# VERIFICATION REPORT
# "CLIMATE PROTECTION BUREAU LLP"

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

FIFTH PERIODIC FOR 01.01.2011-30.06.2011

REPORT NO. UKRAINE-VER/0322/2011

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0322/2011

# VERIFICATION REPORT

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| Date of first- issue:<br>17/08/2011 | Organizational unit:<br>Bureau Veritas Certification Holding SAS |
| Client:<br>CLIMATE PROTECTION BUREAU LLP | Client ref.:<br>Viktor Khalabuzar |

Summary:
Bureau Veritas Certification has made the 5th 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 136 424 tons of $CO_2eq$ for the monitoring period of 01.01.2011 to 30.06.2011.

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.:<br>UKRAINE-ver/0322/2011 | Subject Group:<br>JI | |
| Project title:<br>«Realization of a complex of energy saving activities at the JSC "Odessa Port Plant"» | | |
| Work carried out by:<br>Kateryna Zinevych – Team Leader, Lead Verifier | | |
| Work reviewed by:<br>Ivan Sokolov – Internal Technical Reviewer | | ☒ No distribution without permission from the Client or responsible organizational unit |
| Work approved by:<br>Flavio Gomes – Operational Manger | | ☐ Limited distribution |
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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

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 "Climate Protection Bureau LLP" 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 09/08/2011 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of "Climate Protection Bureau LLP" and OJSC "Odessa Port Plant" 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 "Odessa Port Plant" | ➢ Organizational structure.<br>➢ Responsibilities and authorities.<br>➢ Training of personnel.<br>➢ Quality management procedures and technology.<br>➢ Implementation of equipment (records).<br>➢ Metering equipment control.<br>➢ Metering record keeping system, database. |
| "Climate Protection Bureau LLP" | ➢ Baseline methodology.<br>➢ Monitoring plan.<br>➢ Monitoring report.<br>➢ 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 3 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 JI294-0485 by Switzerland has been issued by the DFP of that Party on 26 October 2010. The Letter of Approval of Ukrainian DFP № 1722/23/7 was issued on 28.10.2010.

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 the synthesis section with stripper replacement in urea production unit #1 | 13/04/2011 | 20/12/2011 |

## 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,
- low temperature of the natural gas combustion.

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.

Measurement of low temperature of the natural gas combustion every month is conducted by technical control department of JSC OPP which is certified by state metrological system entitling to conduct correspondent measurements. Value of low temperature of the natural gas combustion is recorded in technical and production reports in ammonia production.

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 was presented also in Verification Reports UKRAINE/0209/2011.

During reported monitoring period (01.01.2011-30.06.2011) new revision to the previously determined and revised Monitoring Plan occurred. The project participants provided an appropriate justification for the proposed revision, which is:

- determination method of emission factor for National Energy Grid System of Ukraine (NEGSU) was changed (EFco2,elec). According to requirements of “Guidance on criteria for baseline setting and monitoring” (version 02), among the monitoring backgrounds the priority is official data, therefore instead of early used source of data (Study "Standardized emission factors for the Ukrainian electricity grid" (Version 5)) it is the data stated in the order # 75 of National Environmental Investment Agency of Ukraine dated 12.05.2011 being used;
- a method approach to establish the monitoring plan for “Modernization of two ammonia production units” subproject was changed. An “Instrument for project emission calculation and CO2 effluence from fossil fuel combustion” (version 2) was applied as a substitute for the earlier used method according to “National Cadastre of anthropogenic emissions from the sources and capture by absorbers of greenhouse gases in Ukraine during 1990-2009”. It is connected to the fact, that the latest version of the “National Cadastre of anthropogenic emissions from the sources and capture by absorbers of greenhouse gases in Ukraine during 1990-2009” defines the value of low temperature of the natural gas combustion as a fixed figure (33.85 TJ/mln. m3), but according to the chosen monitoring plan (section B herein) the low temperature of the combustion is determined in accordance with official data of the natural gas supplier enterprise, that increases the accuracy and reliability in calculating emission reduction and does not contradict the requirements of “Instrument for project

emission calculation and CO2 effluence from fossil fuel combustion" (version 2).

