VERIFICATION REPORT

CJSC "NATIONAL CARBON SEQUESTRATION FOUNDATION"

VERIFICATION OF THE

RECONSTRUCTION OF THE OXYGEN COMPRESSOR PLANT AT THE JSC "ZAPORIZHSTAL", UKRAINE

FOURTH VERIFICATION FOR PERIOD 01/01/2011-30/06/2011

REPORT NO. UKRAINE-VER/0326/2011

REVISION NO. 01

BUREAU VERITAS CERTIFICATION

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07/09/2011	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
CJSC "National Carbon Sequestration Foundation"	Yuriy Fedorov

Summary:

Bureau Veritas Certification has made the 4th periodic verification of the "Reconstruction of the oxygen compressor plant at the JSC "Zaporizhstal", Ukraine", ITL Project ID UA1000189, project of CJSC "National Carbon Sequestration Foundation" located in city of Zaporizhzhya, Zaporizhzhya 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 accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 33719 tons of CO_2eq for the monitoring period from 01/01/2011 till 30/06/2011.

Report No.:	Subject Group:
UKRAINE-ver/0326/2011	JI
Project title:	
"*Reconstruction of the oxygen compressor plant at the JSC "Zaporizhstal", Ukraine*"	
Work carried out by:	
Team Leader, Lead Verifier: Oleg Skoblyk Team Member, Verifier: Vyacheslav Yeriomin	
Work reviewed by:	
Ivan Sokolov - Internal Technical Reviewer	
Work approved by:	
Flavio Gomes - Operational Manager	

Date of this revision:	Rev. No.:	Number of pages:
08/09/2011	01	32

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1 INTRODUCTION

CJSC "National Carbon Sequestration Foundation" has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Reconstruction of the oxygen compressor plant at the JSC "Zaporizhstal", Ukraine" (hereafter called "the project") at city of Zaporizhzhya, Zaporizhzhya 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, corrective and/or forward actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 Verification Team

The verification team consists of the following personnel:

Oleg Skoblyk
Bureau Veritas Certification Team Leader, Climate Change Verifier

Vyacheslav Yeriomin
Bureau Veritas Certification Climate Change Verifier

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by CJSC "National Carbon Sequestration Foundation" 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.

The verification findings presented in this report relate to the Monitoring Report versions 01.1, 02.1 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 22/08/2011 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 JSC "Zaporizhstal" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
JSC "Zaporizhstal"	• Organizational structure • Responsibilities and authorities • Roles and responsibilities for data collection and • processing • Installation of equipment • Data logging, archiving and reporting • Metering equipment control • Metering record keeping system, database • IT management • Training of personnel • Quality management procedures and technology • Internal audits and check-ups
Consultant: CJSC "National Carbon Sequestration Foundation"	• Baseline methodology • Monitoring report • Monitoring plan • 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 Verification Team to assess compliance with the monitoring plan;

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

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

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 4 Corrective Action Requests and 1 Clarification Requests.

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

3.1 Remaining issues and FARs from previous verifications

One FAR was remaining from previous verification and they were closed during this verification.

Forward Action Request 01

In order to ensure better transparency of the information on measuring equipment used as well as its calibration status, please include in the monitoring report for the next monitoring period the information on when the meters used for project monitoring during respective monitoring period were installed or replaced.

Response

The monitoring in the current monitoring period is provided taken into account the FAR 01 issued during the previous verification. The relevant information is provided in the section B.3.1 of the monitoring report.

Decision

Evidences were sufficient and FAR01 is closed.

3.2 Project approval by Parties involved (90-91)

The project was approved by the Host party, Ukraine (Letter of Approval No 1514/23/7 of 14/12/2009 issued by National Environmental Investment Agency of Ukraine). Written project approval by Switzerland (Letter of approval for a project under article 6 of the Kyoto Protocol (JI) Ref.J294-0485 dated 23/07/2010 issued by the Federal Office for the Environment (FOEN) of Switzerland), the other party involved, has been issued by the NFP of that Party.

The abovementioned written approvals are unconditional.

