VERIFICATION REPORT VEMA S.A.

VERIFICATION OF THE

DEVELOPMENT AND IMPROVEMENT OF WATER SUPPLY SYSTEM, DRAINAGE SYSTEM AND WASTEWATER TREATMENT OF "INFOX LTD." BRANCH "INFOXVODOKANAL"

THE THIRD PERIODIC
FOR THE PERIOD OF MAY 2011 – FEBRUARY 2012

REPORT NO. UKRAINE- VER /0464/2012
REVISION NO. 02

BUREAU VERITAS CERTIFICATION

VERIFICATION REPORT

Date of first issue: 02/03/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: VEMA S.A.	Client ref.: Fabian Knodel

Summary:
Bureau Veritas Certification has made the 3rd periodic verification for the period of 01/05/2011-29/02/2012 of the "Development and improvement of water supply system, drainage system and wastewater treatment of "Infox Ltd." branch "Infoxvodokanal" project of VEMA S.A. located in Odesa region, Ukraine, and applying JI specific approach, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria (but for the crediting period) refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

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

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

In summary, Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 41 273 tonnes of CO_2 equivalent for the monitoring period from 01/05/2011 to 29/02/2012.

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

Report No.: UKRAINE-ver/0464/2012	Subject Group: JI	
Project title: "Development and improvement of water supply system, drainage system and wastewater treatment of "Infox Ltd." branch "Infoxvodokanal"		
Work carried out by: K. Zinevych – Team Leader, Climate Change Verifier		
Work reviewed by: I. Sokolov – Internal Technical Reviewer		
Work approved by: Flavio Gomez – Climate Change Operational Manager		
Date of this revision: 19/03/2012	Rev. No.: 02	Number of pages: 34

Bureau Veritas Certification Holding SAS

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1 INTRODUCTION

VEMA S.A. has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project “Development and improvement of water supply system, drainage system and wastewater treatment of “Infox Ltd.” branch “Infoxvodokanal” (hereafter called “the project”) that is implemented in Odesa, Odesa region, Ukraine.

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

Verification encompasses the period from May 1, 2011 to February 29, 2012.

1.1 Objective

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

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

1.2 Scope

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

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

1.3 Verification Team

The verification team consists of the following personnel:

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

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

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

- It organizes, details and clarifies the requirements a JI project is expected to meet;

- It ensures a transparent verification process where the verifier will document how a particular requirement has been verified and the result of the verification.

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by VEMA and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), Approved CDM methodology, Determination Report of the project, issued by Bureau Veritas Certification Holding SAS, No. UKRAINE-det/0265/2011 version 02 as of 21/04/2011, Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report for the period from 01/05/2011 to 29/02/2012, version 01 as of March 1, 2012 and version 02 as of March 12, 2012 as well as the project as described in the determined PDD.

2.2 Follow-up Interviews

On 16/03/2012 Bureau Veritas Certification visited the site of project implementation (water-supply pumping plants, drainage plants and wastewater treatment facilities of "Infox Ltd." branch "Infoxvodokanal") and performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of "Infox Ltd." branch "Infoxvodokanal" and VEMA S.A. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
"Infox Ltd." branch "Infoxvodokanal"	➢ Organizational structure ➢ Responsibility and authority ➢ Roles and responsibilities in collecting and processing data ➢ Installation of equipment ➢ Data recording, archiving and reporting ➢ Control of metering equipment ➢ The system of measurements record keeping, database ➢ IT Management ➢ Personnel training ➢ Procedures and Technology of Quality Management ➢ Internal audits and inspections
Consultant: VEMA S.A.	➢ Baseline methodology ➢ Monitoring plant ➢ Monitoring report ➢ Deviations from the PDD

2.3 Resolution of Clarification, Corrective and Forward Action Requests

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

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

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

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

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

The Verification Team will make an objective assessment as to whether the actions taken by the project participants, if any, satisfactorily resolve the issues raised, if any, and should conclude its findings of the verification.

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 7 Corrective Action Requests and 1 Clarification Request.

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

3.1 Remaining issues and FARs from previous verifications

There are no CLs, CARs or FARs remaining from previous verifications.

3.2 Project approval by Parties involved (90-91)

The project received approval from the Host Party (Ukraine) - Letter of Approval No. 1391/23/7, issued by the National Environmental Investment Agency of Ukraine as of 31/05/2011, and written approval of the project from the side of the buyer of the ERUs (Switzerland) - Letter of Approval No. J294-0485, issued by the Federal Office for the Environment of Switzerland (FOEN) as of 28/06/2011.

The abovementioned written approval is unconditional.

The identified areas of concern as to the project approval by the parties involved, project participants responses and conclusions of Bureau Veritas Certification are described in Appendix A to this report (see CAR 01).

3.3 Project implementation (92-93)

The main goal is to reduce energy consumption by modernization and development of centralized water supply, drainage and wastewater treatment systems, including replacement and modernization of pumping equipment, water distribution and drainage networks, installation of frequency regulators, optimization of water pumping process, systems of wastewater treatment (aeration system in aerotanks) in Odesa city. Implementation of the above mentioned technologies can reduce greenhouse gas emissions (CO_2).

