VERIFICATION REPORT

"CLIMATE PROTECTION BUREAU LLP"

VERIFICATION OF THE

«REALIZATION OF A COMPLEX OF ENERGY SAVING ACTIVITIES AT THE JSC "ODESSA PORT PLANT"»

FOURTH PERIODIC FOR 2010

REPORT NO. UKRAINE-VER/0209/2011

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0209/2011

VERIFICATION REPORT

Date of first issue: 21/02/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: CLIMATE PROTECTION BUREAU LLP	Client ref.: Viktor Khalabuzar

Summary:
Bureau Veritas Certification has made the 4th periodic verification of the project «Realisation of a complex of energy saving activities at the JSC "Odessa Port Plant"», project of "CLIMATE PROTECTION BUREAU LLP" located in Yuzne town, Odessa region, Ukraine, and applying the JI Specific Approach, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

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

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

In summary, Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated without material misstatements, and the ERUs issued totalize 282 749 tons of CO_2eq for the monitoring period of 01.01.2010 to 31.12.2010.

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

Report No.: UKRAINE-ver/0209/2011	Subject Group: JI	
Project title: «Realization of a complex of energy saving activities at the JSC "Odessa Port Plant"»		
Work carried out by: Kateryna Zinevych – Team Leader, Lead Verifier Igor Kachan – Team Member, Lead Verifier		
Work reviewed by: Ivan Sokolov – Internal Technical Reviewer		
Work approved by: Flavio Gomes – Operational Manger		
Date of this revision: 25/02/2011	Rev. No.: 02	Number of pages: 30

Bureau Veritas Certification Holding SAS

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1 INTRODUCTION

"CLIMATE PROTECTION BUREAU LLP" has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project «Realization of a complex of energy saving activities at the JSC "Odessa Port Plant"» (hereafter called "the project") at Yuzhne town, Odessa 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.

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 and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

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

1.3 Verification Team

The verification team consists of the following personnel:

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

Igor Kachan
Bureau Veritas Certification, Team Member, Climate Change Lead 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 "Centre-TEST" LLC and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), Approved CDM methodology (if applicable) and/or Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed. Answering the AIE's CARs and CLs project participant has issued new version of the Monitoring Report – version 2.

The verification findings presented in this report relate to the Monitoring Report version(s) 2.0 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 02/02/2011 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 "Centre-TEST" LLC and OJSC "Odesskiy priportoviy zavod" were interviewed during site visit (see References for the list of interviewed persons). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
OJSC "Odesskiy priportoviy zavod"	➢ Organizational structure. ➢ Responsibilities and authorities. ➢ Training of personnel. ➢ Quality management procedures and technology. ➢ Implementation of equipment (records). ➢ Metering equipment control. ➢ Metering record keeping system, database.
"Centre-TEST" LLC	➢ Baseline methodology. ➢ Monitoring plan. ➢ Monitoring report. ➢ Deviations from PDD.

2.3 Resolution of Clarification, Corrective and Forward Action Requests

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

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

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

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

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

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, 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.

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

3.1 Project approval by Parties involved (90-91)

Written project approval by Switzerland has been issued by the DFP of that Party when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest.

The abovementioned written approval is unconditional.

3.2 Project implementation (92-93)

Project activity is aimed at improvement in power efficiency of the plant by the implementation of 3 subprojects. The main purpose of the planned activities implementation for the power efficiency improvement of the production in JSC “OPP” is to decrease natural gas burnt for ammonia production and heat energy generation for production and heating needs of the plant impelling greenhouse gases emissions to reduce.

1. Installation of waste heat boilers for the flue gases – as a result of this subproject implementation, during 2001-2004 the waste heat boilers were installed, allowing recovering heat of the flue gases from gas-turbine engines. The main purpose of this activity is to decrease natural gas volumes burnt by the boiler shop of JSC “OPP” to generate heat energy for production and heating needs of the plant. The flue gas heat recovery by waste heat boilers allows to generate steam necessary for urea production and to heat up the water in the network of the plant. This heat energy partly substitutes one that is generated by the boiler shop leading to the reduction of natural gas volumes burnt by the boiler shop for heat energy recovery.

