VERIFICATION REPORT

INSTITUTE FOR ENVIRONMENT AND ENERGY CONSERVATION LTD.

VERIFICATION OF THE

REVAMPING OF SINTERING AND BLAST-FURNACE PRODUCTION AT OJSC "DNIPROVSKY INTEGRATED IRON AND STEEL WORKS NAMED AFTER DZERZHYNSKY"

INITIAL AND FIRST PERIODIC
(01/01/2008 – 31/12/2009)

REPORT NO. UKRAINE-VER/0262/2011
REVISION NO. 03
BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0262/2011

VERIFICATION REPORT

Date of first issue:	Organizational unit:
29/06/2011	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
Institute for Environment and Energy Conservation Ltd.	Vasyl Vovchak

Summary:

Bureau Veritas Certification has made the initial and 1st periodic verification of the "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky", project of Institute for Environment and Energy Conservation located in the city of Dniprodzerzhynsk, Dnipropetrovsk region, Ukraine, and applying JI specific approach, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria 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 (CL, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as described in approved project design documents. Installed equipment being essential for generating emission reductions run reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reductions are calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 3 024 672 tons of CO_2eq for the monitoring period 01/01/2008 – 31/12/2009 (1 665 516 tons of CO_2eq for the period 01/01/2008 – 31/12/2008 and 1 359 156 tons of CO_2eq for the period 01/01/2009 – 31/12/2009).

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.:	Subject Group:
UKRAINE-ver/0262/2011	JI

Project title:

Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky"

Work carried out by:

Oleg Skoblyk – Team Leader, Lead Verifier
Vera Skitina – Team member, Lead Verifier
Iuliia Pylnova – Team member, Verifier
Victoria Legka – Team member, Verifier

Work reviewed by:

Ivan Sokolov - Internal Technical Reviewer
Igor Alekseenko – Technical specialist

Work approved by:

Flavio Gomes - Operational Manager

Date of this revision:	Rev. No.:	Number of pages:
06/08/2011	03	35

Bureau Veritas Certification Holding SAS

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Abbreviations

AIE	Accredited Independent Entity
BFG	Blast Furnace Gas
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CHP	Combined Heat and Power
CL	Clarification Request
CO_2	Carbon Dioxide
COG	Coke Oven Gas
DIISW	PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky"
DFP	Designated Focal Point
DVM	Determination and Verification Manual
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
AAU	Assigned Amount Unit
GHG	Green House Gas(es)
GWP	Global Warming Potential
I	Interview
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MP	Monitoring Plan
MoV	Means of Verification
NGO	Non Government Organization
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change

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1 INTRODUCTION

Institute for Environment and Energy Conservation Ltd. has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" (hereafter called "the project") located in the city of Dniprodzerzhynsk, Dnipropetrovsk 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

Verification scope is defined as an independent and objective review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report and the determined project design document including 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 Lead Verifier;

Vera Skitina
Bureau Veritas Certification Team Member, Climate Change Lead Verifier;

Iuiia Pylnova
Bureau Veritas Certification Team Member, Climate Change Verifier;

Victoria Legka
Bureau Veritas Certification Team Member, Climate Change Verifier.

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer;

Igor Alekseenko
Bureau Veritas Certification, Technical specialist.

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 Institute for Environment and Energy Conservation Ltd. and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), 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 1, 2 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 26/04/2011 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 PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" (according to the documentation checked, 23.05.2011 PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" was established by changing the name of juridical person OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" to PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky") and Institute for Environment and Energy Conservation Ltd. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky"	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
Institute for Environment and Energy Conservation Ltd.	Baseline methodology Monitoring plan Monitoring report

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 reductions calculations.

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 6 Corrective Action Requests, 8 Clarification Requests, and 2 Forward Action 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

There was one remaining issue (FAR #01) concerning keeping the data monitored for two years after the last transfer of emission reductions units for the project. The FAR (FAR 01 of this report) is still under consideration; the order concerning the procedure for keeping monitoring data is expected to be issued by PJSC “Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky” in July 2011. FAR 01 will be checked during next periodic verification.

