VERIFICATION REPORT

INSTITUTE FOR ENVIRONMENT AND ENERGY CONSERVATION LTD.

VERIFICATION OF THE

REVAMPING OF SINTERING AND BLAST-FURNACE PRODUCTION AT OJSC "ALCHEVSK IRON AND STEEL WORKS"

REPORT NO. UKRAINE-VER/0244/2011

REVISION NO. 03

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0244/2011

VERIFICATION REPORT

Date of first issue:	Organizational unit:
30/05/2011	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 "Alchevsk Iron and Steel Works", UA1000262, project of Institute for Environment and Energy Conservation Ltd. located in Alchevsk, Lugansk oblast, 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 (CR, 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 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 3 719 114 tons of CO_2eq for the monitoring period (01/01/2008 – 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/0244/2011	JI		
Project title:			
"Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works"			
Work carried out by:			
Oleg Skoblyk – Team Leader, Lead Verifier Vera Skitina – Team member, Lead Verifier Iuliia Pylnova – Team member, Verifier Olena Manziuk – Team member, Verifier			
Work reviewed by:			
Ivan Sokolov - Internal Technical Reviewer Igor Alekseenko – Technical specialist		☒	No distribution without permission from the Client or responsible organizational unit
Work approved by:			
Flavio Gomes - Operational Manager		☐	Limited distribution
Date of this revision:	Rev. No.:	Number of pages:	
16/06/2011	03	38	☐ Unrestricted distribution

Bureau Veritas Certification Holding SAS

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
AISW	PJSC “Alchevsk Iron and Steel Works”
DFP	Designated Focal Point
DVM	Determination and Verification Manual
EIA	Environmental Impact Assessment
ERU	Emission Reduction 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 "Alchevsk Iron and Steel Works" (hereafter called "the project") at Alchevsk, Lugansk oblast, 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

Iuliia Pylnova
Bureau Veritas Certification Team Member, Climate Change Verifier

Olena Manziuk
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 version 1, 2, and 2.1 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 24/03/2011 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 "Alchevsk Iron and Steel Works" (according to the documentation checked, 16.05.2011 PJSC "Alchevsk Iron and Steel Works" was established by changing the name of juridical person OJSC "Alchevsk Iron and Steel Works" to PJSC "Alchevsk Iron and Steel Works") 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 "Alchevsk Iron and Steel Works"	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 reduction calculation.

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

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

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

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

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 5 Corrective Action Requests, 9 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 “Alchevsk Iron and Steel Works” in June 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 2011JI14 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" 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.

The abovementioned written approval is 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:
- reduction of specific coke consumption per tone of pig iron;
- 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;
- installation of pulverized coal injection (PCI) facility at BF # 1 (implementation of this measure was started in October 2006 and was completed in May 2009);
- installation of PCI facility at BF # 5 (implementation of this measure was started in October 2006 and was completed in August 2009);
- installation of PCI facility at BFs ## 3,4 (implementation of the measure was started in October 2006 and is expected to be completed in the year 2015);
- renewal and reconstruction of BF # 1 (implementation of this measure was started in the first half of 2004 and BF#1 was commissioned on 16th of May 2007);
- renewal and reconstruction of BF # 5 (implementation of this measure was started in 2006 and is expected to be completed during year 2011);
- reconstruction of the oxygen unit # 4 (implementation of this measure was started in 2004 and was completed in December 2005);
- installation of oxygen unit # 7 (implementation of this measure was started in 2007 and was completed in 2008).
- installation of oxygen unit # 8 (implementation of this measure was started in 2007 and was completed in 2009);
- construction of BF # 2 (implementation of this measure was started in 2007 and was not completed during monitoring period. According to the project implementation schedule stated in the PDD, commissioning of the measure is expected in the year 2015);

- construction of new sinter plant (implementation of this measure was started in 2006 and was not completed during the monitoring period. According to the project implementation schedule in the PDD, commissioning of the sinter plant is expected in the year 2016);
- construction of new lime kilns (implementation of this measure was started in 2005 and expected to be accomplished in the 2nd half of 2010);

The identified areas of concern as to Project implementation, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 02 and 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 in pig iron production, 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 03, CAR 04, CAR 05, CL 03, CL 04, CL 05, CL 06, and CL 09).

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 07, CL 08, FAR 01 and 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 “Alchevsk Iron and Steel Works” 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 “Alchevsk Iron and Steel Works” 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 4. 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 2.1 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 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 01/01/2008 to 31/12/2008

Baseline emissions	: 12 345 360 t CO_2 equivalents.
Project emissions	: 10 321 808 t CO_2 equivalents.
Leakages	: 90 241 t CO_2 equivalents.
Emission Reductions	: 1 933 311t CO_2 equivalents.