According to the project, reconstruction activities include:

- Modernization of pumping equipment;
- Replacement of pumping equipment;
- Optimization of technological processes of water pumping;
- Installation of automatic air valves;
- Replacement of shut-off and control valves;
- Replacement of water supply and drainage systems;
- Installation of a new group of meters;
- Installation of frequency regulators;
- Modernization of the aeration system for wastewater treatment plants (aerotanks);
- Implementation of small hydroelectric power stations.

The project activities started in December 2003. Because the implementation of measures under the project began in 2003, which was

taken as a baseline year, in terms of conservatism reductions due to these implementations are not included in the project.
Status of implementation of the project activities during 01/05/2011 – 29/02/2012 is presented in the table below:

Table 2 Status of implementation of the project activities during 01/05/2011 – 29/02/2012

No.	Project activities	Number of units of work performed during 01/05/2011– 29/02/2012	Starting date of implementation of the project activities	Expected date of completion of implementation of the project activities
1	Replacement of pumping equipment	1 units	01/05/2011	29/02/2012
2	Replacement of shutoff and control valves	84 units	01/05/2011	29/02/2012
3	Replacement of water distribution and drainage networks	4 746.4 rm of water supply networks; 968.82 rm of drainage networks	01/05/2011	29/02/2012
4	Installing of a new group of meters	7 units	01/05/2011	29/02/2012
5	Installation of frequency regulators	5 units	01/05/2011	29/02/2012

Implementation of activities under the project is carried out mainly according to the implementation plan, given in a determined PDD version 03.

During the modernization of pumping plants, drainage plants and wastewater treatment facilities of "Infox Ltd." there were minor deviations from the PDD. Actual amount of lifted/pumped water, pumped wastewater and treated wastewater in the project period (used for baseline emission calculation) and electricity consumption in the project period (used for project emission calculation) were obtained as a result of the project

monitoring and differ from the values provided in the PDD. This occurred due to the fact that during PDD development forecasted figures of the plan for the period of 2011-2012 (01/05/2011 – 29/02/2012) were provided and it was impossible to determine them before the launch of the project implementation. The difference between the planned and actual values of the two parameters also caused discrepancies between the amount of estimated and actual project emission reductions.

The starting date of the crediting period has not changed and remains the date of the first generation of assigned amount units (AAUs), namely: January 1, 2004.

The monitoring system is available and functioning.

Monitoring equipment, such as electricity meters and water flow meters, is installed and meets the industry standards in Ukraine. All monitoring equipment is included in the detailed plan for verification (calibration) and tested at intervals prescribed by the manufacturer of such equipment.

The project activity does not imply any negative impact on the environment. The only environmental impact is dismantled equipment that will be used as a secondary raw material.

"Infox Ltd." branch "Infoxvodokanal" has all necessary permits, limits and licenses required by Ukrainian legislation, namely:

- Permission for the special water use;
- Permission for disposal of waste of WTP "Dnister";
- Permission for disposal of waste of "Miskanalizatsiya";
- Permission for disposal of waste of BWWTP "Pivnichna";
- Permission for disposal of waste of BWWTP "Pivdenna";
- Limit on the formation and disposal of waste of "Infox Ltd.";
- Form 2-TP (VODHOSP), Report on the water use;
- Form 11-MTP, reports on the fuel use, heat and electrical energy;
- Balance MPD (maximum permissible discharges).

The identified areas of concern as to the project implementation, project participants responses and conclusions of Bureau Veritas Certification are described in Appendix A to this report (see CAR 02).

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

To calculate the emission reductions the following key factors were taken into account: the volume of water supplied to consumers of the water supply system, the total volume of wastewater pumped by the drainage system, total volume of wastewater pumped to the aerotanks system, the existing tariffs for water supply and wastewater drainage, public policy in the field of drinking water and drinking water supply, experience in implementing the

measures provided by the project, the current practice that exists in Ukraine in this area, financial costs and availability of expertise, sectoral policy reforms in the water supply and drainage, legislation affecting the baseline emissions, level of activity on the project and the project emissions as well as risks associated with the project.
Data sources used for calculating emission reductions such as appropriately calibrated metering equipment, the study of standardized emission factors for the Ukrainian electricity grid are clearly identified, reliable and transparent.
Emission factors used for calculation of emission reductions are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice. Carbon dioxide emission factors (EF) for electricity consumption were set in accordance with the Decree No.75 of the National Environmental Investment Agency of Ukraine “On approval of carbon dioxide emission factors in 2011" dated 12/05/2011.
The calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner. The monitoring periods per component of the project are clearly specified in the Monitoring report and do not overlap with those for which verifications were already deemed final in the past.

The identified areas of concern as to the compliance of the monitoring plan with the monitoring methodology project participants responses and conclusions of Bureau Veritas Certification are described in Appendix A to this report (see CAR 03, CAR 04, CL 01).