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 1st half of 2011 is 144356 t CO2-equivalent while in the Monitoring Report version 2.0 ERUs are quantified as 136424 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 5th 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 "Climate Protection Bureau LLP" 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 01/01/2011 to 30/06/2011

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|---|---|
| Baseline emissions | : 1 483 591 t $CO_2$ equivalents. |
| Project emissions | : 1 347 167 t $CO_2$ equivalents. |
| Emission Reductions | : 136 424 t $CO_2$ equivalents. |

# 5 REFERENCES

**Category 1 Documents:**
Documents provided by OPP and "Climate Protection Bureau LLP" 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/ "Determination 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. | Production and technical report of ammonia production department for January 2011. |
| 2. | Production and technical report of ammonia production department for February 2011. |
| 3. | Production and technical report of ammonia production department for March 2011. |
| 4. | Production and technical report of ammonia production department for April 2011. |
| 5. | Production and technical report of ammonia production department for May 2011. |
| 6. | Production and technical report of ammonia production department for June 2011. |
| 7. | Production and technical report of urea production department for January 2011. |
| 8. | Production and technical report of urea production department for February 2011. |
| 9. | Production and technical report of urea production department for March 2011. |
| 10. | Production and technical report of urea production department for April 2011. |
| 11. | Production and technical report of urea production department for May 2011. |
| 12. | Production and technical report of urea production department for June 2011. |

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| 13. | Production and technical report of ammonia terminal for January 2011. |
| 14. | Production and technical report of ammonia terminal for February 2011. |
| 15. | Production and technical report of ammonia terminal for March 2011. |
| 16. | Production and technical report of ammonia terminal for April 2011. |
| 17. | Production and technical report of ammonia terminal for May 2011. |
| 18. | Production and technical report of ammonia terminal for June 2011. |
| 19. | Passport dated 14/07/2010 on resistive temperature transducer type ТСП-1287, serial #01 (SHM-3) |
| 20. | Passport dated 16/09/1991 on pressure difference transducer type STD 120, serial #701002 (SHM-3) |
| 21. | Passport dated 15/10/2010 on surplus pressure transducer type STG-674, serial #0797701018 (SHM-3) |
| 22. | Photo – pressure difference transducer type STD 120, serial #701002 (SHM-3) |
| 23. | Photo – surplus pressure transducer type STG-674, serial #0797701018 (SHM-3) |
| 24. | Photo – resistive temperature transducer type ТСП-1287, serial #01 (SHM-3) |
| 25. | Passport dated 14/07/2010 on resistive temperature transducer type ТСП-1287, serial #02 (SHM-4) |
| 26. | Passport dated 27/06/2010 on pressure difference transducer type STD 120, serial #0457006 (SHM-4) |
| 27. | Passport dated 07/04/1999 on surplus pressure transducer type STG-674, serial #660017 (SHM-4) |
| 28. | Photo – pressure difference transducer type STD 120, serial #0457006 (SHM-4) |
| 29. | Photo – surplus pressure transducer type STG-674, serial #660017 (SHM-4) |
| 30. | Photo – resistive temperature transducer type ТСП-1287, serial #02 (SHM-4) |
| 31. | Passport dated 10/07/2002 on differential indicator type ST-3000, serial #600904 (SHM-6) |
| 32. | Passport dated 18/08/2010 on pressure transducer type STG-94LR-A10, serial #001003 (SHM-6) |
| 33. | Passport dated 14/07/2010 on thermoelectric transducer type ТКХ-2088, serial #011 (SHM-6) |
| 34. | Photo – differential indicator type ST-3000, serial #600904 (SHM-6) |
| 35. | Photo – thermoelectric transducer type ТКХ-2088, serial #011 (SHM-6) |
| 36. | Passport dated 27/07/2010 on differential indicator type ST-930, serial #600905 (SHM-7) |
| 37. | Passport dated 14/07/2010 on thermoelectric transducer type ТКХ-2088, serial #022 (SHM-7) |
| 38. | Photo – thermoelectric transducer type ТКХ-2088, serial #022 (SHM-7) |
| 39. | Photo – pressure transducer type STG-94LR-A10, serial #001003 (SHM-6, 7) |
| 40. | Passport dated 14/09/2001 on pressure differential indicator type STD-924, serial #985109 (SHM-5A) |
| 41. | Passport dated 14/09/2001 on pressure transmitter type STG-94L, serial |