3.2 Project approval by Parties involved (90-91)

Written project approval by the Netherlands (Declaration of Approval 2011JI15 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" issued by Ministry of Economic Affairs, Agriculture and Innovation dated 10.05.2011) has been issued by the DFP of that Party when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest.

Also, Letter of Approval (LoA #1838/23/7 dated 15/07/2011) on the JI project "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" issued by State Environmental Investment Agency of Ukraine that is National Focal Point of host Party (Ukarine).

The abovementioned written approvals are unconditional.

The identified areas of concern as to Project approval by Parties involved, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 01).

3.3 Project implementation (92-93)

The implementation status of the project.

#	Measures	2004	2005	2006	2007	2008	2009
1	**Technological improvements of the BFs operation:** - improvement of blast furnace coke quality; - decreasing the silicon content in the pig iron; - decreasing the BFs idle times and downtime; - partial substitution of the limestone by lime; - improvement of quality of agglomerate.						
2	**Renewal and reconstruction of BF#1M**						
3	**Implementation of a new oxygen plant AKAp 40/53-4**						
4	**Modernization of the sintering process:** - improvements of solid fuel burning process, which is part of the sintering charge; - increase of the level of steel waste						

	utilization; - implementation of the state-of-the-art dust suppression and gas purification facilities; - optimization of limestone decomposition reaction; - improvement of natural gas burning process, which is supplied to burners for the ignition of sintering charge; - improvements of chemical composition of sinter charge; - reduction of fine fraction content in agglomerate.						

The identified areas of concern as to Project implementation, project participants response and BV Certification's conclusion are described in Appendix A (refer to CL 01).

3.4 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.

For calculating the emission reductions, key indicators, constants and variables such as total pig iron output, quantity of each fuel used in making pig iron, emission factor for fuel consumption, electricity consumed in producing pig iron, emission factor for electricity consumption, quantity of fuel used in sintering process, electricity consumed in sintering process, quantity of reducing agents, emission factor of each reducing agent, quantity of each other input, emission factor of each other input, quantity of fuel used for balance of process needs, and electricity consumed for balance of process needs, 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 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.

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

The identified areas of concern as to Compliance of the monitoring plan with the monitoring methodology, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 02, CAR 03, CL 03, CAR 04, CAR 05, CL 04, CAR 06, CL 05).

3.5 Revision of monitoring plan (99-100)

Not applicable.

3.6 Data management (101)

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

The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures. These procedures are mentioned in the section "References" of this report.

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.

The identified areas of concern as to Data management, project participants response and BV Certification's conclusion are described in Appendix A (refer to CL 02, CL 06, CL 07, CL 08, FAR 01, FAR 02).

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the initial and 1st periodic verification of the "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" Project in Ukraine, which applies JI specific approach. The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following 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 PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD version 6. 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 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reductions 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 reductions are accurately calculated and are free of material errors, omissions, or misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the approved project baseline and monitoring plan, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/2008 to 31/12/2008
Baseline emissions : 10 107 617 t CO_2 equivalents.
Project emissions : 8 442 101 t CO_2 equivalents.
Emission Reductions : 1 665 516 t CO_2 equivalents.

Reporting period: From 01/01/2009 to 31/12/2009
Baseline emissions : 10 568 919 t CO_2 equivalents.
Project emissions : 9 209 763 t CO_2 equivalents.
Emission Reductions : 1 359 156 t CO_2 equivalents.

For the monitoring period (01/01/2008 – 31/12/2009), total amount of emission reductions is 3 024 672 CO_2 equivalents.

Project and baseline emissions which are stated above are rounded by monitoring report developers to the whole figure and are based on

calculations which are demonstrated in excel file attached to the monitoring report.

5 REFERENCES

Category 1 Documents:
Documents provided by Institute for Environment and Energy Conservation Ltd. that relate directly to the GHG components of the project.