2. Modernization of two urea production units – as a result of this subproject implementation, in 2001 a phased modernization of two urea production units started. The aim of the modernization is to install highly efficient equipment permitting to decrease amounts of heat and electric energy used for urea production, at the same time allowing reducing the

amounts of fossil fuel burnt for the energy recovery. Reduction of heat energy volume for the urea production will lead to the decrease in amounts of heat energy generated by the boiler shop and, as a result, reducing consumption of natural gas by the boiler shop. Reduction of the electric power consumption will permit to reduce its consumption from Ukraine's Electricity Transmission Grid leading to the decrease of the burning volume of fossil fuel for electric energy production by power plants in Ukraine.

3. Modernization of two ammonia production units – as a result of this subproject implementation, in 2004 a phased modernization of two ammonia production units started. The purpose of modernization is to reduce consumption of natural gas for ammonia production. Natural gas, used for ammonia production, has two functions:

- technological purposes – the natural gas is used directly for the chemical ammonia synthesis providing necessary chemical elements for the process. Data on consumption of technological gas is used to calculate amounts of ammonia produced;

- fuel purposes – this natural gas is necessary to provide required temperatures for chemical synthesis. It is the gas which is planned to reduce in natural gas consumption for ammonia production.

It is possible to reduce natural gas intake in results of power efficient equipment installation allowing to reduce the rate of natural gas specific consumption for ammonia production.

Project implementation status for the monitoring period is presented in the Table 2 below.

Table 2 – Implementation status of the project for the monitoring period

Stage name	Start of works	End of works
Revamp of low-temperature convection part of the reformer in the ammonia production unit #2	20/05/2008	14/04/2010

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

The monitoring occurred in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.

Key monitoring activities:

- measurement of the heat energy amount from waste heat boilers for the flue gases;
- registering of operational time of waste heat boilers for the flue gases;
- measurement of the power energy consumed by urea production units;
- measurement of the heat energy consumed by urea production units;
- calculation of urea amount produced;
- measurement of the natural gas consumed by ammonia production units;
- calculation of ammonia produced.

Measurements of the heat energy amount from waste heat boilers for the flue gases, as well as the heat energy consumed by urea production units are taken by sections of heat measurements.

Measurements of the power energy consumed by urea production units are taken by power measurement sections. Measurements of the natural gas consumed by ammonia production units are taken by gas measuring sections.

Registering of operational time of waste heat boilers for the flue gases in the ammonia terminal is equal to operational time of gas-turbine engines. Operational time of gas-turbine engines is controlled by shift manager of the ammonia terminal. Registered results of gas-turbine engines operational time are recorded in technological registers (registration of equipment operational time), afterwards an economist registers data in APM Mechanics software that automatically carries out correspondent calculations to include data into technical and production reports monthly.

Calculation of produced urea and ammonia is conducted according to the “Method of urea output calculation by urea production plant” and to the “Calculation method of ammonia plant productivity in the ammonia production department” relatively.

Monitoring equipment of this project is sections of relating energy resources measurements. The main element of the measurement section is a primary transducer (meter) that is subject to periodic inspection or calibration. SE "Odessastandardmetrology authorized body, entitled to conduct inspection and calibration of measuring equipment is third party involved.

Data sources used for calculating emission reductions or enhancements of net removals, such as (plant records, IPCC 1996 data, National Cadastre of Ukraine) are clearly identified, reliable and transparent.

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

3.4 Revision of monitoring plan (99-100)

Revision of Monitoring Plan was performed during previous verifications (Verification Reports UKRAINE/0158/2010, UKRAINE/0158/2010/1 by Bureau Veritas Certification Holding SAS, which are available under http://ji.unfccc.int/JIITLProject/DB/AM0E4MI8OLAGW17SDT89HGXC5B666T/details). At the same time justification for revision is also presented below.

The project participants provided an appropriate justification for the proposed revision, which is:

- approach of emission calculation of "Modernization of two ammonia production units" subproject was changed (as it is mentioned in the section A.2 of the PDD and A.3. of the Monitoring Report natural gas of the fuel purpose is the object of the natural gas expenditure decreasing during the ammonia production, which is why instead of formula mentioned in the PDD for the calculation of the emissions during ammonia production, the formula which is used for the calculation emissions from the combustion of the fossil fuel was used);

- value of carbon oxidation factor during the natural gas combustion (OXIDNG) was changed. Data of this parameter in PDD was accepted according to "Key principles of national greenhouse gases inventorying IPCC", 2006, although, since the indicated document is not yet approved at the parties conference, but is only prepared for the parties conference approval, the factor determined by "Reviewed key principles of national greenhouse gases inventorying IPCC", 1996 was used for calculation herein;
- only one greenhouse gases emission factor value was used for National Energy Grid System of Ukraine (NEGSU) (unlike PDD), namely: a factor of greenhouse gases emission during consumption reduction or increasing of electric power from NEGSU;
- in the monitoring plan the scheme of the GMS used in the project was updated with more detailed information considering usage of GMS and results their measurement.