Corrective Action Request 01
Monitoring Report version 01.1 indicates England as Sponsor Party. During verification was detected that ERUs was sailed to Switzerland. Please clarify this situation and change Monitoring Report

Response
The information about project approval by Parties involved is revised in the section A.3 of the monitoring report version 02.1. The Letters of Approval are attached.

3.3 Project implementation (92-93)

The project which is being implemented at the JSC “Zaporizhstal” is aimed at reconstruction of oxygen compressor plant (OCP) with a purpose of supply of the oxygen in required level for pig iron and steel production of the steel mill. Also the project serves to replace the worn-out air separation units.

The oxygen compressor plant reconstruction at the JSC “Zaporizhstal” is implemented by the construction of the air-separation unit VRU-60, manufactured by Air Liquide (France). The main elements of the airseparation unit are turbo-compressor, gas-expansion machine intended for compressed air expansion and unit for liquefied air separation. The operation of air-separation unit VRU-60 makes it possible to provide production needs with the required amount of oxygen upon achievement of the following effects:
- reduction of electric power consumption;
- reduction in manufacturing water consumption;
- generation of oxygen without additional compression;
- decrease of oxygen losses during production;
- increase of oxygen concentration up to 99.5%.

The implementation of the project by the construction of VRU-60 makes it possible, versus the situation in the absence of this project

(reconstruction of OCP by the construction of a new air-separation units KAAr-32), to significantly reduce the electric power consumption supplied for the OCP operation from the power grid of Ukraine. The reduction in the supply of electric power from the grid enables electric power generation at the electricity-generating plants of Ukraine to be decreased at the equivalent rate. This leads to a reduction in the emissions of GHG as a result of the reduction in the consumption of fuel and energy resources for electric power production.

The construction works under the project had lasted from February 2005 till October 2006. The installation work was performed in November 2005–May 2007; commissioning took place in June – December 2007. The air separation unit VRU-60 was put into operation in December 2007 (27/12/2007).

The starting date of the crediting period was changed from 19/02/2008 to 01/01/2008. This happened due to the fact that the original starting date of the crediting period stated in the PDD ver.03 (19/02/2008) was defined because of incorrect interpretation of commissioning documentation, and the date on which the air separation unit VRU-60 was put into operation is 27/12/2007. So the starting date of the crediting period was changed to the date after the VRU-60 commissioning which is 01/01/2008. This is sufficiently described in the revised monitoring plan ver.01 of 15/09/2010. The status of project implementation during monitoring period at hand (January – December 2010) complies with the PDD ver.03 of 03/08/2010.

The main stages of project implementation are presented in the table A.3 of the Monitoring Report.

The project was operational during the monitoring period for the period 01/01/2011-30/06/2011.

During the 4th monitoring period some deviations of actual emission reductions from emission reductions estimated in PDD were observed. Deviations of actual emission reductions from estimated in period January - June 2011 can be in general explained by increase of oxygen production losses in the current period on 5% in comparison to estimated value and by increase of oxygen distribution on 7% in comparison to estimated value.

Corrective Action Request 02
Please provide in the section A.6 of the monitoring report explanation on difference between emission reductions indicated in the PDD and in the Monitoring Report

Response
The explanation on the difference between actual emission reductions from estimated value is provided in the section A.6.

Corrective Action Request 03
Please, provide the information in the Monitoring Report regarding the status of operation of the project during the current monitoring period.

Response
The information about status of the project operation is provided in the section A.2 of the monitoring report.

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

The monitoring occurred in accordance with the PDD regarding which the determination has been deemed final and revised monitoring plan ver.01 of 15/09/2010 which was positively determined in course of the 1s t verification under the project. The determined PDD as well as determination of the revision to the monitoring plan within the framework of 1st verification report are listed on the UNFCCC JI website (http://ji.unfccc.int/JIITLProject/DB/DHPBSAFIRHMN55DS7FFABELK8NAVMP/details).

For calculating the emission reductions or enhancements of net removals, key factors, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate. Data sources used for calculating emission reductions or enhancements of net removals, such as appropriately calibrated measuring equipment, the study of standardized emission factors for the Ukrainian electricity grid, equipment passports are clearly identified, reliable and transparent.