/1/ PDD "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky", version 6 dated 10/05/2011;
/2/ Decree of Cabinet of Ministers of Ukraine #206, dated 22/02/2006;
/3/ Monitoring Report "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" (2008-2009), version 1 dated 20.04.2011;
/4/ Monitoring Report "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" (2008-2009), version 2 dated 30.05.2011;
/5/ Letter of Endorsement №1807/23/7 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" dated November, 09, 2010 issued by National Environmental Investment Agency of Ukraine;
/6/ Declaration of Approval 2011JI15 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" issued by Ministry of Economic Affairs, Agriculture and Innovation dated 10.05.2011.
/7/ Letter of Approval #1838/23/7 dated 15/07/2011 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" issued by State Environmental Investment Agency of Ukraine;
/8/ Excel-file "Revamping of sintering and blast-furnace production at OJSC DIISW-ER-Monitoring-2008-2009-mod".

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

/1/ Glossary of JI terms, version 03, JISC;
/2/ Guidance on Criteria for Baseline Setting and Monitoring, version 02, JISC;
/3/ JISC "Clarification regarding the public availability of documents under the verification procedure under the Joint Implementation

Supervisory Committee." Version 03;
/4/ License #159170, Series AB, dated 28/08/2006, valid from 22/06/2006 till 01/07/2011, on providing the services to educational establishments, issued by the Ministry of Education and Science of Ukraine;
/5/ Working educational plans and training programmes collected book for ventilation and aspiration units operator, approved of 30/09/2008, 3 categories, DIISW;
/6/ Working educational plans and training programmes collected book for out-of-furnace steel processing steel maker specialty, approved of 30/09/2008, 6, 7 categories, DIISW;
/7/ Certificate #1210037982TMS dated 22/03/2010, valid till 21/03/2013, on quality management system conformity to ISO 9001:2008 standard requirements, issued by TÜV SÜD Management Service GmbH Certification Entity;
/8/ Report on audit dated 22/12/2009;
/9/ Operational logbook, sintering plants 2, 3;
/10/ Energy consumption results for 2008, 2009, 2010 at DIISW;
/11/ Photo – Active power energy meters at DRZ-10 substation;
/12/ Energy measurement logbook, DRZ-10 substation;
/13/ Logbook on energy consumed by DRZ-10 substation (power meters);
/14/ Photo – Natural gas calculation by electric automated system;
/15/ Photo – Natural gas calculation for April 2007 by electric automated system;
/16/ Photo – Oxygen calculation by electric automated system;
/17/ Certificate on natural gas physical and chemical characteristics for the period since 01/01/2009 till 31/01/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/18/ Certificate on natural gas physical and chemical characteristics for the period since 01/02/2009 till 28/02/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/19/ Certificate on natural gas physical and chemical characteristics for the period since 01/03/2009 till 31/03/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/20/ Certificate on natural gas physical and chemical characteristics for the period since 01/04/2009 till 30/04/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/21/ Certificate on natural gas physical and chemical characteristics for the period since 01/05/2009 till 31/05/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/22/ Certificate on natural gas physical and chemical characteristics for the period since 01/06/2009 till 30/06/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/23/ Certificate on natural gas physical and chemical characteristics for the period since 01/07/2009 till 31/07/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;

/24/ Certificate on natural gas physical and chemical characteristics for the period since 01/08/2009 till 31/08/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/25/ Certificate on natural gas physical and chemical characteristics for the period since 01/09/2009 till 30/09/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/26/ Certificate on natural gas physical and chemical characteristics for the period since 01/10/2009 till 31/10/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/27/ Certificate on natural gas physical and chemical characteristics for the period since 01/11/2009 till 30/11/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/28/ Certificate on natural gas physical and chemical characteristics for the period since 01/12/2009 till 31/12/2009, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/29/ Certificate on natural gas physical and chemical characteristics for the period since 01/10/2008 till 31/10/2008, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/30/ Certificate on natural gas physical and chemical characteristics for the period since 01/07/2008 till 31/07/2008, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/31/ Certificate on natural gas physical and chemical characteristics for the period since 01/04/2008 till 30/04/2008, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/32/ Certificate on natural gas physical and chemical characteristics for the period since 01/01/2008 till 31/01/2008, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/33/ Certificate on natural gas physical and chemical characteristics for the period since 01/03/2008 till 31/03/2008, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/34/ Certificate on natural gas physical and chemical characteristics for the period since 01/05/2008 till 31/05/2008, issued by Dnipropetrovsk Chemical Analytical Laboratory;
/35/ Report on audit #3330/2ENV/B0 on ISO 14001 standard, issued by TÜV Thüringen e. V. Management System and Personnel Certification Entity;
/36/ Permit #5 dated 16/02/2009 on construction works, issued by State Dnipropetrovsk Region Inspection of Architecture and Construction Control;
/37/ Statement dated 01/10/2008 of working committee on continuous casting machine #1 construction completeness;
/38/ Statement dated 16/12/2008 of state inspection committee on completed by construction object commissioning;
/39/ Permit #120436900-99, valid from 18/02/2008 till 18/02/2013, on stationary sources air pollution, issued by the Ministry of Environmental Protection of Ukraine;
/40/ Statement dated 12/03/2008 of state inspection committee on