3.5 Revision of monitoring plan (99-100)

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

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

The initial monitoring plan provided for the calculation of project and baseline emissions as well as emission reductions on an annual basis; it was revised in order to make it possible to carry out the monitoring process on a monthly basis. Formulae to calculate emissions have been adapted to the monitoring period of 1 month instead of 1 year period, which was established in the initial monitoring plan specified in the determined PDD. It allowed making calculations for 10 months of 2011 (from May 2011 to February 2012). In order to ensure more accurate results of calculations of emission reduction, and taking into account the fact that modes of water supply, drainage to some extent depend on the season, he calculation of the baseline value of parameter SEC was made (specific energy consumption

per unit of volume of water / wastewater) for each month in 2000-2003/2001-2004 and these historical monthly values were used to determine baseline emissions for each month of the reporting period. The updated formulae are presented in monitoring report version 02 as of 12/03/2012.
Another change from the initial monitoring plan is the use in calculating the carbon dioxide emissions factor EF, established under Decree No.75 of the National Environmental Investment Agency of Ukraine “On approval of carbon dioxide emission factors in 2011" dated 12/05/2011.
One more deviation from the initial monitoring plan is application of carbon dioxide emission factors for electricity consumption in the calculations.

In order to establish a common approach to the assessment of reduction of anthropogenic greenhouse gas emissions by the projects implemented according to Procedure of preparation, review, approval and implementation of projects aimed at reduction of anthropogenic greenhouse gas emissions approved by the Cabinet of Ministers of Ukraine dated February 22, 2006 № 206 and Procedure of review, approval and implementation of targeted environmental (green) investment projects and proposals on the implementation of measures related to the realization of such projects and fulfillment of obligations of the parties to the Kyoto Protocol to the UN Framework Convention on Climate Change approved by the Cabinet of Ministers of Ukraine dated February 22, 2008 № 221 carbon dioxide emission factors in 2011 were approved (Decree of NEIA # 75 "On approval of carbon dioxide emission factors in 2011" dated 12/05/2011).
Under this Decree, estimates of GHG reductions in the monitoring period of 01/05/2011 – 29/02/2012 were revised and developed; they take into account classes of electricity consumers. Thus, we can conclude that these carbon dioxide emission factors for electricity consumption in 2011 for the national power grid of Ukraine, clearly reflect the situation of anthropogenic emissions into the atmosphere and improve the accuracy of GHG emission calculations for each pumping plant and all water treatment facilities at “Infox Ltd.” branch “Infoxvodokanal”. These values are also used for 2012.

The changes that were introduced will not affect the conservative approach to emission reduction calculations and procedures for collecting and archiving of data.

Management system and operating system are suitable for reliable monitoring of the project according to the proposed revision.

3.6 Data management (101)

The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent.

The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures.
The function of the monitoring equipment, including its calibration status, is in order.
According to current legislation "On metrology and metrological activity", all measuring equipment in Ukraine must meet the specified requirements of relevant standards and is subject to periodic verification. Calibration of measuring equipment is done in accordance with national standards. (Certificate No. 164-EM as of June 22, 2005 on state metrological certification of the automated system of commercial electric energy metering of "ALTAR-INFOXVODOKANAL"; metrological department of "Infoxvodokanal" branch, Odesastandart-metrology).
The evidence and records used for the monitoring are maintained in a traceable manner.
The data collection and management system for the project is in accordance with the monitoring plan.
The monitoring procedure involves:
1) Accounting of electric energy consumed by facilities of "Infox Ltd." branch "Infoxvodokanal";
2) Accounting of pumped water by facilities of the enterprise;
3) Accounting of drained wastewater in the drainage system;
4) Accounting of drained wastewaters by wastewater treatment plants "Pivnichna" and Pivdenna";
5) Accounting of indicators BOD_{20} in waste water (at the inlet to the wastewater treatment plants "Pivnichna" and Pivdenna";);
6) Accounting of electricity, which will be generated by "Infox Ltd." branch "Infoxvodokanal" after the installation of small hydropower plant.

Based on these data, subject to accounting and control, "Infox Ltd." makes the following documents:
- “Certificate of transmitted electricity” is submitted to the subscriber department of Power Supply, where "Infox" receives invoices for payment ("Invoice of "Odesoblenergo” Ltd. for electricity consumed, the consumer - "Infox Ltd.");
- Report 2-TP (vodgosp) is submitted quarterly, semi-annually and annually to Odesa administration of water resources. According to the report the payment is made for water supplied to consumers, wastewater drained from consumers, and wastewater that is treated;
- "Report of Chemical and bacteriological laboratory" is submitted to the State Inspectorate for Environmental Protection of Northwest region. According to this report the analysis and control of contaminated wastewater is carried out.