Emission factor is selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

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

3.5 Revision of monitoring plan (99-100)

In course of the 1st verification (01/01/2008 – 31/12/2008) under the project, the project participants introduced the revision to the approved monitoring plan from the PDD. The description of the revision and its appropriate justification was provided in the separate document “Revision of the monitoring plan” ver.01 of 15/09/2010 and Monitoring Report ver.05 of 27/11/2009 for the period of 01/01/2008-31/12/2008. The changes

introduced are also described in the Monitoring Report ver.03 for the considered monitoring period of 2010, and they are as follows:

- The starting date of the crediting period was changed from 19/02/2008 to 01/01/2008. This happened due to the fact that the original starting date of the crediting period stated in the PDD ver.03 (19/02/2008) was defined because of incorrect interpretation of commissioning documentation, and the date on which the air separation unit VRU-60 was put into operation is 27/12/2007. So the starting date of the crediting period was changed to the date after the VRU-60 commissioning which is 01/01/2008.

- The description of monitoring plan chosen was revised. The main goal of this additional explanation is to provide a clarity that chosen approach for the monitoring plan is based on Guidance on criteria for baseline setting and monitoring. The included additional explanation does not change the monitoring procedure but provides a better understanding of the chosen approach of the monitoring plan.

- The formula for determination the total oxygen production in the baseline scenario was revised. If the oxygen production in the baseline scenario is less than the measured oxygen production in the project scenario, than the oxygen production in the baseline will be equal to the oxygen production in the project scenario. This is a conservative assumption as that provides to the zero emission reductions. This additional provision has been included in order to ensure the conservativeness of the approach for calculation the emission reductions.

- The project participant provided revised estimates of emission reduction in order to reflect the impact of the revised crediting period on the amount of the estimated emission reduction as this was presented in the registered PDD.

- Uncertainty level and verification frequency of meters are specified;

- Operational and management structure of monitoring is corrected which improves accuracy of the monitoring plan;

- Monitoring of electricity consumption for production in OCP since 01/01/2009 are provided daily (not monthly as determined in PDD). This is possible because of commissioning of electronic system for technical registration of electricity consumption at the JSC “Zaporizhstal”. Daily electricity consumption monitoring ensures continuous and transparent data;

- The barometric pressure data for oxygen generation/distribution monitoring are taken from the JSC “Zaporizhgas”. The procedures of

barometric pressure data collection, using and archiving are determined by Manual of planimetrist. The data of barometric pressure taken from the independent organization ensures the quality of data used and results of emissions calculation.

The above mentioned revisions to the approved monitoring plan were positively determined during the 1st periodic verification by AIE TÜV NORD CERT GmbH and presented in its 1st periodic Verification Report "Reconstruction of the Oxygen Compressor plant at the JSC "Zaporizhstal" Ukraine" No.8000377391 – 09/477 dated 07-10-2010.

In course of the 4th verification (01/01/2011 – 30/06/2011) under the project, the project participants introduced the revision to the approved monitoring plan from the PDD. The description of the revision and its appropriate justification was provided in the Monitoring Report ver.02.1 of 08/09/2011 for the period of 01/01/2011-30/06/2008. The changes introduced are as follows:

- The introduced revision improves transparency, completeness, 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. This revision does not affect conservativeness of the approach to the emission reductions calculations.

3.6 Data management (101)

The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent. The implementation of data collection procedures is in accordance with the PDD and revised monitoring plan, including the quality control and quality assurance procedures. The procedures of GHGs emission reductions monitoring are determined by the company standard STP 8.2- 13-10 "Integrated quality system. Monitoring of GHGs emission reductions", approved by Order №98 of JSC "Zaporizhstal" dated on 05/03/2010.

In monitoring of GHGs emission reductions under the project the following departments of JSC "Zaporizhstal" are involved:
– Laboratory of environment protection;
– Power bureau of Chief Power Engineer Department;
– Recording bureau of Chief Power Engineer department;
– Technical bureau of Plant of networks and substations;
– Technical bureau of Oxygen compressor plant.

