of the Kyoto Protocol?	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
60	Project boundary - alternative to 32-33 (a) Does the project boundary geographically delineate the JI LULUCF project under the control of the project participants? (a) If the JI LULUCF project contains more than one discrete area of land, (i) Does each discrete area of land have a unique geographical identification? (ii) Is the boundary defined for each discrete area? (ii) Does the boundary not include the areas in between these discrete areas of land? (b) Does the project boundary encompass all anthropogenic emissions by sources and removals by sinks of GHGs which are: (i) Under the control of the project participants; (ii) Reasonably attributable to the project; and (iii) Significant? (c) Does the project boundary account for all changes in the following carbon pools: − Above-ground biomass; − Below-ground biomass; − Litter; − Dead wood; and − Soil organic carbon? (c) Does the PDD provide: (i) The information of which carbon pools are selected? (ii) If one or more carbon pools are not selected, transparent and verifiable information that indicates, based on conservative assumptions, that the pool is not a source? (d) Is the project boundary defined on the basis	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	of a case-by-case assessment with regard to the criteria in (b) above?			
61 (a)	Project boundary - alternative to 32-33 (cont.) Are the delineation of the project boundary and the gases and sources/sinks included appropriately described and justified in the PDD?	N/A	N/A	N/A
61 (b)	Project boundary - alternative to 32-33 (cont.) Are all gases and sources/sinks included explicitly stated, and the exclusions of any sources/sinks related to the baseline or the LULUCF project appropriately justified?	N/A	N/A	N/A
62	Monitoring plan - in addition to 35-39 Does the PDD provide an appropriate description of the sampling design that will be used for the calculation of the net anthropogenic removals by sinks occurring within the project boundary in the project scenario and, in case the baseline is monitored, in the baseline scenario, including, inter alia, stratification, determination of number of plots and plot distribution etc.?	N/A	N/A	N/A
63	Does the PDD take into account only the increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of GHGs outside the project boundary?	N/A	N/A	N/A
Approved CDM methodology approach only				
64 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
64 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	within the grace period (was the methodology revised to a newer version in the past two months)?			
64 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	N/A	N/A
64 (c)	Are all explanations, descriptions and analyses made in accordance with the referenced approved CDM methodology?	N/A	N/A	N/A
64 (d)	Are the baseline, additionality, project boundary, monitoring plan, estimation of enhancements of net removals and leakage established appropriately as a result?	N/A	N/A	N/A
Determination regarding programmes of activities (additional/alternative elements for assessment)				
66	Does the PDD include: (a) A description of the policy or goal that the JI PoA seeks to promote? (b) A geographical boundary for the JI PoA (e.g. municipality, region within a country, country or several countries) within which all JPAs included in the JI PoA will be implemented? (c) A description of the operational and management arrangements established by the coordinating entity for the implementation of the JI PoA, including: − The maintenance of records for each JPA? − A system/procedure to avoid double counting (e.g. to avoid including a new JPA that has already been determined)? − Provisions to ensure that persons operating JPAs are aware and have agreed to their	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	activity being added to the JI PoA? (d) A description of each type of JPAs that will be included in the JI PoA, including the technology or measures to be used? (e) The eligibility criteria for inclusion of JPAs to the JI PoA for each type of JPA in the JI PoA?			
67	*Project approvals by Parties involved - additional to 19-20* Are all Parties partly or entirely within the geographical boundary for the JI PoA listed as "Parties involved" and indicated as host Parties in the PDD?	N/A	N/A	N/A
68	*Authorization of project participants by Parties involved - additional to 21* Is the coordinating entity presented in the PDD authorized by all host Parties to coordinate and manage the JI PoA?			
69	*Baseline setting - additional to 22-26* Is the baseline established for each type of JPA?	N/A	N/A	N/A
70	*Additionality - additional to 27-31* Does the PDD indicate at which of the following levels that additionality is demonstrated? (a) For the JI PoA (b) For each type of JPA	N/A	N/A	N/A
71	*Crediting period - additional to 34* Is the starting date of the JI PoA after the beginning of 2006 (instead of 2000)?	N/A	N/A	N/A
72	*Monitoring plan - additional to 35-39* Is the monitoring plan established for each technology and/or measure under each type of JPA included in the JI PoA?	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
73	Does the PDD include a table listing at least one real JPA for each type of JPA?	N/A	N/A	N/A
73	For each real JPA listed, does the PDD provide the information of: (a) Name and brief summary of the JPA? (b) The type of JPA? (c) A geographical reference or other means of identification? (d) The name and contact details of the entity/individual responsible for the operation of the JPA? (e) The host Party(ies)? (f) The starting date of the JPA? (g) The length of the crediting period of the JPA? (h) Confirmation that the JPA meets all the eligibility requirements for its type, including a description of how these requirements are met? (i) Confirmation that the JPA has not been determined as a single JI project or determined under a different JI PoA?	N/A	N/A	N/A

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Determination team conclusion
CAR 01. There is no information concerning the situation existing prior to the starting date of the project. Please provide such information.	-	The information concerning the situation existing prior to the starting date of the project was presented in the PDD version 02, dated 05/09/2011.	The necessary corrections were made. The issue is closed.
CAR 02. There is no information concerning the project scenario, namely, its expected results and technical summary. Please provide such information.	-	The information concerning the project scenario, namely, its expected results and technical summary was provided.	The issue is closed.
CAR 03. Please, describe brief history of JI component of the project.	-	The brief history of JI component of the project was provided.	The necessary corrections were made. The issue is closed.
CAR 04. Please, make the format of the A.3 table correct.	-	The format of the table A.3. was corrected.	The issue is closed.
CAR 05. The table 2 in the section A.4.2 is not totally filled. Please make the corresponding corrections.	-	The table 2 in the Section A.4.2 was completed.	The issue is closed.
CAR 06. The table 4 in the section A.4.2 «Instrument gages' characteristics» (p. 20) does not correspond to the content. Please provide the instrument gages' characteristic.	-	The table 3 in the Section A.4.2. (p. 20) was corrected.	The issue is closed.