The data collection procedures for monitoring coincide with the common practice of data collection for payment for electricity consumed and water and wastewater lifted/pumped.
Structure of monitoring data collection at "Infox Ltd." branch "Infoxvodokanal" is as follows:

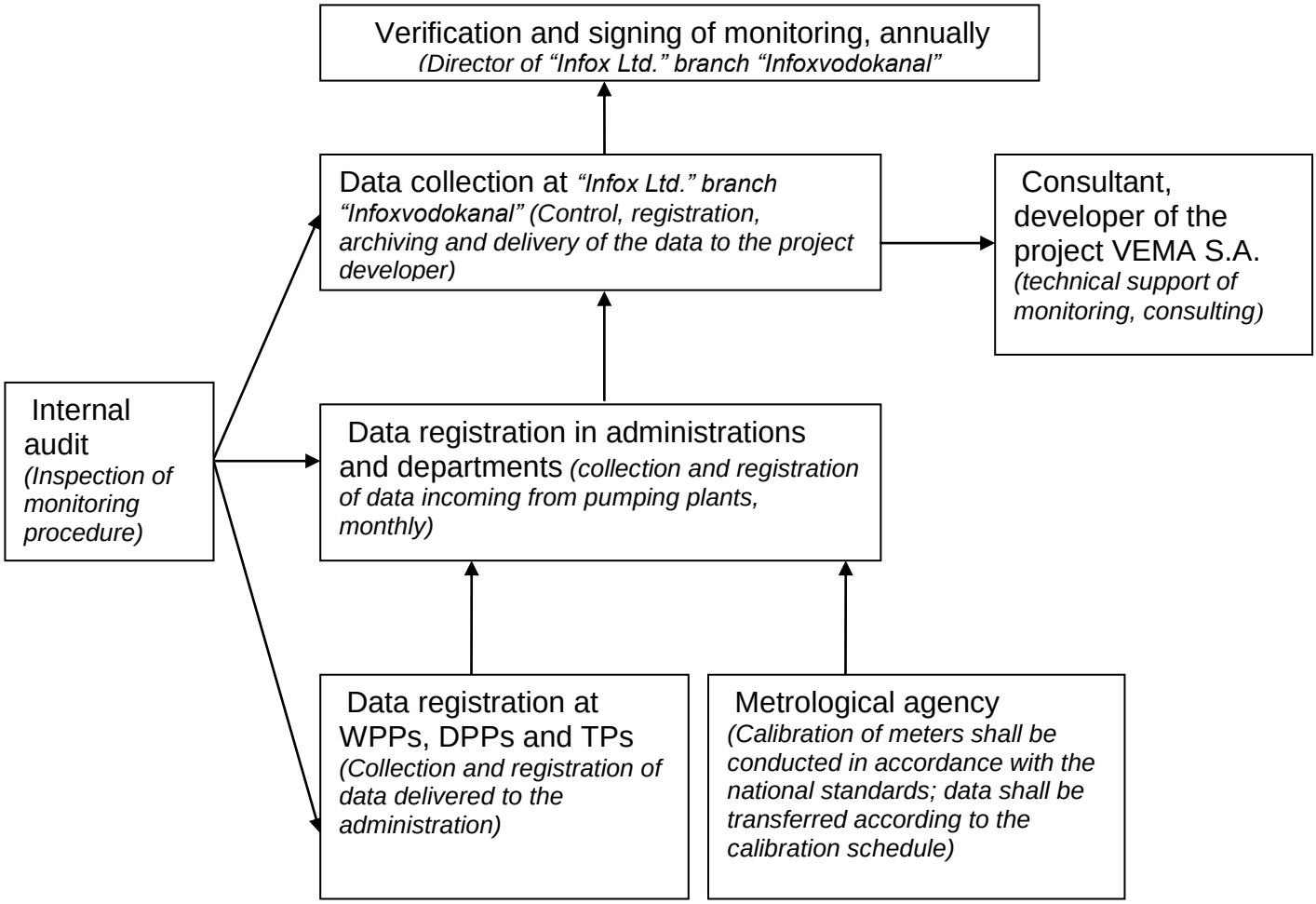

Figure 1 Structure of monitoring data collection at "Infox Ltd." branch "Infoxvodokanal"

All necessary information for monitoring of GHG emission reductions is stored in paper or/and electronic formats and will be kept till the end of the crediting period and for two years after the last operation with ERUs from the project.

The Monitoring Report version 02 provides sufficient information on the assigned roles, responsibilities and authorities for implementation and maintenance of monitoring procedures including control of data. The

verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.
Verification team confirms the effectiveness of existing management systems and operating systems and considers them suitable for reliable monitoring of the project.
The identified areas of concern as to the data management, project participants response and BV Certification's conclusion are described in Appendix A to this report (see CAR 05, CAR 06, CAR 07).