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|---|---|
| | #985032 (SHM-5A) |
| 42. | Passport dated 27/08/2010 on resistive temperature transducer ТСП 8040P, serial #476 (SHM-5A) |
| 43. | Photo –resistive temperature transducer ТСП 8040P, serial #476 (SHM-5A) |
| 44. | Photo – pressure differential indicator type STD-924, serial #985109 (SHM-5A) |
| 45. | Photo – pressure transmitter type STG-94L, serial # 985032 (SHM-5A) |
| 46. | Passport dated 22/06/2011 on pressure transmitter type STG-94L, serial #985028 (SHM-5B) |
| 47. | Passport dated 14/09/2001 on pressure differential indicator type STD-924, serial #985109 (SHM-5B) |
| 48. | Passport dated 27/08/2010 on resistive temperature transducer ТСП 8040P, serial #477 (SHM-5B) |
| 49. | Photo – pressure transmitter type STG-94L, serial #985028 (SHM-5B) |
| 50. | Photo – pressure differential indicator type STD-924, serial #985109 (SHM-5B) |
| 51. | Photo – resistive temperature transducer ТСП 8040P, serial #477 (SHM-5B) |
| 52. | Passport dated 21/10/2008 on pressure differential indicator type STD-930, serial #300301 (SHM-12A, B) |
| 53. | Passport dated 09/01/2002 on pressure transmitter type STG-94L, serial #985041 (SHM-12A, B) |
| 54. | Passport dated 25/01/2011 on resistive temperature transducer type ТСП 8040P, serial #001 (SHM-12A) |
| 55. | Photo – pressure differential indicator type STD-930, serial #300301 (SHM-12A, B) |
| 56. | Photo – pressure transmitter type STG-94L, serial #985041 (SHM-12A, B) |
| 57. | Photo – resistive temperature transducer ТСП 8040P, serial #001 (SHM-12A) |
| 58. | Passport dated 08/01/2011 on resistive temperature transducer type ТСП 8040P, serial #07 (SHM-12B) |
| 59. | Photo – resistive temperature transducer ТСП 8040P, serial #07 (SHM-12B) |
| 60. | Passport dated 15/04/2002 on natural gas consumption meter type STD 924-E1A, serial #820392 (GMS -6) |
| 61. | Passport dated 12/07/2004 on natural gas consumption meter type STD 924, serial #820394 (GMS -7) |
| 62. | Photo – natural gas consumption meter type STD 924-E1A, serial #820392 (GMS -6) |
| 63. | Photo – natural gas consumption meter type STD 924, serial #820394 (GMS -7) |
| 64. | Passport dated 17/05/2005 on natural gas consumption meter type STD 924-E1A, serial #820391 (GMS -8) |
| 65. | Passport dated 19/06/2007 on natural gas consumption meter type STD 924, serial #820393 (GMS -9) |
| 66. | Photo – natural gas consumption meter type STD 924-E1A, serial #820391 |