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

3.5 Data management (101)

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

The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures.

The function of the monitoring equipment, including its calibration status, is in order.

The evidence and records used for the monitoring are maintained in a traceable manner.

The data collection and management system for the project is in accordance with the monitoring plan.

Measurement and data collection from measurement results are the responsibility of technical personnel. The technical personnel deliver the measurement results to the technical and production department for calculation of greenhouse gases emission reduction. The staff of the technical and production department is also responsible for data collection that is not subject to measuring, but is to monitoring.

In the PDD version 02 ERUs for the period of 2010 are quantified as 261461 t CO_2- equivalent while in the Monitoring Report version 2.0 ERUs are quantified as 282 749 t CO_2- equivalent.

Verification team certifies that emission reductions calculations were provided in accordance with the changed Monitoring Plan.

Measuring and archiving the results are the responsibility of technical personnel. The technical personnel submit measurements results to the technical and production department for estimation of greenhouse gases emissions reduction. The functions of the technical and production department staff also include collection of non-measured data which are also subject to the monitoring. The staff of technical and production department is obliged to make a back up copy of monitoring data which should be stored apart from the main data to avoid their loss in case of force majeure situation, which can cause the monitoring data loss.

All information about monitoring data and corrective measures are to be archived for future verification of emissions reduction level. The chief of the technical and production department is responsible for preparation and archiving of monitoring reports. The director analyses summarized monitoring data and relevant documentation from time to time.

The structure of the monitoring group, its functions and obligations identified by order of the Director of JSC “OPP” dated 19.07.2010. Before

the order was issued, the technical and production department had responsibilities of the monitoring group and the obligations of the head of the monitoring group were performed by the chief of the technical and production department.

The director of the JSC "OPP" appoints personnel for operation and maintenance of technical equipment needed for the project. Their functions also include registration of all data necessary for monitoring. The head of the monitoring group of fuel supply system operational data will be deputy chief engineer – head of technical and production department of the JSC "OPP". The monitoring will be conducted in close collaboration with technical personnel and will include the monitoring itself and also analysis and archiving of all data determined in the previous section. The functions of monitoring group will also include the estimation of emissions reduction level. Periodic data on energy sources consumption will be compared with relevant registered data taken from the technical personnel to approve data credibility. In case of inequality of these data the cause of its appearance must be found in collaboration with the technical personnel. If the discrepancy of monitoring data is found, monitoring system of relevant data must be corrected.

The head of the monitoring group is responsible for preparation and archiving of monitoring reports. The director analyses general monitoring data and relevant documentation from time to time.

Technical personnel record the results of measurements in the relevant registers and submit them to the monitoring group for estimation of greenhouse gases emissions reduction. The functions of the monitoring group also include collection of non-measured data which are also subject to the monitoring. The monitoring group registers the monitoring data in the technical and production reports.

The monitoring data is kept during the whole crediting period and 2 year after the last charge of emission reduction unit.

3.6 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 4th periodic verification of the project «Realization of a complex of energy saving activities at the JSC "Odessa Port Plant"» Project in Ukraine, which applies the JI Specific

approach. The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) desk review of 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 “Centre-TEST” LLC 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 final PDD version 02 and 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 2.0 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is calculated without material misstatements. Our opinion relates to the project’s GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: From 01/01/2010 to 31/12/2010

Baseline emissions	: 2 845 402 t CO_2 equivalents.
Project emissions	: 2 562 653 t CO_2 equivalents.
Emission Reductions	: 282 749 t CO_2 equivalents.

5 REFERENCES

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

/1/ Monitoring Report, version 1.

/2/ Monitoring Report, version 2.