Reporting period: From 01/01/2009 to 31/12/2009

Baseline emissions	: 10 572 588 t CO_2 equivalents.
Project emissions	: 8 649 238 t CO_2 equivalents.
Leakages	: 137 547 t CO_2 equivalents.
Emission Reductions	: 1 785 803 t CO_2 equivalents.

For the monitoring period (01/01/2008 – 31/12/2009), total amount of emission reductions is 3 719 114 CO_2 equivalents.

Project emissions 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 "Alchevsk Iron and Steel Works", version 4 dated 14/04/2011
/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 "Alchevsk Iron and Steel Works" (2008-2009), version 1 dated 15.02.2011.
/4/ Monitoring Report "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" (2008-2009), version 2 dated 24.05.2011.
/5/ Monitoring Report "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" (2008-2009), version 2.1 dated 16.06.2011.
/6/ Letter of Endorsement № 1806/23/7 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" dated November, 09, 2010 issued by National Environmental Investment Agency of Ukraine.
/7/ Declaration of Approval 2011JI14 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" issued by Ministry of Economic Affairs, Agriculture and Innovation dated 10.05.2011.
/8/ Letter of Approval #1155/23/7 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" issued by National Environmental Investment Agency of Ukraine dated 11.05.2011.

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/ Measurement equipment (ME) periodic calibration schedule at AISW for 2010 Mechanical Shops State Enterprise. Approved by chief engineer, dated 2009
/5/ Calculation for December 2010. Agglomeration shop
/6/ Calculation for November 2010. Agglomeration shop

/7/ Calculation for November 2010. Open hearth furnace shop
/8/ Protocol #69 dated 15/02/2011 on LDCS expert committee meeting. Alchevsk Iron and Steel Works, personnel training department
/9/ Collected volume of Ladleman speciality educational plans, training, retraining and personnel development programmes. LDCS. Approved 04/01/2011
/10/ Protocol #97 dated 18/02/2011 on AS expert committee meeting. Alchevsk Iron and Steel Works, personnel training department
/11/ Collected volume of Conveying System Operator speciality educational plans, training, retraining, new profession and personnel development programmes. LDCS. Approved 20/05/2010
/12/ Protocol #98 dated 24/02/2011 on BFS expert committee meeting. Alchevsk Iron and Steel Works, personnel training department
/13/ Collected volume of Metallurgy Waste Cleaner speciality educational plans, training, retraining, new profession and personnel development programmes. LDCS. Approved 23/07/2010
/14/ Protocol #21 dated 13/01/2011 on BFS expert committee meeting. Alchevsk Iron and Steel Works, personnel training department
/15/ Collected volume of Dispensing Machine Cleaner speciality educational plans, training, retraining, new profession and personnel development programmes. LDCS. Approved 24/06/2010
/16/ Quality certificate dated 17/02/2011 on blast furnace coke from compressed furnace-charge. Alchevskkoks. Batch #1741
/17/ Quality certificate dated 18/02/2011 on blast furnace coke from compressed furnace-charge. Alchevskkoks. Batch #563
/18/ Quality certificate #272 dated 22/03/2011, pellets marking, Severnyi (Western) mining-and-processing integrated works
/19/ Quality certificate #110 dated 11/12/2010, pellets marking, Severnyi (Western) mining-and-processing integrated works
/20/ Quality certificate #166 dated 14/03/2011, concentrate marking, Severnyi (Western) mining-and-processing integrated works
/21/ Quality certificate #781 dated 28/03/2011 on concentrate, Inhulets mining-and-processing integrated works
/22/ Quality certificate #413 dated 01/02/2011 on concentrate, Inhulets mining-and-processing integrated works
/23/ Photo – Active and reactive energy multistandard meter type LZQM 321.02.534, serial #346797
/24/ Photo – Active and reactive energy multiple-tariff meter type LZQM 321.02.534, serial #255530
/25/ Photo – Active and reactive energy multiple-tariff meter type LZQM 321.02.534, serial #72176
/26/ Photo – Active and reactive energy multiple-tariff meter type LZQM 321.02.534, serial #72198
/27/ Photo – Active and reactive energy multiple-tariff meter type LZQM 321.02.534, serial #72165
/28/ Passport #196 on coke weighting controller, BFS #1, serial #1222,