CAR 07. The table 4 in the section A.4.2 «Frequency controllers characteristics» (p. 20) does not correspond to the content. Please provide the Frequency controllers characteristics.	-	The table 4 in the Section A.4.2. (p. 20) was corrected.	The issue is closed.
CAR 08. Please provide the estimation of emission reductions over the crediting period in the section A.4.3.	-	The estimation of emission reductions over the crediting period was provided in the section A.4.3.	The relevant corrections were made. The issue is closed.
CAR 09. The length of the crediting period is not indicated. Please, indicate in the section A.4.3.1 the length of the crediting period (please, pay attention that duration of the crediting period in the PDD section A.4.3.1 should coincide with the duration in the PDD section C.1).	-	The length of the crediting period of the JI project was indicated.	The issue is closed.
CAR 10. The estimated average annual emission reductions in tonnes of CO_2 equivalent in the table 6 were calculated incorrectly. Please make the relevant corrections.	-	The (baseline and project) emission reductions were corrected in the tables ##:6,7,8,14,15,16,17,18,19,20, 21,22 of the PDD version 02, dated 05/09/2011.	The issue is closed.
CAR 11. Please correct the format of the table 6 in the section A.4.3.1. (p. 22)	-	The format of the table 6, Section A.4.3.1 was adjusted. The (baseline and project) emission reductions were corrected in the tables ##:6,7,8,14,15,16,17,18,19,20, 21,22 of the PDD version 02, dated 05/09/2011.	The issue is closed.

CAR 12. Please correct the format of the table 7 in the section A.4.3.1. (p. 22)	-	The format of the table 7, Section A.4.3.1 was adjusted. The (baseline and project) emission reductions were corrected in the tables ##:6,7,8,14,15,16,17,18,19,20, 21,22 of the PDD version 02, dated 05/09/2011.	The issue is closed.
CAR 13. Please correct the format of the table 8 in the section A.4.3.1. (p. 22)	-	The format of the table 8, Section A.4.3.1 was adjusted. The (baseline and project) emission reductions were corrected in the tables ##:6,7,8,14,15,16,17,18,19,20, 21,22 of the PDD version 02, dated 05/09/2011.	The issue is closed.
CAR 14. There are no letters of approval from Parties involved.	19	The letters of approval from Parties involved will be issued after the determination of the project.	Pending.
CAR 15. Please indicate if the person/entity is also a project participant listed in Annex 1.	21	The Annex 1 of the JI project was corrected and it was indicated if that the project participant is an entity.	The issue is closed.
CAR 16. Please delete all the information that goes after the table 1 of Annex 4, because it includes the list of investment costs, which don't correspond to the project additionality analysis data.	28	The necessary amendments to the supplementary document #4 were made.	The issue is closed.
CAR 17. Please justify the project boundary.	32 c	The project boundary was justified.	The issue is closed.

CL 01. Please, give documented evidence of the project starting date.	34 a	The documented evidence of the project starting date was presented in the supplementary document #4.	The documented evidences were presented. The issue is closed.
CAR 18. The period in which the monitoring will be conducted is not indicated in the Section D of the PDD. Please make the relevant corrections.	36 a	The Section D of the PDD version 02, dated 05.09.2011 was corrected and the information concerning the period in which the monitoring will be conducted was indicated.	The relevant corrections were made. The issue is closed.
CAR 19. The standard variable indicated in the Section D.1.1.1 does not draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring". Please make the necessary corrections.	36 c	The standard variable indicated in the Section D.1.1.1 is corrected and draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring".	The issue is closed.
CAR 20. The standard variable indicated in the Section D.1.1.3 does not draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring". Please make the necessary corrections.	36 c	The standard variable indicated in the Section D.1.1.3 is corrected and draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring".	The issue is closed.
CAR 21. Please provide the justification that the procedure is consistent with standard technical procedures in the relevant sector.	36 (f) (vii)	The justification that the procedure is consistent with standard technical procedures in the relevant sector is provided in the Section D.1 of the PDD version 02, dated 05.09.2011.	The relevant corrections were made. The issue is closed.

CAR 22. Please indicate in the PDD that the data monitored and required for determination/verification are to be kept for two years after the last transfer of ERUs for the project.	36 (m)	The Section D.1 was corrected and it was indicated that the data monitored and required for determination/verification are to be kept for two years after the last transfer of ERUs for the project. The Order of "Vodokanal" MU on the procedure of data necessary for monitoring storage was provided in the supplementary document #5.	The issue is closed.
CAR 23. The estimated emissions reduction in tones CO_2 equivalent was calculated incorrectly in the table 17. Please make the relevant corrections.	40 (a)	The (baseline and project) emission reductions were corrected in the tables ##:6,7,8,14,15,16,17,18,19,20, 21,22 of the PDD version 02, dated 05/09/2011.	The issue is closed.
CAR 24. The estimated emissions reduction was calculated incorrectly in the table 20 of Section E.6. Please make the relevant corrections.	45	The (baseline and project) emission reductions were corrected in the tables ##:6,7,8,14,15,16,17,18,19,20, 21,22 of the PDD version 02, dated 05/09/2011.	The issue is closed.