completed by construction object, blast furnace #10;
/41/ Order #228 dated 26/03/2008;
/42/ Photo – On-line data base on casting process records;
/43/ Photo – On-line data base on materials consumption records;
/44/ Excel spreadsheet on blast furnace shop operation for 2009;
/45/ Photo – active power meter type СА3У-И670, serial #42258;
/46/ Photo – active power meter type СА3У-И670, serial #111336;
/47/ Photo – active power meter type СА3У-И670, serial #09739;
/48/ Logbook on power consumption from 0:00 a.m. till 0:00 p.m.;
/49/ Power consumption by GSU-HPP for January 2009;
/50/ Power consumption by GSU-HPP for September 2008;
/51/ Passport #857 dated 21/02/2008 on pressure transmitter type Metran, serial #357395;
/52/ Balance sheet for 2008, dated 16/01/2009, on iron during sinter production at DIISW;
/53/ Technical characteristics of blast furnace #1M and service equipment;
/54/ Actions on CO2 amount reduction during sinter production at sintering plant #2;
/55/ Attestation certificate #06544-5-2-26/3 ГОМС dated 07/07/2008, valid till 07/07/2011, issued by the Ministry of the Industrial Policy of Ukraine.

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/ Antotnov Iu. H. – head of the technical department;
/2/ Hyryn Iu. V. – chief sintering worker;
/3/ Krupyi V. H. – chief blast furnace worker;
/4/ Sudak V. A. – chief power engineer;
/5/ Turkyn M. B. – deputy chief power engineer;
/6/ Kryzhanivskyi – head of the sintering plant #2;
/7/ Marchenko A. I. – head of the blast furnace shop;
/8/ Makhlai – head of the converter shop;
/9/ Iehorov Iu. V. – chief metrologist, head of the control measuring equipment and facilities shop;
/10/ Ievtushenko V. A. – acting head of the metrological laboratory;
/11/ Skrypchenko S. A. – head of the technological weighting and measuring systems shop;
/12/ Soletskyi V. M. – chief engineer of the capital construction office;
/13/ Motsnyi V. V. – head of the technical department;
/14/ Oliinyk N. A. – head of the project development and construction

department;

/15/ Shabanova I. R. – head of the personnel technical education and training department;

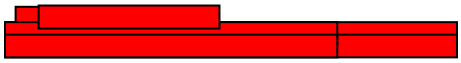
/16/ Hrytsan I. V. – deputy head of the planning and economical department;

/17/ Bairak Iu. M. – acting head of the environmental protection service;

/18/ Rudenko Iu. R. – deputy head of the sintering and blast furnace production technical department;

/19/ Honcharenko S. H. – head of the technical department re-equipment;

/20/ Karpenko N. L. – 1 category engineer of technical department blast furnace bureau.