/3/ PDD «Realisation of a complex of energy saving activities at the JSC "Odessa Port Plant"» version 02 dated 25 September 2010

/4/ Letter of Approval from National Environmental Investment Agency of Ukraine № 1722/23/7 dated 28.10.2010

/5/ Letter of Approval from Federal Office on Environment of Switzerland JI294-0485 dated 26 October 2010

/6/ Excel spreadsheet of the emission reductions calculation version 1.0

/7/ "Determiantion and Verification manual" version 01

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

№ п/п	Name of the document
1.	Meter, Type A1R-3-AL-C8-T, Metronika, "Alfa", № 01005047
2.	Meter, Type A1R-3-AL-C8-T, Metronika, "Alfa", № 01005043
3.	Production and technical report of SPA for January 2010.
4.	Production and technical report of SPA for February 2010.
5.	Production and technical report of SPA for March 2010.
6.	Production and technical report of SPA for April 2010.
7.	Production and technical report of SPA for May 2010.
8.	Production and technical report of SPA for June 2010.
9.	Production and technical report of SPA for July 2010.
10.	Production and technical report of SPA for August 2010.
11.	Production and technical report of SPA for September 2010.
12.	Production and technical report of SPA for October 2010.
13.	Production and technical report of SPA for November 2010.
14.	Production and technical report of SPA for December 2010.
15.	Production and technical report of SPU for January 2010.
16.	Production and technical report of SPU for February 2010.
17.	Production and technical report of SPU for March 2010.
18.	Production and technical report of SPU for April 2010.
19.	Production and technical report of SPU for May 2010.
20.	Production and technical report of SPU for June 2010.

21.	Production and technical report of SPU for July 2010.
22.	Production and technical report of SPU for August 2010.
23.	Production and technical report of SPU for September 2010.
24.	Production and technical report of SPU for October 2010.
25.	Production and technical report of SPU for November 2010.
26.	Production and technical report of SPU for December 2010.
27.	Production and technical report of ЦПА for January 2010
28.	Production and technical report of ЦПА for February 2010
29.	Production and technical report of ЦПА for March 2010
30.	Production and technical report of ЦПА for April 2010
31.	Production and technical report of ЦПА for May 2010
32.	Production and technical report of ЦПА for June 2010
33.	Production and technical report of ЦПА for July 2010
34.	Production and technical report of ЦПА for August 2010
35.	Production and technical report of ЦПА for September 2010
36.	Production and technical report of ЦПА for October 2010
37.	Production and technical report of ЦПА for November 2010
38.	Production and technical report of ЦПА for December 2010
39.	Passport ТСП 1287 1Т2324
40.	Passport STD 120 F2004
41.	Passport STG 674 P2126
42.	Photo STD 120 F2004
43.	Photo STG 674 P2126
44.	Photo ТСП 1287 1Т2324
45.	Passport ТСП 1287 2Т2324
46.	Passport STD 120 F2004
47.	Passport STG 674 P2126
48.	Photo STD 120 F2004
49.	Photo STG 674 P2126
50.	Photo ТСП 1287 2Т2324
51.	Passport ST-930 F2037 (BOT-6)
52.	Passport STG-94LR-A10 P2122 (BOT-6,7)
53.	Passport ТКХ-2088 1Т2391 (BOT-6)
54.	Photo ST-930 F2037 (BOT 6)
55.	Photo ТКХ-2088 1Т2391 (BOT 6)
56.	Passport ST-930 F2037 (BOT-7)
57.	Passport ТКХ-2088 2Т2391 (BOT-7)
58.	Photo ТКХ-2088 2Т2391 (BOT 7)
59.	Photo STG-94LR-A10 P2122 (BOT 6,7)
60.	Passport STD-924 WP 050
61.	Passport STG-94L WP 040(A)
62.	Passport ТСП 8040Р WT 060A
63.	Photo ТСП 8040Р WT 060A
64.	Photo STD-924 WP 050