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| | (GMS -8) |
| 67. | Photo – natural gas consumption meter type STD 924, serial #820393 (GMS -9) |
| 68. | Passport dated 16/12/2008 on power energy meter type AIR-3-AL-C8-T, serial #01005047 (SEM-1) |
| 69. | Calibration protocol dated 19/12/2008 on power energy meter type AIR-3-AL-C8-T, serial #01005047 (SEM-1) |
| 70. | Calibration technical passport dated 03/04/2009 on power energy meter type AIR-3-AL-C8-T, serial #01005047 (SEM-1) |
| 71. | Calibration certificate #321-EM, valid till 02/04/2013, on current transformer type ЗНОЛ06, serial #3472 (SEM-1) |
| 72. | Calibration certificate #323-EM, valid till 02/04/2013, on current transformer type ЗНОЛ06, serial #4502 (SEM-1) |
| 73. | Calibration certificate #322-EM, valid till 02/04/2013, on current transformer type ЗНОЛ06, serial #3457 (SEM-1) |
| 74. | Calibration certificate #482-EM dated 22/05/20009, valid till 14/05/2013, on current transformer type ТЛ-10, serial #2120 (SEM-1) |
| 75. | Calibration certificate #481-EM dated 22/05/20009, valid till 14/05/2013, on current transformer type ТЛ-10, serial #2113 (SEM-1) |
| 76. | Photo – Power energy meter type AIR-3-AL-C8-T, serial #01005043 (SEM-1) |
| 77. | Passport dated 17/10/2008 on power energy meter type AIR-3-AL-C8-T, serial #01005043 (SEM-2) |
| 78. | Calibration protocol dated 19/12/2008 on power energy meter type AIR-3-AL-C8-T, serial #01005043 (SEM-2) |
| 79. | Calibration technical passport dated 02/04/2009 on power energy meter type AIR-3-AL-C8-T, serial #01005043 (SEM-2) |
| 80. | Calibration certificate #325-EM dated 03/04/2009, valid till 02/04/2013, on current transformer type ЗНОЛ06, serial #3465 (SEM-2) |
| 81. | Calibration certificate #324-EM dated 03/04/2009, valid till 02/04/2013, on current transformer type ЗНОЛ06, serial #3357 (SEM-2) |
| 82. | Calibration certificate #326-EM dated 03/04/2009, valid till 02/04/2013, on current transformer type ЗНОЛ06, serial #3668 (SEM-2) |
| 83. | Calibration certificate #488-EM dated 22/05/20009, valid till 15/05/2013, on current transformer type ТЛ-10, serial #4081 (SEM-2) |
| 84. | Calibration certificate #487-EM dated 22/05/20009, valid till 15/05/2013, on current transformer type ТЛ-10, serial #4080 (SEM-2) |
| 85. | Photo – Power energy meter type AIR-3-AL-C8-T, serial #01005043 (SEM-2) |
| 86. | Ammonia flow meter CMF-300, RTF-9739 SPU, Aggegate # 1 |
| 87. | Ammonia flow meter CMF-300, RTF-9739 SPU, Aggegate # 2 |
| 88. | Attestation certificate dated 15/07/2010, valid till 15/07/2013, on the technical control department industrial and sanitary control laboratory, registration #06544-5-3-102-ВЛ, issued by the Ministry of Industrial Policy of Ukraine |
| 89. | Report on remains of energy materials consumption and oil refining products for January-December 2010 (Form 4-МТП) |
| 90. | Schedule of GHG emissions monitoring performance, approved 21/09/2010 |

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| 91. | Order #282 dated 19/07/2010 on monitoring group creation, issued by OJSC "Odessa Port Plant" |
| 92. | Report on air protection for 2010 (Form 2 ТП air), issued by OJSC "Odessa Port Plant" |
| 93. | Procedure of calculation of ammonia production, approved on 06/09/2001 |
| 94. | Procedure of calculation of urea production, approved on 21/02/2001 |
| 95. | Protocol #6 dated 13/04/2011 of OJSC "Odessa Port Plant" technical council on start date of “Revamp of the synthesis section with stripper replacement in urea production unit #1” |
| 96. | Passport dated 02/2001 on chromatograph type GC-8A PT, serial #16857 |
| 97. | Attestation certificate dated 16/06/2010, valid till 16/06/2013, on the technical control department, registration #06544-5-3-77, issued by the Ministry of Industrial Policy of Ukraine |
| 98. | Permit #5111700000-14 dated 26/12/2008 on stationary sources air pollution, issued by the Ministry of Environmental Protection of Ukraine |
| 99. | Permit #51417001, valid from 01/01/2011 till 31/12/2011, on wastes allocation in 2011, issued by the Odesa Region Environmental Protection State Enterprise |
| 100. | Permit # УКР1603 dated 30/12/2008, valid till 31/12/2011 on special water consumption, issued by the Odesa Region Environmental Protection State Enterprise |
| 101. | Protocol #208 dated 28/07/2011 on qualification commission session |
| 102. | Protocol #207 dated 27/07/2011 on qualification commission session |
| 103. | Protocol #206 dated 26/07/2011 on qualification commission session |
| 104. | Order #537-p dated 15/06/2011 on OJSC “Odessa Port Plant” financial plan approval for 2011, issued by the Cabinet of Ministers of Ukraine |
| 105. | Report on remains of energy materials consumption and oil refining products for January-June 2010 (Form 4-МТП) |
| 106. | Protocol #195 dated 12/07/2011 on qualification commission session |
| 107. | Protocol #155 dated 01/06/2011 on qualification commission session |
| 108. | Protocol #102 dated 18/04/2011 on qualification commission session |
| 109. | Protocol #40-ОД11/77 dated 22/02/2011 on attestation commission session |
| 110. | Logbook on ammonia terminal equipment operating time |
| 111. | Photo – Chromatograph type GC-8A PT, serial #16857 |