The Scheme of monitoring data collection and processing is presented on the figure B.2-1 of the Monitoring Report. The description of functions,

roles and responsible personnel per structural units involved in the GHG emissions monitoring is provided in sufficient details in the table B.2-1 of the Monitoring Report.

The quality assurance and quality control procedures are determined by the Standard of STP 8.2-13-10 “Monitoring of GHG emission reductions” and other respective internal documents.
The function of the monitoring equipment, including its calibration status, is in order. The calibration and verification procedures are regulated by internal standards of JSC “Zaporizhstal”, such as STP 7.6-01-03 “Measurement assurance. General provisions”, STP 7.6-07-03 “Organization and order of meters calibration and verification”, as well as Ukrainian laws.

The evidence and records used for the monitoring are maintained in a traceable manner. All necessary information for monitoring of GHGs emission reductions are stored in paper and electronic formats and will be saved till the end of the crediting period and for two years after the last operation with ERUs from the project. The procedures of monitoring data archiving and responsible persons are determined by STP 8.2-13-10 “Monitoring of GHG emission reductions” and other internal documents of JSC “Zaporizhstal”. The description of data processing and storage is described in the section B.2 of the Monitoring Report. The data collection and management system for the project is in accordance with the PDD and revised monitoring plan. The management and operational system supporting GHG emission monitoring is a part of the company’s Integrated Quality, Health Safety and Environmental Management System certified against the requirements of ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 international standards. The Monitoring Report ver.3 provides sufficient information on the assigning roles, responsibilities and authorities for implementation and maintenance of monitoring procedures including control of data. The verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.

Corrective Action Request 04
Please, include in the MR the detailed information on the measuring devices used in the monitoring of each project parameter used during the given monitoring period.

Response
The detailed information of the measuring devices used in the monitoring are provided in the table B.3.1-1 and B.3.1-2 of the monitoring report.

Clarification Request 01
Please, present response and the corresponding documentation to FAR 01 issued during the previous verification.

Response
The monitoring in the current monitoring period is provided taken into account the FAR 01 issued during the previous verification. The relevant information is provided in the section B.3.1 of the monitoring report.

3.7 Verification regarding programmes of activities (102-110)

"Not applicable"

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 4th periodic verification of the "Reconstruction of the oxygen compressor plant at the JSC "Zaporizhstal", Ukraine" Project in city of Zaporizhzhya, Zaporizhzhya region, 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 JSC "Zaporizhstal" is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD version 03. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 02.1 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 accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on

the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/2011 to 30/06/2011

Baseline emissions	: 293018	t CO_2 equivalents.
Project emissions	: 259299	t CO_2 equivalents.
Emission Reductions	: 33719	t CO_2 equivalents.

5 REFERENCES

Category 1 Documents:

Documents provided by CJSC "National Carbon Sequestration Foundation" that relate directly to the GHG components of the project.

/1/ Project Design Document "Reconstruction of the oxygen compressor plant at the JSC "Zaporizhstal", Ukraine" version 03 dated 03/08/2009

/2/ Monitoring Report "Reconstruction of the oxygen compressor plant at the JSC "Zaporizhstal", Ukraine" for the period 01/01/2011-01/06/2011 version 01.1 dated 08/08/2011

/3/ Monitoring Report "Reconstruction of the oxygen compressor plant at the JSC "Zaporizhstal", Ukraine" for the period 01/01/2011-01/06/2011 version 02.1 dated 08/09/2011

/4/ Letter of Approval from National Environmental Investment Agency of Ukraine ref. No 1514/23/7, issued on 14/12/2009

/5/ Letter of approval for a project under article 6 of the Kyoto Protocol (JI) of the Federal Office for the Environment (FOEN) of Switzerland ref. No J294-0485, issued on 23/07/2010

/6/ Calculation of Emission Reductions – Excel file "!2011-06-18-MONITORING-Zaporizhstal_OCP-2011-1-ver_01.xls"

/7/ Calculation of Emission Reductions – Excel file 2011-09-08-MONITORING-Zaporizhstal_OCP-2011-1-ver_02.1.xls"