65.	Photo STG-94L WP 040(A)
66.	Passport STG-94LR WP 040 B
67.	Passport STD-924 WP 050
68.	Passport ТСП 8040P WT 060B
69.	Photo STG-94LR WP 040 B
70.	Photo STD-924 WP 050
71.	Photo ТСП 8040P WT 060B
72.	Photo STD-930 WP 120
73.	Passport STG 94LR WP 080
74.	Passport ТСП 8040P WT 080
75.	Photo STD-930 WP 120
76.	Photo STG 94LR WP 080
77.	Photo ТСП 8040P WT 080
78.	Passport STD-930 WP 120
79.	Passport STG 94LR WP 080
80.	Passport ТСП 8040P WT 080
81.	Photo STD-930 WP 120
82.	Photo STG 94LR WP 080
83.	Photo ТСП 8040P WT 080
84.	Passport Flowtek-TM main
85.	Passport Flowtek-TM- back-up
86.	Passport СТD 924 (ВОГ-6)
87.	Паспорт СТD 924 (ВОГ-7)
88.	Фото СТD 924 (ВОГ-6)
89.	Фото СТD 924 (ВОГ-7)
90.	Паспорт СТD 924 (ВОГ-8)
91.	Паспорт СТD 924 (ВОГ-9)
92.	Фото СТD 924 (ВОГ-8)
93.	Фото-1 СТD 924 (ВОГ-9)
94.	Фото-2 СТD 924 (ВОГ-9)
95.	Passport of electric energy meter AIR-3-AL-C8-T, № 01 005 047
96.	Protocol on checking of parameters of electrical energy meter AIR-3-AL-C8-T of 19.12.2008
97.	Technical passport of checking the electrical energy meter AIR-3-AL-C8-T of 03.04.2009
98.	Certificates of verification of voltage transformer BOE-1
99.	Certificates of verification of current transformer BOE-1
100.	Photo 1 AIR-3-AL-C8-T BOE-1
101.	Photo 2 AIR-3-AL-C8-T BOE-1
102.	Photo 3 AIR-3-AL-C8-T BOE-1
103.	Passport of electric energy meter AIR-3-AL-C8-T, № 01 005 043
104.	Protocol on checking of parameters of electrical energy meter AIR-3-AL-C8-T of 17.11.2008
105.	Technical passport of checking the electrical energy meter AIR-3-AL-C8-T of

	02.04.2009
106.	Certificates of verification of voltage transformer BOE-2
107.	Certificates of verification of current transformer BOE-2
108.	Photo 1 AIR-3-AL-C8-T BOE-2
109.	Photo 2 AIR-3-AL-C8-T BOE-2
110.	Photo 3 AIR-3-AL-C8-T BOE-2
111.	Ammonia flow meter CMF-300, RTF-9739 SPU, Aggegate # 1
112.	Ammonia flow meter CMF-300, RTF-9739 SPU, Aggegate # 2
113.	Certificate on attestation the laboratory ПСК ОПЗ of 15.07.2010, registration # 06544-5-3-102-ВЛ, issued by Ministry of Industrial Policy of Ukraine
114.	Form 4-МТП
115.	Order of monitoring performance of GHG emissions
116.	Order of OJSC "" of 19.07.2010 # 282 on monitoring group creation
117.	Report OJSC "" on air protection for 2010 (Form 2 ТП air)
118.	Procedure of calculation of ammonia production

Persons interviewed:

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

/1/	Fedchun Oleksandr – Head Engineer;
/2/	Maksymenko Vladyslav – Head Metrologist;
/3/	Sisoyev Oleksiy – Head of Environmental and Labor Safety Department
/4/	Vakeryak Volodymyr – Head of the Economics Department;
/5/	Shnaydruk Mykola – Deputy Head of Productional-Technical Department;
/6/	Dyshlevoy Oleksandr – Deputy Head of the Electrical workshop;
/7/	Gorlovych Mykola – Head of the Training Departement;
/8/	Korsun Oleg – head of the Innovation sector;
/9/	Kiminchidzhi Stepan – Member of the Yuzhne City Hall Executive Board;
/10/	Sevastyanov Valeryi – deputy of the Yuzhne City Hall – Head of the Deputy Commission on the deputy activity, Procedure, local administration development, legal rights and mass media;
/11/	Ablyamitov Nusret – deputy of Yuznhe City Hall – Head of the Deputy Commission on the common property management, construction, transport and connection;
/12/	Khalabuzar Victor – representative of the «RETON SOLUTION LLP», project manager

APPENDIX A: "REALISATION OF A COMPLEX OF ENERGY SAVING ACTIVITIES AT THE JSC "ODESSA PORT PLANT" PROJECT OF JSC “ODESSA PORT PLANT” VERIFICATION PROTOCOL