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the third periodic verification of the JI project "Development and improvement of water supply system, drainage system and wastewater treatment of «Infox Ltd.» branch «Infoxvodokanal» in Ukraine for the period from May 2011 to February 2012, which applies JI specific approach. The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

The management of VEMA S.A. is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring Plan indicated in the final PDD version 03 and the revised Monitoring Plan. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report, version 02, for the reporting period of 01/05/2011-29/02/2012 as indicated below. Bureau Veritas Certification confirms that the project is implemented according to the approved version of the PDD. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

There is a discrepancy between the calculation results of this monitoring period (01/05/2011-29/02/2012) and the estimates in the PDD. GHG emission reductions of the monitoring period are less than the results of calculations provided in the PDD by more than 5%. This is due to:
1. Implementation of measures under the implementation plan and the project is not 100% accomplished because of the lack of funding.
2. The data used in the calculations of GHG emissions in the PDD (amount of electricity, volume of water / wastewater and BOD_{20}) were taken as the sum of reporting monthly values for 12 months, i.e. annual values (for BOD_{20} average annual value was taken). In this case, calculations are conducted for a period that is less than one year (only 10 months), and the formulae are adapted for monthly calculations; this improves the accuracy of results.
3. In calculations, carbon dioxide emission factors, which are established pursuant to Decree № 75 issued by NEIA where it is stated that electricity consumers are divided into classes, were applied.
GHG emissions according to the PDD estimates (average values for the period of 10 months in 2011-2012) are 161 000 tonnes of CO_2 equivalent.
GHG emissions according to the estimates of the monitoring report (01/05/2011-29/02/2012) are 41 273 tonnes of CO_2 equivalent.

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

Reporting period: From 01/05/2011 to 29/02/2012
Baseline emissions: 139 330 tonnes of CO_2 equivalent.
Project emissions: 98 057 tonnes of CO_2 equivalent.
Emission reductions: 41 273 tonnes of CO_2 equivalent.

5 REFERENCES

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

/1/	The monitoring report of JI project “Development and improvement of water supply system, drainage system and wastewater treatment of “Infox Ltd.” branch “Infoxvodokanal” for the period from 01/05/2011 to 29/02/2012, Version 01 dated March 1, 2012
/2/	The monitoring report of JI project “Development and improvement of water supply system, drainage system and wastewater treatment of “Infox Ltd.” branch “Infoxvodokanal” for the period from 01/05/2011 to 29/02/2012, Version 02 dated March 12, 2012
/3/	Annex 2 "Project and Monitoring equipment (meters and flow meters)" (Excel file)
/4/	Annex 3, "Calculation of GHG emission reduction through energy savings in water supply systems, drainage and wastewater treatment of "Infox Ltd." branch "Infoxvodokanal" (Excel file)
/5/	Annex 4 "The measures that were implemented under the project (replacement and modernization of pumping equipment during 01/05/2011-29/02/2012" (Excel file)
/6/	Annex 5, "Monitoring parameters for GHG emission calculation" (Excel file)
/7/	PDD “Development and improvement of water supply system, drainage system and wastewater treatment of “Infox Ltd.” branch “Infoxvodokanal”, version 03 dated 07/04/2011
/8/	Determination Report of the Bureau Veritas Certification Holding SAS No. UKRAINE-det/0265/2011 “Development and improvement of water supply system, drainage system and wastewater treatment of «Infox Ltd.» branch «Infoxvodokanal», version 02 dated 21/04/2011
/9/	Letter of Approval of the Joint Implementation project “Development and improvement of water supply system, drainage system and wastewater treatment of «Infox Ltd.» branch «Infoxvodokanal» No. 1391/23/7, issued by the National Environmental Investment Agency of Ukraine dated 31/05/2011.
/10/	Letter of Approval of the project under Article 6 of the Kyoto Protocol (JI) “Development and improvement of water supply system, drainage system and wastewater treatment of «Infox Ltd.» branch «Infoxvodokanal» No. J294-0485, issued by the Federal Office for the Environment (FOEN) of Switzerland dated 28/06/2011.

Category 2 Documents:

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

/1/	Statement on electricity consumption by pumping plants «Infox Ltd.» branch «Infoxvodokanal»
/2/	Statement on water/wastewater pumping and treatment by facilities of«Infox Ltd.» branch «Infoxvodokanal»
/3/	Report on water use for 9 months of 2011 (form 2-TP (vodhosp))
/4/	Report on water use for 2011 (form 2-TP (vodhosp))
/5/	Report on water use for I half of 2011 (form 2-TP (vodhosp))
/6/	Certificate of acceptance-delivery of products dated 20/07/2011 for pumping unit SD 2400/75 as a set with electric engine A3-13-52-8 500kW 750 rpm
/7/	Certificate No. OU-0000362/852 of acceptance and delivery of work (provision of services)
/8/	Certificate No. OU-0000386/863 of acceptance of construction work for November 2011 (assembly of primary transformers)
/9/	Certificate No. OU-0000387/864 of acceptance of construction work for November 2011(pre-commissioning of commercial raw water flow meters)
/10/	Statement of costs of construction works /and expenditures/ for January 2012
/11/	Certificate No. 6 of acceptance of construction work for January 2012 (pre-commissioning of distribution devices)
/12/	Statement of costs of construction works /and expenditures/ No. 5 for January 2012
/13/	Certificate No. 5 of acceptance of construction work for January 2012 (assembly work)
/14/	Statement of costs of construction works /and expenditures/ No. 4 for January 2012
/15/	Certificate No. 4 of acceptance of construction work for January 2012 (pre-commissioning of distribution devices)
/16/	Statement of costs of construction works /and expenditures/ No. 3 for January 2012
/17/	Certificate No. 3 of acceptance of construction work for January 2012 (assembly work)
/18/	Certificate No. 2337 of acceptance of work performed using internal resources for January 2012 (bearing box)