**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/ | Lisovskyi Leonid – deputy of the Head Engineer of Productional-Technical Department; |
| /8/ | Korsun Oleg – head of the Innovation sector; |
| /9/ | Dribnohod Volodymyr – 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/ | Khalabuzar Victor – managing partner of “Climate Protection Bureau LLP” |

# APPENDIX A: "REALISATION OF A COMPLEX OF ENERGY SAVING ACTIVITIES AT THE JSC "ODESSA PORT PLANT" PROJECT OF JSC "ODESSA PORT PLANT" 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? | 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. | OK | 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? | - approach of emission calculation of "Modernization of two ammonia production units" subproject was changed;<br><br>- 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 | CAR 1, CAR 2 | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | "Reviewed key principles of national greenhouse gases inventorying IPCC", 1996 was used for calculation herein;<br><br>- emission factor value for National Energy Grid System of Ukraine (NEGSU) was changed (EFco2,elec) based on National Environmental Investment Agency of Ukraine order # 75 dated 12.05.2011.<br>CAR 1.<br>Section A.5 of MR version 1 contains the phrase: «an "Instrument for project emission calculation and CO2 effluence from fossil fuel combustion" (version 2) was applied in order to ascertain the baseline and monitoring plan of the "Modernization of two ammonia production units" subproject», while MR for the previous monitoring period (01.01.2010 – 31.12.2010) contained information that in order to ascertain the baseline and monitoring plan of the "Modernization of two ammonia production units" subproject , the requirements of "National Cadastre of anthropogenic emissions from the sources and capture by absorbers of greenhouse gases in Ukraine during 1990-2008" (hereinafter National Cadastre of Ukraine) were applied. Please clarify and correct. Also if relevant changes are the changes to the monitoring plan they should be reflected in the appropriate section of MR.<br>CAR 2. According to PDD version 2 « Revamp of the synthesis section with stripper replacement in urea | | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | production unit #1» was supposed to start 10.01.2011. Please provide information considering the delay. | | |
| 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. | OK | OK |
| **Compliance with monitoring plan** | | | | |
| 94 | Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website? | 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. | OK | OK |
| 95 (a) | For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as 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. | OK | 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. | OK | OK |
| 95 (c) | Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of | Yes, emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, are selected by | OK | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice? | carefully balancing accuracy and reasonableness, and appropriately justified of the choice.<br>Determination method of emission factor for National Energy Grid System of Ukraine (NEGSU) was changed (EFco2,elec). According to requirements of “Guidance on criteria for baseline setting and monitoring” (version 02), among the monitoring backgrounds the priority is official data, therefore instead of early used source of data (Study "Standardized emission factors for the Ukrainian electricity grid" (Version 5)) it is the data stated in the order # 75 of National Environmental Investment Agency of Ukraine dated 12.05.2011 being used. | | |
| 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. | OK | 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?<br>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 |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| **Applicable to bundled JI SSC projects only** | | | | |
| 97 (a) | Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE? | N/a | N/a | N/a |
| 97 (b) | If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report? | N/a | N/a | N/a |
| 98 | If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past? | N/a | N/a | N/a |
| **Revision of monitoring plan** | | | | |
| **Applicable only if monitoring plan is revised by project participant** | | | | |
| 99 (a) | Did the project participants provide an appropriate justification for the proposed revision? | Determination method of emission factor for National Energy Grid System of Ukraine (NEGSU) was changed ($EF_{co2,elec}$). According to requirements of “Guidance on criteria for baseline setting and monitoring” (version 02), among the monitoring backgrounds the priority is official data, therefore instead of early used source of data (Study "Standardized emission factors for the Ukrainian electricity grid" (Version 5)) it is the data stated in the order # 75 of National Environmental Investment Agency of Ukraine dated 12.05.2011 being | OK | OK |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | | used. | | |
| 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? | Yes, 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 | | |
| **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. | OK | 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. | OK | 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. | OK | 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 3. Amount of ERUs for 1st half of 2011, mentioned in determined PDD is 144356 t CO2e, while MR states that ERUs are 136424 t CO2e for the monitoring period. Please clarify the difference and correct if necessary. | CAR 3 | OK |
| **Verification regarding programs of activities (additional elements for assessment)** | | | | |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| 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:<br>(a) Describe its sample selection, taking into<br>account that:<br>(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:<br>− The types of JPAs;<br>− The complexity of the applicable | N/a | N/a | N/a |