APPENDIX A: VERIFICATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

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?	**CAR 01.** There is no written project approval from Parties involved indicated in the Monitoring Report.	CAR 01	OK
91	Are all the written project approvals by Parties involved unconditional?	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?	Implementation of the project activity is based on the project implementation schedule included in the PDD.	OK	OK
93	What is the status of operation of the project during the monitoring	Monitoring report indicates the current status of the project activity		

	period?	implementation. 1. Technological improvements in the BFs operation: - improvement of blast furnace coke quality; - decreasing the silicon content in the pig iron; - decreasing the BFs idle times and downtime; - partial substitution of the limestone by lime; - improvement of the quality of agglomerate. 2. Renewal and reconstruction of BF#1M. 3. Implementation of a new oxygen plant AKAp 40/53-4. 4. Modernization of the sintering process: - improvements of solid fuel burning process, which is part of the sintering charge; - increase of the level of steel waste utilization; - implementation of the state-of-the-art dust suppression and gas purification facilities; - optimization of limestone decomposition reaction; - improvement of natural gas burning process, which is supplied to burners for		

		the ignition of sintering charge; - improvements of chemical composition of sinter charge; - reduction of fine fraction content in agglomerate. **CL 01.** The implementation date for new oxygen plant AKAp 40/53-4 is the year 2007. Please, revise the information concerning chronology of measures' implementation.	CL 01	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?	The monitoring is based on actual data (mentioned in the reporting documents) of output production, and FER (fuel and energy resources) consumption under the projectline and baseline scenarios as it is required by the JI PDD.	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	According to the monitoring report, key factors and other risks associated with the project (that can influence baseline and project emissions) are taken into account. **CL 02.** Please, provide information concerning reporting risks and include this information in the Monitoring Report. Also, please, clarify whether there are possibilities of redundant data monitoring	CL 02	OK

	appropriate?	in case of having problems with the used monitoring equipment.		
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	Data sources used for calculating emission reductions are identified in the Monitoring report. Data were collected in the electronic database of DIISW and in printed documents. Also data were systematized in the documents of the daily, monthly and annually registration. All those documents were saved in the planning-economic department. **CAR 02.** Please, confirm all the values (in the tables on projectline parameters monitored) by providing appropriate documents (calculations). **CAR 03.** Please, provide (in the Monitoring Report) the list of measuring equipment (used for monitoring) for all the parameters monitored. Also, state the periodicity (for the monitoring period) of calibration/verification for the monitoring equipment.	CAR 02 CAR 03	OK OK

95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	**CL 03.** Please take into account that for the years 2008 and 2009, new emission factors for electricity consumption are approved by NEIA in April 2011. **CAR 04.** Please, unify the information on emission factors for electricity consumption and fuel consumption used for different processes. **CAR 05.** Please, give clear references to values of all the emission factors included to the table on parameters monitored.	CL 03 CAR 04 CAR 05	OK 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?	**CL 04.** Please, clarify exactly whether the calculation of emission reductions is based on conservative assumptions or not. If yes, indicate this in the Monitoring Report. **CAR 06.** Please, provide Excel-files with emission reductions calculations. **CL 05.** Please, include in the Monitoring Report information concerning leakages (even if the leakages are negligible, it shall be stated in the Monitoring Report).	CL 04 CAR 06 CL 05	OK 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	N/A	N/A	N/A

	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?			
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?	N/A	N/A	N/A
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	N/A	N/A	N/A
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	Procedures of data collection are implemented in compliance with the monitoring plan. **CL 06.** Please, give transparent (traceable) description of the data collection procedures in the Monitoring report. **CL 07.** Please, include (in the monitoring report) information on compliance audits for the standards ISO 9001, ISO 14000, OHSAS 18000 conducted during the monitoring period.	CL 06 CL 07 CL 08	OK OK OK

		CL 08. Please, include information (which can be related to the project) on training and qualification conducted during the monitoring period.		
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	The monitoring equipment is properly calibrated. Passports for monitoring equipment and the date of its last calibration were checked by verifiers on the site-visit.	OK	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	Monitoring data is collected into electronic database of DIISW as well as in paper format. Data is further compiled in (i) day-to-day records, (ii) quarterly records, and (iii) annual records. All records are finally stored in Planning Department. After the determination of the project "Revamping of sintering and blast-furnace production at OJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky", the FAR 01 remains open. The FAR (FAR 01 of this report) is still under consideration; the order concerning the procedure for keeping monitoring data is expected to be issued by DIISW in July 2011. FAR 01 will be checked during next periodic verification. **FAR 01.** The data to be monitored and required for determination are to be kept	FAR 01	The issue will be checked