/19/	Certificate No. 2338 of acceptance of work performed using internal resources for January 2012 (elastic fingers P/couplings, elastic gum cups/ P/couplings, washers F50*30)
/20/	Certificate No. 5012 of acceptance of work performed using internal resources on current repair of drainage lines, passing under the pavement at 21/4 Kosmonavtiv St. for October 2011
/21/	Certificate No. 4986 of acceptance of work performed using internal resources on current repair of drainage collector, under 15 Pyshonivska St. for July 2011
/22/	Certificate No. 4991 of acceptance of work performed using internal resources on current repair of drainage collector, under 34 Manezhna St. for July 2011
/23/	Certificate No. 5064 of acceptance of work performed using internal resources on current repair of drainage lines, under the pavement at 22 Manezhna St. for June 2011
/24/	Certificate No. 5062 of acceptance of work performed using internal resources on current repair of drainage lines, under the pavement at 14 Utiosov St. for January 2012
/25/	Certificate No. 246 of acceptance of work performed using internal resources for August 2011
/26/	Certificate No. 247 of acceptance of work performed using internal resources for August 2011
/27/	Certificate No. 375 of acceptance of work performed using internal resources for October 2011
/28/	Certificate No. 332 of acceptance of work performed using internal resources for November 2011
/29/	Certificate No. 271 of acceptance of work performed using internal resources for August 2011
/30/	Invoice No.5/2 – 150 for electricity consumed dated 27/05/11
/31/	Invoice No.5/1 – 185 for electricity consumed dated 30/06/11
/32/	Invoice No.5/2 – 214 for electricity consumed dated 27/07/11
/33/	Invoice No.5/1 – 248 for electricity consumed dated 29/08/11
/34/	Invoice No.5/1 – 278 for electricity consumed dated 27/09/11
/35/	Invoice No.5/1 – 308 for electricity consumed dated 27/10/11
/36/	Invoice No.5/1 – 348 for electricity consumed dated 29/11/11
/37/	Invoice No.5/1 – 382 for electricity consumed dated 27/12/11
/38/	Invoice No.5/1 – 18 for electricity consumed dated 30/01/12

/39/	Invoice No.5/1 – 51 for electricity consumed dated 28/02/12
/40/	Report on the use of fuel, heat and electricity for 2011 (form 11-MTP)
/41/	Certificate of state metrological attestation No. 24.183.11 dated April 21, 2011
/42/	Results of metrological attestation, registry No. 183
/43/	Certificate of state metrological attestation No. 24.146.11 dated April 15, 2011
/44/	Results of metrological attestation, registry No. 146
/45/	Certificate of state metrological attestation No. 24.147.11 dated April 21, 2011
/46/	Results of metrological attestation, registry No. 147
/47/	Certificate of state metrological attestation No. 24.148.11 dated April 21, 2011
/48/	Results of metrological attestation, registry No. 148
/49/	Certificate of attestation No. 21, issued 28/04/2011, effective till 28/04/2015 (Biochemical wastewater laboratory of biological treatment plant “Pivdenna” of “Infox LTD.” Branch "Infoxvodokanal")
/50/	Certificate of attestation No. 22, issued 28/04/2011, effective till 28/04/2015 (Biochemical wastewater laboratory of biological treatment plant “Pivnichna” of “Infox LTD.” Branch "Infoxvodokanal")

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

	Name	Organization	Title
/1/	Leonov Oleksii Volodymyrovych	«Infox Ltd.» branch «Infoxvodokanal»	Director
/2/	Burian Ihor Yevhenovych	«Infox Ltd.» branch «Infoxvodokanal»	Chief Metrologist
/3/	Holtsov Volodymyr Ivanovych	«Infox Ltd.» branch «Infoxvodokanal»	Chief Technologist
/4/	Vilkov Serhii Yuriiovych	«Infox Ltd.» branch «Infoxvodokanal»	Chief Power Engineer
/5/	Kozhukhova Olena Oleksandrivna	«Infox Ltd.» branch «Infoxvodokanal»	Maintenance Department Leading Engineer
/6/	Klepatskyi Oleh Mykhailovych	«Infox Ltd.» branch «Infoxvodokanal»	Deputy Director for Technical Issues
/7/	Delii Viktor Stepanovych	«Infox Ltd.» branch «Infoxvodokanal»	Head of EC&I Department
/8/	Kutsak Yevhenia Danylivna	«Infox Ltd.» branch «Infoxvodokanal»	Job foreman of site No.4
/9/	Naumenko Iryna	CEP LLC	VEMA S.A. consultant

APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

VERIFICATION PROTOCOL

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	The project has been approved by the Host Party (Ukraine). Letter of Approval No.1391/23/7 issued by the National Environmental Investment Agency dated 31/05/2011. Letter of Approval No.J294-0485 issued by the Federal Office for the Environment (FOEN) of Switzerland dated 28/06/2011. **CAR 01.** In Section A.2 of the MR the title of the body that issued the Letter of Approval from the Ukrainian side is incorrect. Please provide the correct title.	**CAR 01**	OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	OK	OK
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	JI project "Development and improvement of water supply system, drainage system and wastewater treatment of «Infox Ltd.» branch «Infoxvodokanal» is implemented in accordance with determined PDD version 03 dated 07/04/2011. There were some minor deviations from the PDD.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Actual amount of lifted/pumped water, pumped wastewater and treated wastewater in the project period (used for baseline emission calculation) and electricity consumption in the project period (used for project emission calculation) were obtained as a result of the project monitoring and differ from the values provided in the PDD. This occurred due to the fact that during PDD development forecasted figures of the plan for the period of 2011-2012 (01/05/2011 – 29/02/2012) were provided and it was impossible to determine them before the launch of the project implementation. The difference between the planned and actual values of the two parameters also caused discrepancies between the amount of estimated and actual project emission reductions.		
93	What is the status of operation of the project during the monitoring period?	Mainly the project measures are being realized according to the implementation schedule presented in the determined PDD ver.03 as of 07/04/2011. Implementation of new and modernization of old equipment under the project started at the end of 2003. During the monitoring period from May 2011 to February 2012 the project was operational and generated emission reduction units, although full completion of installation of all project measures is planned for the end of 2012. **CAR 02.** In Section A.6 of the MR the monitoring period is identified incorrectly. Please make corresponding corrections.	**CAR 02**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	There are several deviations from the monitoring plan described in the determined PDD. Due to the fact that the initial monitoring plan provided for calculation of project and baseline emissions as well as emission reductions on an annual basis, it was revised in order to make possible the monitoring process for 10 months (from May 2011 to February 2012). Formulae to calculate emissions have been adapted to the monitoring period of 1 month instead of 1-year period, which was established in the initial monitoring plan specified in the PDD. It is possible to make calculations for ten months. In order to ensure more accurate results of calculations of emission reduction, and taking into account the fact that modes of water supply, drainage to some extent depend on the season, he calculation of the baseline value of parameter SEC was made (specific energy consumption per unit of volume of water / wastewater) for each month in 2000-2003/2001-2004 and these historical monthly values were used to determine baseline emissions for each month of the reporting period. The updated formulae are presented in monitoring report version 02 as of 12/03/2012. **CAR 03.** Please provide clear references to AM0020 baseline methodology in the MR.	**CAR 03**	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions	For calculating the emission reductions, key factors such as amount of water supplied to consumers by the water supply system, total wastewater amount pumped by the drainage system, total amount of wastewater	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	pumped to the aerotank system, actual tariffs for water supply and drainage, state policies in potable water and potable water supply sector, experience in implementation of measures planned under the project, existing practice in Ukraine in this sphere, financial costs and experience as well as sectoral policies in the water supply and drainage spheres, legislation influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.		
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	Yes, data sources used for calculating emission reductions or enhancements of net removals are clearly identified, reliable and transparent. **CL 01.** Please specify in the MR the title of the laboratory than conducts the analyses and controls wastewater treatment.	**CL 01**	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	Yes, emission factors, including default emission factors, used for calculating the emission reductions are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice. The calculations used carbon dioxide emission factors for electricity consumption set in accordance with Decree No.75 of the National Environmental Investment Agency of Ukraine “On approval of carbon dioxide emission factors in 2011". **CAR 04.** In Section A.5.2 incorrect name of EF is used. Please make the appropriate corrections.	**CAR 04**	OK
95 (d)	Is the calculation of emission reductions or	Calculation of emission reductions is based on	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	conservative assumptions and the most plausible scenarios in a transparent manner.		
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	N/a	N/a	N/a
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	N/a	N/a	N/a
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	N/a	N/a	N/a
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	deemed final in the past?			
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	During the third reporting period of monitoring (01/05/2011 - 29/02/2012) initial monitoring plan described in the registered PDD version 03, was changed by the project participants. Deviations related to the frequency of calculation of emission reduction, which was changed from 1 year to 1 month in order to enable monitoring for 10 months (from May 2011 to February 2012). The rationale is provided in Section A.8 of the Monitoring Report.	OK	OK
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	The proposed revision of the monitoring plan improves the accuracy and applicability of information collected compared to the initial monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	Data and their sources provided in the monitoring report are clearly defined, reliable and transparent. The implementation of data collection procedures is in accordance with the monitoring plan of the PDD, including the quality control and quality assurance procedures. **CAR 05.** Please provide the explanation to Figure 1 in Section B.1 of the MR.	**CAR 05**	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	Yes, the equipment units used for monitoring, including their calibration, function properly. According to current legislation "On metrology and metrological activity", all measuring equipment in Ukraine must meet the specified requirements of relevant standards and is subject to a periodic calibration. Calibration of measuring instruments is done in accordance with national standards. (Certificate No. 164-EM as of June 22, 2005 on state metrological certification of the automated system of commercial electric energy metering of "ALTAR-INFOXVODOKANAL"; metrological department of "Infoxvodokanal" branch, Odesastandart-metrology). The evidence and records used for the monitoring are maintained in a traceable manner. The data collection and management system for the project is in accordance with the monitoring plan. **CAR 06.** Please in Annex 2 to the MR specify the title of the authority responsible for verification of electricity	**CAR 06**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		meters.		
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	Certificates and records of monitoring are conducted in a traceable manner. "Infox Ltd." branch "Infoxvodokanal" collects and stores data on electricity and water purchased for water supply in the form of bills for electricity and water purchased. All information necessary for monitoring of GHG emission reductions, provides: 1) Accounting of electricity consumed by facilities of "Infox Ltd." branch "Infoxvodokanal"; 2) Accounting of water pumped by the facilities of the enterprise; 3) Accounting of wastewater drained in the drainage system; 4) Accounting of wastewater drained by drainage and wastewater treatment plants "Pivnichna" and Pivdenna"; 5) Accounting of BOD_{20} in wastewater (at the inlet to the treatment plants "Pivnichna" and “Pivdenna”) 6) Accounting of electricity to be generated by "Infox Ltd." branch "Infoxvodokanal" after the installation of small hydropower plants. **CAR 07.** In Section A.5.2 data controlled during the monitoring period are identified incorrectly. Please correct the mistake.	**CAR 07**	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection and management system for the project is in accordance with the monitoring plan. The verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	N/a	N/a	N/a
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/a	N/a	N/a
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	N/a	N/a	N/a
104	Does the monitoring period not overlap with previous monitoring periods?	N/a	N/a	N/a
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	N/a	N/a	N/a
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: − The types of JPAs;	N/a	N/a	N/a