| DVM Paragraph | Check Item | Initial finding | Draft Conclusion | Final Conclusion |
|---|---|---|---|---|
| | technologies and/or measures used;<br>− The geographical location of each JPA;<br>− The amounts of expected emission reductions of the JPAs being verified;<br>− The number of JPAs for which emission reductions are being verified;<br>− The length of monitoring periods of the JPAs being verified; and<br>− 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 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.<br>Section A.5 of MR version 1 contains the phrase: «an “Instrument for project emission calculation and CO2 effluence from fossil fuel combustion” (version 2) was applied in order to ascertain the baseline and monitoring plan of the “Modernization of two ammonia production units” subproject», while MR for the previous monitoring period (01.01.2010 – 31.12.2010) contained information that in order to ascertain the baseline and monitoring plan of the “Modernization of two ammonia production units” subproject , the requirements of “National Cadastre of anthropogenic emissions from the sources and capture by absorbers of greenhouse gases in Ukraine during 1990-2008" (hereinafter National Cadastre of Ukraine) were applied. Please clarify and correct. Also if relevant changes are the changes to the monitoring plan they should be reflected in the appropriate section of MR. | 92 | During the implementation of “Instrument for project emission calculation and CO2 effluence from fossil fuel combustion” (version 2) changes to monitoring plan are not going to occur because this Tool is almost identical to the National Cadastre in the section of requirements to the calculations of the project emissions. in our opinion implementation of the Tool is more relevant in this monitoring period because National Cadastre contains fixed amount of low temperature of the natural gas combustion while according to monitoring plan data from natural gas supplier is used.<br><br>***KZ:*** Due to the fact that Tool is “almost identical” but still different such change should be reflected.<br><br>***Developer:*** For calculation of the project emissions in the Cadastre and Tool same formulas are used. Monitoring parameters according to those documents are the same. | Issue is closed. |

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| | | The difference is that in the defined version of the Cadastre the value of low temperature of the natural gas combustion is fixed (33.85 TJ/mln.$m^3$) and according to chosen monitoring plan (section B of the monitoring report) low temperature of the natural gas combustion is defined in accordance with official data of the supplier, which increases the accuracy and reliability ERUs calculations but does not contradict to the requirements of Tool.<br>Due to the abovementioned in this monitoring report the Tool was used.<br>***KZ:*** Please marke the application of Tool different from the one mentioned in PDD as the change to the monitoring plan in the section A.8.<br>***Developer:*** Appropriate changes provided in the MR version 2 section A.8. | |

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| CAR 2. According to PDD version 2 «Revamp of the synthesis section with stripper replacement in urea production unit #1» was supposed to start 10.01.2011. Please provide information considering the delay. | 92 | Delay of the implementation of «Revamp of the synthesis section with stripper replacement in urea production unit #1» is explained with the fact that Cabinet of Ministers of Ukraine approved financial plan of OJSC "Odessa Port Plant" for 2011 only on 15.06.2011 (Decision of CMU dated 15.06.2011 #537-p is attached). Before the approval of financial plan it is impossible to perform actual expenses for capital investment, modernization and reconstruction (Decision of CMU #02.04.2009) Letter from Fond of State Property of Ukraine #10-31-04 dated 04.01.2011 on this matter is attached. Discussion considering conduction of tender for the stripper purchase was performed during Technical Meeting OJSC "Odessa Port Plant" (Protocol #6 dated 13.04.2011 is attached) after preliminary approval of financial plan for OJSC "Odessa Port Plant" in the Cabinet of Ministers of Ukraine. | Issue is closed. |

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| CAR 3.<br>Amount of ERUs for 1st half of 2011, mentioned in determined PDD is 144356 t CO2e, while MR states that ERUs are 136424 t CO2e for the monitoring period. Please clarify the difference and correct if necessary. | 101 (d) | Calculation of ERUs in the PDD was performed on the basis of the forecasted amount of production and consumed resources for 2011. Calculation of ERUs provided in MR was performed on the basis of actual data considering the production and consumed resources for the six months of 2011. Due to the results of work in the second half of 2011 the annual difference in ERUs can be avoided. | Issue is closed. |

# 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.