Category 2 Documents:

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

/1/ Determination and verification manual version 01

/2/ Energy consumption by Oxygen compressor plant Shop #18 for 04/06/2011

/3/ Energy consumption by Oxygen compressor plant Shop #18 for 09/02/2011

/4/ Energy consumption by Oxygen compressor plant Shop #18 for11/03/2011

/5/ Energy consumption by Oxygen compressor plant Shop #18 for 14/06/2011

/6/ Energy consumption by Oxygen compressor plant Shop #18 for 17/05/2011

/7/ Energy consumption by Oxygen compressor plant Shop #18 for 18/01/2011

/8/ Energy consumption by Oxygen compressor plant Shop #18 for 22/04/2011

/9/ Energy consumption by Oxygen compressor plant Shop #18 for January 2011

/10/ Energy consumption by Oxygen compressor plant Shop #18 for February 2011

/11/ Energy consumption by Oxygen compressor plant Shop #18 for

March 2011
/12/ Energy consumption by Oxygen compressor plant Shop #18 for April 2011
/13/ Energy consumption by Oxygen compressor plant Shop #18 for May 2011
/14/ Energy consumption by Oxygen compressor plant Shop #18 for June 2011
/15/ Energy consumption by Oxygen compressor plant Shop #18 for 22/04/2011
/16/ Form №1. Production and distribution of oxygen for January 2011.
/17/ Form №1. Production and distribution of oxygen for February 2011.
/18/ Form №1. Production and distribution of oxygen for March 2011.
/19/ Form №1. Production and distribution of oxygen for April 2011.
/20/ Form №1. Production and distribution of oxygen for May 2011.
/21/ Form №1. Production and distribution of oxygen for June 2011.
/22/ Form #2. Energy consumption on production in the oxygen compressor plant without turbocompressor hall for January 2011
/23/ Form #2. Energy consumption on production in the oxygen compressor plant without turbocompressor hall for January 2011
/24/ Form #2. Energy consumption on production in the oxygen compressor plant without turbocompressor hall for March 2011
/25/ Form #2. Energy consumption on production in the oxygen compressor plant without turbocompressor hall for April 2011
/26/ Form #2. Energy consumption on production in the oxygen compressor plant without turbocompressor hall for May 2011
/27/ Form #2. Energy consumption on production in the oxygen compressor plant without turbocompressor hall for June 2011
/28/ Form #3. Combined data on oxygen compressor plant work for January 2011
/29/ Form #3. Combined data on oxygen compressor plant work for February 2011
/30/ Form #3. Combined data on oxygen compressor plant work for March 2011
/31/ Form #3. Combined data on oxygen compressor plant work for April 2011
/32/ Form #3. Combined data on oxygen compressor plant work for May 2011
/33/ Form #3. Combined data on oxygen compressor plant work for June 2011
/34/ Oxygen balance for the period from 01/01/2011 till 31/01/2011
/35/ Oxygen balance for the period from 01/02/2011 till 28/02/2011
/36/ Oxygen balance for the period from 01/03/2011 till 31/03/2011
/37/ Oxygen balance for the period from 01/04/2011 till 30/04/2011
/38/ Oxygen balance for the period from 01/05/2011 till 31/05/2011
/39/ Oxygen balance for the period from 01/06/2011 till 30/06/2011
/40/ Census paper for internal audit of integrated management system operation in the oxygen compressor plant on 06/05/2011