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?			

TABLE 2 RESOLUTION OF CLARIFICATION AND CORRECTIVE ACTION REQUESTS

Clarification and corrective action requests issued by the verification team	Ref to checklist question in Table 1	Summary of project participant's response	Verification team conclusion
CAR 01. In Section A.2 of the MR the title of the body that issued the Letter of Approval from the Ukrainian side is incorrect. Please provide the correct title.	90	Letter of Approval No.1391/23/7 was issued by the National Environmental Investment Agency on 31/05/2011.	The issue is closed on the basis of necessary corrections made.
CAR 02. In Section A.6 of the MR the monitoring period is identified incorrectly. Please make corresponding corrections.	93	Monitoring period: 01/05/2011 – 29/02/2012.	The issue is closed on the basis of necessary corrections made.
CAR 03. Please provide clear references to AM0020 baseline methodology in the MR.	94	The necessary references were provided throughout the text of the MR version 02.	The references are verified, the issue is closed.
CAR 04. In Section A.5.2 incorrect name of EF is used. Please make the appropriate corrections.	95 (c)	EF factor stands for carbon dioxide emission factor for electricity consumption for 2011 set in accordance with Decree No.75 of NEIAU "On approval of carbon dioxide emission factors in 2011" as of 12/05/2011, t CO_2e/MWh.	The issue is closed on the basis of necessary corrections made.
CAR 05. Please provide the explanation to Figure 1 in Section B.1 of the MR.	101 (a)	Figure 1 in Section B.1 of the MR depicts a water flow meter of UFM-005 type.	The issue is closed based on the information provided in Section B.1 of the MR.

CAR 06. Please in Annex 2 to the MR specify the title of the authority responsible for verification of electricity meters.	101 (b)	Calibration of metering instruments at “Infox Ltd.” branch "Infoxvodokanal" is done in accordance with national standards, in line with Certificate No. 164-EM as of June 22, 2005 on state metrological certification of the automated system of commercial electric energy metering "ALTAR-INFOXVODOKANAL"; metrological department of "Infoxvodokanal" branch, Odesastandart-metrology. Information regarding the title of the authority responsible for verification of electricity meters is provided in Annex 2 to the MR.	The issue is closed on the basis of information provided.
CAR 07. In Section A.5.2 data controlled during the monitoring period are identified incorrectly. Please correct the mistake.	101 (c)	Necessary corrections are made in Section A.5.2 of the MR.	The issue is closed on the basis of necessary corrections made.
CL 01. Please specify in the MR the title of the laboratory than conducts the analyses and controls wastewater treatment.	95 (b)	Analysis and control of contaminated waste water is conducted by chemical and bacteriological laboratory BWWTP "Pivnichna" and Pivdenna”	Relevant information is provided, the issue is closed. .