AISW BFS. Calibration dated 11/01/2011
/29/ Passport #197 on coke weighting controller, BFS #1, serial #1223, AISW BFS. Calibration dated 11/01/2011
/30/ Passport #190 on coke weighting controller, BFS #3, serial #1217, AISW BFS. Calibration dated 06/01/2011
/31/ Passport #191 on coke weighting controller, BFS #3, serial #1218, AISW BFS. Calibration dated 06/01/2011
/32/ Passport #193 on coke weighting controller, BFS #4, serial #1220, AISW BFS. Calibration dated 13/01/2011
/33/ Passport #193 on coke weighting controller, BFS #5, serial #1219, AISW BFS. Calibration dated 13/01/2011
/34/ Passport #195 on coke weighting controller, BFS #5, serial #1224, AISW BFS. Calibration dated 13/01/2011
/35/ Summarized data for the period since 01/12/2008 till 31/12/2008. Blast furnace shop. Pig iron.
/36/ Summarized data for the period since 01/12/2008 till 31/12/2008. Agglomeration shop
/37/ Data of 24/03/2011 on measurement equipment used for industrial emissions monitoring at Alchevsk Iron and Steel Works
/38/ Passport on blast furnace gas consumption measurement equipment, serial #08817119. Agglomeration plant area. Calibration dated 16/09/2010
/39/ Passport on coke gas consumption measurement equipment, BF #1, serial #495684. Adjunct area. Calibration dated 14/04/2010
/40/ Passport on natural gas consumption measurement equipment, BF #4, serial #05900228. Adjunct area. Calibration dated 21/01/2011
/41/ Passport on natural gas consumption measurement equipment, BF #5, serial #000225. Adjunct area. Calibration dated 23/08/2010
/42/ Passport on flow meter, serial #91FC04555. CRMS site. Calibration dated 25/01/2011
/43/ Passport on gas consumption measurement unit at the shop, СПГ762 serial #1059, Metran #222932. CRMS shop. Calibration dated 25/01/2011
/44/ Passport on flow meter, serial #91FC04556. CRMS site. Calibration dated 25/01/2011
/45/ Passport on technical oxygen consumption measurement unit at the shop, СПГ762 serial #1059, Metran #222965. CRMS shop. Calibration dated 25/01/2011
/46/ Passport on natural gas consumption on an input measurement unit, serial #91G627701. LD Convertor shop area. Calibration dated 27/01/2011
/47/ Passport on natural gas consumption measurement unit at convector department, СПГ762 serial #1104. Oxygen-converter shop. Calibration dated 27/01/2011
/48/ Passport on natural gas consumption on an input measurement unit, serial #91G627699. LD Convertor shop. Calibration dated 27/01/2011

/49/ Passport on mechanical oxygen consumption measurement unit at convector department, СПГ762 serial #1130. Oxygen-converter shop. Calibration dated 27/01/2011
/50/ Passport on strain-gauge carriage weighing machine, serial #213(0226). Calibration dated 09/03/2011
/51/ Passport on strain-gauge carriage weighing machine, serial #15(0227). Calibration dated 10/03/2011
/52/ Passport on strain-gauge carriage weighing machine, serial #08001(0233). Calibration dated 18/03/2011
/53/ Calculation on BFS (production area) IV quarter 2003. Blast furnace shop
/54/ Calculation on agglomerate cost for IV quarter 2003.
/55/ Calculation on lime cost for IV quarter 2003.
/56/ Operation manual. Active and reactive energy multiple-tariff meter type LZQM 321.02.534, serial #346797. Calibration date 26/04/2006
/57/ Operation manual. Active and reactive energy multiple-tariff meter type LZQM 321.02.534, serial #255530. Calibration date 12/07/2005
/58/ Report. Analysis results on professional safety and health management system operation by AISW administration on the basis of OHSAS 18001:2007 standard requirements according to the work results for 2010. Agreed 21/01/2011
/59/ Certificate dated 17/03/2010 on AISW management system conformity to BS OHSAS 18001:2007. Valid till 16/03/2013
/60/ Certificate dated 17/03/2010 on AISW management system conformity to EN ISO 14001:2004. Valid till 16/03/2013
/61/ Report dated 01/01/2011 on AISW ecology management system operation to OHSAS 18001:2007 standard requirements. Agreed 25/01/2011
/62/ Report on ecology management system inner audit #1, AISW. Agreed 25/01/2011
/63/ Report on air protection for 2003. Form #2-TP (air)
/64/ Report on air protection for 2004. Form #2-TP (air)
/65/ Report on air protection for 2005. Form #2-TP (air)
/66/ Report on air protection for 2006. Form #2-TP (air)
/67/ Report on air protection for 2007. Form #2-TP (air)
/68/ Report on air protection for 2008. Form #2-TP (air)
/69/ Report on air protection for 2009. Form #2-TP (air)
/70/ Report on air protection for 2010. Form #2-TP (air)
/71/ Calculation on agglomerate cost for 2003
/72/ Calculation on agglomerate cost for 2003
/73/ Calculation on lime cost for 2003
/74/ Calculation on BFS for 2003. Blast furnace shop
/75/ Cost calculation for 2004. Agglomeration shop
/76/ Annual calculation for 2005. Agglomeration shop
/77/ Calculation on BFS (production area) for 2005. Blast furnace shop

/78/ Summarized data for the period since January till December 2006. Agglomeration shop
/79/ Summarized data for the period since January till December 2006. Blast furnace shop
/80/ Contract #018/163 on electricity supply dated 30.12.2002.