		for two years after the last transfer of emission reductions units for the project. The order concerning the procedure for keeping monitoring data should be issued by DIISW.		during the next verification
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection and management system for the project is in accordance with the monitoring plan. **FAR 02.** At the DIISW the order concerning indication of the names of the personnel involved in the monitoring should be issued.	FAR 02	The issue will be checked on the next verification
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	N/A	N/A	N/A
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/A	N/A	N/A
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each N/A 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	N/A	N/A	N/A

	erroneously included JPA, has the AIE informed the JISC of its findings in writing?			
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 reductions of the JPAs being verified; - The number of JPAs for which emission reductions are being	N/A	N/A	N/A

	verified; - The length of monitoring periods of the JPAs being verified; and - The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	N/A	N/A	N/A
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	N/A	N/A	N/A
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	N/A	N/A	N/A

110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	N/A	N/A	N/A

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR 01. There is no written project approval from Parties involved indicated in the Monitoring Report.	90	The letter of approval from foreign country was received from the Government of the Netherlands (Ministry of Economic Affairs, reference: 2011JI15 of 10.05.2011). The copy of LoA is attached to the protocol. Also, the LoA from the host Party was issued. The document was provided to the verification team.	According to the provided document, issue is closed.
CAR 02. Please, confirm all the values (in the tables on projectline parameters monitored) by providing appropriate documents (calculations).	95 (b)	<u>Response #1</u> An appropriate excel file that confirms all the values used for emission reductions calculations is now provided to the verifier. The file demonstrates specific volumes of fuel and energy	<u>Conclusion on response #1</u> Please, confirm all the values (in the Excel-files provided and in the PDD tables on

		resources consumption per ton of output and is in accordance with the data that was checked by the verifier in the planning and economic department of DIISW during the site visit. Response #2 Necessary information (additional Excel-file) is provided to the verifier.	projectline parameters monitored) by calculations made and provided to you by DIISW. Conclusion on response #2 The issue is closed due to the information provided.
CAR 03. Please, provide (in the Monitoring Report) the list of measuring equipment (used for monitoring) for all the parameters monitored. Also, state the periodicity (for the monitoring period) of calibration/verification for the monitoring equipment.	95 (b)	The list of monitoring equipment is now provided to the verifier. The list of monitoring equipment together with information regarding periodicity of calibration and verification is now also included in the Annex 1 of the monitoring report.	Based on the amendments made in the Monitoring Report the issue is closed.

CAR 04. Please, unify the information on emission factors for electricity consumption and fuel consumption used for different processes.	95 (c)	The emission factors for electricity consumption and fuel consumption are now unified. The methodology applied in this monitoring report is in accordance with methodology stated in the PDD.	Due to the modifications made in the Monitoring Report, the issue is closed.
CAR 05. Please, give clear references to values of all the emission factors included to the table on parameters monitored.	95 (c)	Clear references to values of all the emission factors included to the table on parameters monitored are now included in the modified monitoring report.	Based on the corrections made in the Monitoring Report, CAR 05 is closed.
CAR 06. Please, provide Excel-files with emission reductions calculations.	95 (d)	The Excel-file with calculations of ERU is now provided to the verifier.	The issue is closed based on the information provided.
CL 01. The implementation date for new oxygen plant AKAp 40/53-4 is the year 2007. Please, revise the information concerning chronology of measures' implementation.	93	Response #1 According to "the Act of the State Selection Committee about the Taking in Operation of Finished by Construction Object" the starting date of implementation of oxygen plant AKAp 40/53-4 was March 2006 and completion date was August 2007. The copy of act is attached to the protocol. Response #2 The copy of the required act is provided to the verifier.	Conclusion on response #1 The Act of the State Selection Committee about Taking in Operation of Finished by Construction Object is still not attached to the protocol. Conclusion on response #2 The issue is closed.
CL 02. Please, provide information concerning reporting risks and include this	95 (a)	The reporting risk is rather low. In case of having problems with certain monitoring devices, the accounting	CL 02 is closed due to the amendments made in the Monitoring Report.