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	DFPs of both Parties (Ukraine, Switzerland) have issued written project approvals (LoAs) when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines.	N/a	OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	N/a	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?	The project has faced some deviations to the registered PDD, which were already verified: - approach of emission calculation of “Modernization of two ammonia production units” subproject was changed (more detailed information is drawn in article A.8 herein); - value of carbon oxidation factor during the natural gas combustion (OXIDNG) was changed. Data of this parameter in PDD was accepted according to "Key principles of national greenhouse gases inventorying IPCC”, 2006, although, since the indicated document is not yet approved at the parties conference, but is only prepared for the parties conference approval, the factor determined by “Reviewed key principles of national greenhouse gases inventorying IPCC”, 1996 was used for calculation herein; - only one greenhouse gases emission factor value was used for National Energy Grid System of Ukraine (NEGSU) (unlike PDD), namely: a factor of greenhouse	CAR 1	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		gases emission during consumption reduction or increasing of electric power from NEGSU. CAR 1. Since the approach of emission calculation of "Modernization of two ammonia production units" subproject has already been changed please remove it from section A.8.		
93	What is the status of operation of the project during the monitoring period?	Project was operational for the complete monitoring period except for the technological accidents, which all are listed in the MR section B.2.5.	N/a	OK
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	Yes, monitoring occurs in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and verified changes and is so listed on the UNFCCC JI website.	N/a	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	All key factors influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project were taken into account, as appropriate for calculating the emission reductions or enhancements of net removals. CAR 2. Please include information considering monitoring of NCV_{NG} into the description of key monitoring activities.	CAR 2	OK
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. The data sources are monthly technical and production plant reports, National Cadastre of Ukraine and IPCC Guidelines for National Greenhouse Gas Inventories.	N/a	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	Yes, emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, are selected by carefully balancing accuracy and reasonableness, and appropriately	N/a	OK

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	appropriate justification for the proposed revision?			
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?	N/a	N/a	N/a
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?	Yes, the implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures. CAR 3. Site visit interview revealed that SHM-12 A and B are in fact one SHM. Please clarify and correct the MR. CAR 4. During site visit it became clear that GMS-2 and GMS-1 are not part of the project. Please clarify and correct the MR.	CAR 3, CAR 4	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, in order?	The function of the monitoring equipment, including its calibration status, is in order. CAR 5. During site visit it was revealed that some equipment is installed in such way that it is impossible to find serial number, production name etc. Please insert into Table 2 column, which will indicate internal number of the equipment, which will make possible for the verifier to check if this is the equipment mentioned in MR.	CAR 5	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	Yes, the evidence and records used for the monitoring are maintained in a traceable manner.	N/a	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	Yes, the data collection and management system for the project is in accordance with the monitoring plan. CAR 6.	CAR 6,7	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Data check during site visit revealed that data from the daily report if summed do not match the date from the monthly technical reports (considering amount of produced urea in December 2010 for production unit #1 and NG consumption for ammonia production by the production unit #1 in December 2010) please clarify and correct if necessary. CAR 7. The ERUs amount for 2010 defined in determined PDD is 261 461 while MR states 282 749. Please clarify the difference and correct if necessary.		
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	N/a	N/a	N/a

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	PoA, has the AIE informed the JISC of the fraud in writing?			

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR 1. Since the approach of emission calculation of "Modernization of two ammonia production units" subproject has already been changed please remove it from section A.8.	92	Corrected. Appropriate changes were made in the section A.8 of the MR.	
CAR 2. Please include information considering monitoring of NCVNG into the description of key monitoring activities.	95 (a)	Corrected. Appropriate changes were made in the section B Tables 2,3 of the MR.	

CAR 3. Site visit interview revealed that SHM-12 A and B are in fact one SHM. Please clarify and correct the MR.	101 (a)	For SHM-12 (A) and SHM-12 (B) common are following pieces of equipment: - differential pressure cell STD-930 (plant number 300301, technological position number WP120); - pressure sensor STG-94LR (plant number 985041, technological position number WP080); - resistance temperature device ТСП-8040Р (plant number 05, technological position number WT080). But for the temperature measurement ofth heat carrier after each heat-boiler are used different resistance temperature devices: - for SHM-12 (A) **-** resistance temperature device ТСП-8040Р (plant number 001, technological position number WT010A); - for SHM-12 (B) **-** resistance temperature device ТСП-8040Р (plant number 07, technological position number WT010B). So it is considered that for heat measurement after heat-boilers two different SHM are used. Information considering resistance temperature devices is added to the Table 2 of MR.	
CAR 4. During site visit it became clear that GMS-2 and GMS-1 are not part of the project. Please clarify and correct the MR.	101 (a)	Corrected. GMS-1 and GMS-2 are not related to this project. Appropriate changes were provided in the figure 3 and Tables 2, 3 of MR.	