/41/ JSC “Zaporizhstal” Protocol of internal audit of Integrated Management System oxygen compressor plant #11-111 dated 06/05/2011
/42/ Census paper for audit of integrated management system operation in the oxygen compressor plant on 16/02/2011
/43/ JSC “Zaporizhstal” Protocol of internal audit of Integrated Management System Oxygen compressor plant #11-34 dated from 16/02/2011
/44/ JSC “Zaporizhstal” Protocol of internal audit in plant of networks and substations on 06/05/2011
/45/ JSC “Zaporizhstal” Protocol of internal audit in plant of networks and substations #11-16 dated from 06/05/2011
/46/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converter type Диск-250, serial #53353 (second meter)
/47/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converter type Диск-250, serial #53356 (second meter)
/48/ Measuring equipment conditions and characteristics passport dated 14/04/2011 on converters type ДМ-3583, serial number #2913 (first meter) and type КСД-250, serial #68584 (second meter)
/49/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converter type Диск-250, serial #1511 (second meter)
/50/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converter type Диск-250, serial #53353 (second meter)
/51/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converters type ДМ-3583, serial number #481 (first meter) and type КСД-250, serial #250891 (second meter)
/52/ Measuring equipment conditions and characteristics passport dated 14/04/2011 on converters type ДМ-3583, serial number #14294 (first meter) and type КСД-250, serial #73535 (second meter)
/53/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converters type ДМ-3583, serial number #40445 (first meter) and type КСД-3, serial #118805(second meter)
/54/ Measuring equipment conditions and characteristics passport dated 14/04/2011 on converters type ДМ-3583, serial number #58848 (first meter) and type КСД-3, serial #68583 (second meter)
/55/ Measuring equipment conditions and characteristics passport dated 14/07/2011 on converter type Сапфир-5420, serial #08282132 (first meter)
/56/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converters type ДМ-3583, serial number

#24020 (first meter) and type КСД-3, serial #59498 (second meter)

/57/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converters type ДМ-3583, serial number #41087 (first meter) and type КСД-3, serial #104941(second meter)

/58/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converters type ДМ-3583, serial number #61341 (first meter) and type КСД-3, serial #202713 (second meter)

/59/ Measuring equipment conditions and characteristics passport dated 13/05/2011 on converter type Сапфир-5440, serial #11802921 (first meter)

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/ I. Kholina – Head of the environmental laboratory of JSC "Zaporizhstal"

/2/ V. Jarysh – Deputy head of chief power engineer department of JSC "Zaporizhstal"

/3/ A. Grabko – Head of automation and metrology department of JSC "Zaporizhstal"

/4/ R. Sheygus – Deputy chief power engineer for production technology of oxygen, compressed air, steam and energy saving of JSC "Zaporizhstal"

/5/ R. Lapitskiy – Head of OCP units department of JSC "Zaporizhstal"

/6/ O. Naumenko – Senior engineer of measurement equipment section of OCP of JSC "Zaporizhstal"

/7/ A. Leonov – Head of department's sector for technological process management automated systems of JSC "Zaporizhstal"

/8/ V. Ilchenko – Deputy head of the Substations Network Shop of JSC "Zaporizhstal"

/9/ M. Kozachenko – Head of technological bureau of the Substations Network Shop of JSC "Zaporizhstal"

/10/ V. Demina – Electrician at the Substations Network Shop of JSC "Zaporizhstal"

/11/ R. Kazakov – Principal specialist of CJSC "National Carbon Sequestration Foundation"

APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL

VERIFICATION PROTOCOL

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	The Project was approved by Host Party (Ukraine). The written project approval has been issued by State Environmental Investment Agency of Ukraine (Letter of Approval ref. No 1514/23/7, issued on 14/12/2009). The information about Sponsor Party was changed, however, no information regarding this change is provided in the MR. Moreover, the written project approval by the new sponsor Party has not been provided to the verification team *Corrective Action Request 01* Please provide written project approval by Sponsor Party (England), and explain this situation in the Monitoring Report.	CAR01	OK
91	Are all the written project approvals by Parties involved unconditional?	All project approvals are unconditional	OK	OK
Project implementation				
92	Has the project been implemented in	The project has been implemented in accordance	CAR02	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	with the PDD which was positively determined by TÜV NORD CERT GmbH. The undertaken activities and equipment installed under the project comply with the registered PDD ver.03 of 03/08/2009. The construction works under the project had lasted from February 2005 till October 2006. The installation work was performed in November 2005–May 2007; commissioning took place in June – December 2007. The air separation unit VRU-60 was put into operation in December 2007 (27/12/2007). *Corrective Action Request02* Please provide in the section A.6 of the monitoring report explanation on difference between emission reductions indicated in the PDD and in the Monitoring Report		
93	What is the status of operation of the project during the monitoring period?	*Corrective Action Request03* Please, provide the information in the Monitoring Report regarding the status of operation of the project during the current monitoring period.	CAR03	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	The monitoring occurred in accordance with the PDD regarding which the determination has been deemed final and revised monitoring plan which was positively determined in course of the 1st	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	on the UNFCCC JI website?	verification under the project. The revision to the monitoring plan in the PDD are described and justified in the document "Revision of the monitoring plan" ver.01 of 15/09/2010, Monitoring Report ver.05 of 27/11/2009 for the period of 01/01/2008-31/12/2008 as well as section A.8 of the MR for 2010. The monitoring system is in place and operational.		
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?	Key factors, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account for calculating the emission reductions, as appropriate. Relevant national policies and sectoral circumstances were considered when setting the baseline. Increased demand for oxygen by production workshops of the steel mill, special exploitation regimes etc. were taken into account for calculating the emission reductions.	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	The data sources used for calculating emission reductions are clearly identified, reliable and transparent. They are listed and classified in the MR Sections B.1.1 – B.1.3. Data sources include calibrated measuring equipment, equipment technological passports, study on assessment of standardized emission factor for Ukrainian power	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		grid etc. The scheme of monitoring points is presented of the figure B.1-1 in the MR.		
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	The emission factor used for calculating the emission reduction by the project is CO2 emission factor during electric power generation supplied by the power system of Ukraine for the projects consuming electric power which was determined in the Order #75 dated 12/05/2011 issued by State Environmental Investment Agency of Ukraine	OK	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	The performed calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner. The construction of the air-separation unit KAAr-32 was proven to be the most plausible baseline scenario.	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? 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?	Not applicable	Not applicable	Not applicable
Applicable to bundled JI SSC projects only				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	Not applicable	Not applicable	Not applicable
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	Not applicable	Not applicable	Not applicable
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?	Not applicable	Not applicable	Not applicable
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?	In course of the 1st verification (01/01/2008 – 31/12/2008) under the project, the project participants introduced the revision to the approved monitoring plan from the PDD. The description of the revision and its appropriate justification was provided in the separate document “Revision of the monitoring plan” ver.01 of 15/09/2010 and Monitoring Report ver.05 of	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		27/11/2009 for the period of 01/01/2008-31/12/2008. The changes introduced are also described in the Monitoring Report ver.03 for the considered monitoring period of 2010, and they are as follows: - The starting date of the crediting period was changed from 19/02/2008 to 01/01/2008 based on actual date of air separation unit operation commencement. - The description of monitoring plan chosen was revised in order to provide a clarity that chosen approach for the monitoring plan is based on Guidance on criteria for baseline setting and monitoring. - The formula for determination the total oxygen production in the baseline scenario was revised including the provision that if the oxygen production in the baseline is less than the measured oxygen production in the project, than the oxygen production in the baseline will be equal to the project oxygen production. This additional provision has been included in order to ensure the conservativeness of the approach for calculation the emission reductions. - The project participant provided revised estimates of emission reduction in order to reflect		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		the impact of the revised crediting period on the amount of the estimated emission reduction as this was presented in the registered PDD. - Uncertainty level and verification frequency of meters are specified; - Operational and management structure of monitoring is corrected which improves accuracy of the monitoring plan; - Monitoring of electricity consumption for production in OCP since 01/01/2009 are provided daily (vs. monthly in PDD) due to commissioning of electronic system for technical registration of electricity consumption, which ensures continuous and transparent data; - The barometric pressure data for oxygen generation/distribution monitoring are taken from the independent organization JSC “Zaporizhgas”, which organization ensures the quality of data used and results of emissions calculation. The procedures of barometric pressure data collection, using and archiving are determined by Manual of planimetrist. The above mentioned revisions were positively determined during the 1st periodic verification by AIE TÜV NORD CERT GmbH and presented in its 1st Periodic Verification Report “Reconstruction of the Oxygen Compressor plant		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		at the JSC "Zaporizhstal" Ukraine" No.8000377391 – 09/477 dated 07-10-2010.		
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	The introduced revision improves transparency, completeness, accuracy and applicability of information collected (see paragraph 99 (a) for further details) compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans. This revision does not affect conservativeness of the approach to the emission reductions calculations. The above mentioned revisions were positively determined during the 1st periodic verification by AIE TÜV NORD CERT GmbH.	OK	OK
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The implementation of data collection procedures is in accordance with the PDD and revised monitoring plan, which was positively determined during 1st period verification of the project. Most of those are integral part of the operational routine of the JSC "Zaporizhstal" including quality control and quality assurance procedures. A special corporate standard on GHG emission reduction monitoring STP 8.2-13-10 "Monitoring of GHG emission reductions" was elaborated incorporating existing data collection procedures for GHG	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		emission monitoring and introducing some new requirements on reporting documentation (special reporting forms) and quality control. In accordance with the established monitoring plan the following parameters are monitored throughout the crediting period: - electricity consumption by the OCP; - oxygen production in ASU VRU-60; - oxygen production in the reserved units (KAr-30, KtK-35-3, BR-2); - the amount of distributed oxygen.		
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	*Corrective Action Request 04* Please, include in the MR the detailed information on the measuring devices used in the monitoring of each project parameter used during the given monitoring period. *Clarification Request 01* Please, present response and the corresponding documentation to FAR 01 issued during the previous verification.	CAR 04 CL01	OK OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidences and records as to the project monitoring are maintained in a traceable manner. All necessary information for monitoring of GHGs emission reductions are stored in paper and electronic formats and will be saved till the end of	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		the crediting period and for two years after the last operation with ERUs from the project. The procedures for monitoring data keeping, archiving and responsible personnel are defined by STP 8.2-13-10 "Monitoring of GHG emission reductions" and other internal documents of JSC "Zaporizhstal".		
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The operational and management structure that the project participants apply in implementing the monitoring plan is in accordance with the determined PDD and revised monitoring plan. Responsibilities and roles of the personnel are explicitly indicated in the MR. The verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.	OK	OK
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	Not applicable	Not applicable	Not applicable
103	Is the verification based on the monitoring reports of all JPAs to be verified?	Not applicable	Not applicable	Not applicable
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable	Not applicable	Not applicable
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	Not applicable	Not applicable	Not applicable
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: − The types of JPAs; − The complexity of the applicable technologies and/or measures used; − The geographical location of each JPA; − The amounts of expected emission	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?	Not applicable	Not applicable	Not applicable
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?	Not applicable	Not applicable	Not applicable
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	Not applicable	Not applicable	Not applicable