information in the Monitoring Report. Also, please, clarify whether there are possibilities of redundant data monitoring in case of having problems with the used monitoring equipment.		system is organized in such way that allows double checking of all the data. Ultimately all information can be proven by independent invoices with the third parties. However such a risk is very low and has not appeared in the suggested monitoring period.	
CL 03. Please take into account that for the years 2008 and 2009, new emission factors for electricity consumption are approved by NEIA in April 2011.	95 (c)	The emission factors for electricity consumption were updated and now are in accordance with the orders of the National environmental investment agency of Ukraine #62 dated 15th of April 2011 and #63 dated 15th of April 2011. The emission factors are the level of 1,082 tCO_2e/MWh for the year 2008 and at the level of 1,096 tCO_2e/MWh for the year 2009.	The issue is closed due to the amendments made.
CL 04. Please, clarify exactly whether the calculation of emission reductions is based on conservative assumptions or not. If yes, indicate this in the Monitoring Report.	95 (d)	Calculation of emission reductions is based on conservative assumptions, which can be proved by such facts: - the price of natural gas in the baseline period was lower than in the project line period. That's why there were no substitutes of natural gas by coal as it was in project line period. As a result, such substitution decreased the total amount of emission reductions; - the quality of iron-bearing materials in project line period sometimes was lower	CL 04 is closed based on the explanation provided.

		in comparison with the baseline period. That was the reason of the total amount of emission reductions decrease.	
CL 05. Please, include in the Monitoring Report information concerning leakages (even if the leakages are negligible, it shall be stated in the Monitoring Report).	95 (d)	There are no leakages generated within proposed project activity. The information is now included in the monitoring report.	The issue is closed due to the corrections made in the Monitoring Report.
CL 06. Please, give transparent (traceable) description of the data collection procedures in the Monitoring report.	101 (a)	The data required to be monitored under the proposed JI project was routinely collected within the normal operations of the DIISW. Together with this data collection was an integral part of routine monitoring. Data was compiled in (i) day-to-day records, (ii) quarterly records, and (iii) annual records. Data were collected in the electronic database of DIISW and in printed documents. All records are finally stored in Planning Department.	Based on the information provided, CL 06 is closed.
CL 07. Please, include (in the monitoring report) information on compliance audits for the standards ISO 9001, ISO 14000, OHSAS 18000 conducted during the monitoring period.	101 (a)	In accordance with “Guidance on quality management systems” and “Standard on internal audits” regulatory documents of DIISW compliance audits are conducted. The bureau of standardized certification is responsible for management, realization and data storage of the audits. The audits are conducted on	Due to the provided information, the issue is closed.

		monthly basis in accordance with schedule developed at the beginning of each year by the group of accredited auditors of the bureau of standardized certification. The person responsible for appropriate implementation of the audits is the Chief of technological management of the plant.	
CL 08. Please, include information (which can be related to the project) on training and qualification conducted during the monitoring period.	101 (a)	The direction of DIISW organized appropriate staff training to operate the project equipment. With the project equipment introduction the workers of DIISW had the opportunity to update their working skills, stimulated by the permanent educational theoretical and practical courses at the Steel Plant. In the reporting period the following trainings were conducted: - From 2005 - 2010 - the course on professional development in the sphere of sintering production related to usage of ignition hearth with 8 burners; - In 2008 - the course on professional development on the utilization of AKAp 40/53-4 facility; - In 2008 - trainings on BFs hydraulic equipment utilization and repair; - In 2008 – trainings on maintenance and equipment repair of hydraulic-	Based on the information included in the Monitoring report, CL 08 is closed.

		pneumatic equipment and systems of oil and grease; - In 2008 – trainings on machinery of air-separation in oxygen shop. The stated information was added to the Monitoring report.	
FAR 01. The data to be monitored and required for determination are to be kept for two years after the last transfer of emission reductions units for the project. The order concerning the procedure for keeping monitoring data should be issued by DIISW.	101 (c)	The order concerning the procedure for keeping data will be issued by DIISW in July 2011.	The issue will be checked during the next verification.
FAR 02. At the DIISW the order concerning indication of the names of the personnel involved in the monitoring should be issued.	101 (d)	The order concerning indication of the names of the personnel involved in the monitoring will be issued by DIISW in July 2011.	The issue will be checked during the next verification.