CAR 5. During site visit it was revealed that some equipment is installed in such way that it is impossible to find serial number, production name etc. Please insert into Table 2 column, which will indicate internal number of the equipment, which will make possible for the verifier to check if this is the equipment mentioned in MR.	101 (b)	Power resourses measurement devices are mantled considering existing technological situation (pipes location, flow direction), which is why sometimes visual access to the tables with producer name, identification data of the equipment is limited (name, plant number etc). At OJSC “OPP” for the equipment identification is established practice of providing technological position number for each meter, which is provided at the visually accessible place at the mantling point and on the passport. Table 2 was updated with column indicating the technological position of the meters for their identification.	

CAR 6. Data check during site visit revealed that data from the daily report if summed do not match the date from the monthly technical reports (considering amount of produced urea in December 2010 for production unit #1 and NG consumption for ammonia production by the production unit #1 in December 2010) please clarify and correct if necessary.	101 (d)	According to the section 3 of PDD and section C.1.1 of MR monitoring is provided through cooperation between monitoring group and technological staff and includes monitoring, data analyses and archivation. Periodic data on power resources expenditure are analysed according to related registered figures, which are received form technological staff in order to proof their accuracy. In case of difference between data its origin needs to be defined. If the monitoring data nonconformity is found monitoring system of such figure is updated. During the monitoring of abovementioned parameters inconsistency was found. Monthly technical reports were updated with appropriate corrections. Inconsistency occurred due to the fact that daily reports are filled by the head of the shift with operational figures while production reports contain actual production data. Actual data are defined on the basis of the general balance of the enterprise considering each power resource or production type.	

CAR 7. The ERUs amount for 2010 defined in determined PDD is 261 461 while MR states 282 749. Please clarify the difference and correct if necessary.	101 (d)	Calculations of ERUs in PDD were made on the basis of the forecasted data from the plant. Increasing of ERUs amount in 2010 was caused mainly by the fact that amount of ammonia produced in 2010 appeared to be bigger then the one forecasted in PDD. According to PDD data ammonia production at production unit №1 was supposed to be 437 000 t and at the production unit №2 – 583 000 t but actual production of ammonia was: at the production unit №1 514 446 t and at the production unit №2 – 607 613 t. exactly this deviation happened to be a reason for the total ERUs increase during the monitoring period.	

APPENDIX B: VERIFICATION TEAM

Kateryna Zinevych, M.Sci. (environmental science)
Team Leader, Climate Change Lead Verifier
Bureau Veritas Ukraine Health, Safety and Environment Project Manager

Kateryna Zinevych has graduated from National University of Kyiv-Mohyla Academy with the Master Degree in Environmental Science. She has experience at working in a professional position (analytics) involving the exercise of judgment, problem solving and communication with other professional and managerial personnel as well as customers and other interested parties at analytical centre "Dergzovnishinform" and "Burea Veritas Ukraine" LLC. She has successfully completed IRCA registered Lead Auditor Training Course for Environment Management Systems and Quality Management Systems. She has successfully completed Climate Change Verifier Training Course and she participated as verifier in the determination/verification of 26 JI projects.

Igor Kachan, Ph.D. (chemistry)
Team member, Climate Change Lead Verifier
Bureau Veritas Ukraine,
Health, Safety and Environment Department Project Manager
Igor Kachan has graduated from Kyiv National Taras Shevchenko University and took the Ph.D. degree in the analytical chemistry speciality. He has successfully completed IRCA registered Lead Auditor Training Course for Environment Management Systems and Quality Management Systems. Igor Kachan has undergone a training course on Clean Development Mechanism/Joint Implementation and participated in determination/verification of more then 20 JI projects.

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

Internal Technical Reviewer, Climate Change Lead Verifier, Bureau Veritas Certification Holding SAS Local Climate Change Product Manager for Ukraine

Acting CEO Bureau Veritas Black Sea District

He has over 25 years of experience in Research Institute in the field of biochemistry, biotechnology, and microbiology. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered), Quality Management System (IRCA registered), Occupational Health and Safety Management System, and Food Safety Management System. He performed over 140 audits since 1999. Also he is Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and Lead Tutor of the IRCA registered ISO 9000 QMS Lead Auditor Training Course. He is Lead Tutor of the Clean Development Mechanism /Joint Implementation Lead Verifier Training Course and he was involved in the determination/verification over 60 JI/CDM projects.