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
Corrective Action Request 01 Monitoring Report version 01.1 indicates England as Sponsor Party. During verification was detected that ERUs was sailed to Switzerland. Please clarify this situation and change Monitoring Report	90	The information about project approval by Parties involved is revised in the section A.3 of the monitoring report version 02.1. The Letters of Approval are attached.	The information is provided in the Monitoring report. Issue is closed

Corrective Action Request 02 Please provide in the section A.6 of the monitoring report explanation on difference between emission reductions indicated in the PDD and in the Monitoring Report	92	The explanation on the difference between actual emission reductions from estimated value is provided in the section A.6.	The issue is closed
Corrective Action Request 03 Please, provide the information in the Monitoring Report regarding the status of operation of the project during the current monitoring period.	93	The information about status of the project operation is provided in the section A.2 of the monitoring report.	The issue is closed
Corrective Action Request 04 Please, include in the MR the detailed information on the measuring devices used in the monitoring of each project parameter used during the given monitoring period.	101(b)	The detailed information of the measuring devices used in the monitoring are provided in the table B.3.1-1 and B.3.1-2 of the monitoring report.	The issue is closed
Clarification Request 01 Please, present response and the corresponding documentation to FAR 01 issued during the previous verification.	101(b)	The monitoring in the current monitoring period is provided taken into account the FAR 01 issued during the previous verification. The relevant information is provided in the section B.3.1 of the monitoring report.	The issue is closed