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/ R. Zaporozhets – metrology engineer of control measurement equipments and apparatus shop at PJSC "AISW"
/2/ P. Sydorov – chief metrologist, head of control measurement equipments and apparatus shop at PJSC "AISW"
/3/ O. Tymoshenko – deputy head of the shop of weighted economy and technologies
/4/ L. Iaroshenko – engineer on metrology of central weighting economy
/5/ O. Adamchuk – engineer of central quality laboratory
/6/ S. Sbitniev – deputy head of technical department at PJSC "AISW"
/7/ A. Skliar – deputy head of sinter laboratory
/8/ M. Krasnonos – head of environmental protection department
/9/ S. Bondar – deputy chief power engineer
/10/ V. Komarov – head of electrical and technical laboratory
/11/ S. Medkova – training department
/12/ T. Goncharenko – lead specialist of planned-economic department
/13/ G. Bremze – deputy chief engineer at PJSC "AISW"
/14/ G. Veremiichyk – deputy director of ecology department of Institute for environment and energy Conservation Ltd.
/15/ I. Sushkova – chief specialist of foreign economic activity department of Institute for environment and energy Conservation Ltd.

APPENDIX A: COMPANY PROJECT 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 Conclu-sion
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.	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. **CL 01.** Please, clarify the current status of the project (stated in the Monitoring Report for 2008-2009) in the point of construction	CL 01	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
		of new sinter plant. Explain whether implementation of this measure was started in 2006 and still is going on or not.		
93	What is the status of operation of the project during the monitoring period?	*Monitoring report indicates the current status of the project activity implementation.* The implementation status of the project is described below: - reduction of specific coke consumption per tone of pig iron; - 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; - installation of pulverized coal injection (PCI) facility at BF # 1 (implementation of this measure was started in October 2006 and was completed in May 2009); - installation of PCI facility at BF # 5 (implementation of this measure was started in October 2006 and was completed in August 2009);	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
		- installation of PCI facility at BFs ## 3,4 (implementation of the measure was started in October 2006 and is expected to be completed in the year 2015); - renewal and reconstruction of BF # 1 (implementation of this measure was started in the first half of 2004 and BF#1 was commissioned on 16th of May 2007); - renewal and reconstruction of BF # 5 (implementation of this measure was started in 2006 and is expected to be completed during year 2011); - reconstruction of the oxygen unit # 4 (implementation of this measure was started in 2004 and was completed in December 2005); - installation of oxygen unit # 7 (implementation of this measure was started in 2007 and was completed in 2008). - installation of oxygen unit # 8 (implementation of this measure was started in 2007 and was not completed in 2009); - construction of BF # 2 (implementation of this measure was started in 2007 and was not completed during monitoring period. According to the project implementation schedule stated in the PDD, commissioning of the measure is expected in the year		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
		2015); - construction of new sinter plant (implementation of this measure was started in 2006 and was not completed during the monitoring period. According to the project implementation schedule in the PDD, commissioning of the sinter plant is expected in the year 2016); - construction of new lime kilns (implementation of this measure was started in 2005 and expected to be accomplished in the 2nd half of 2010); **CAR 02.** Please, correct spelling errors in the items (#9, 11, 12, and 13) of the section 3 of MR.	CAR 02	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)	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.		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
	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?	**CL 02.** Please, provide information considering reporting risks and include this 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.	CL 02	OK
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 PJSC "AISW" 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 03.** Please, explain the difference between amount of Emission Reductions calculated at the PJSC "AISW" (the Excel-spreadsheet (2008-2009) provided by deputy chief engineer of PJSC "AISW" on the site-visit) and amount of Emission Reductions stated in the Monitoring Report (2008-2009) provided.	CAR 03	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
		CL 03. Please, clarify exactly whether the calculation of ERUs is based on conservative assumptions or not. If yes, indicate this in the Monitoring Report.	CL 03	OK
		CL 04. Please, provide the list of monitoring equipment, and, include information on the monitoring equipment in the tables of section 5 of the Monitoring Report (indicate the monitoring equipment for all the data variable).	CL 04	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
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 05**. Please, justify usage of the applied value of emission factor for electricity consumption for the monitoring period (years 2008-2009) by giving clear references to the actual appropriate data source in the tables of section 4 of the Monitoring Report.	CL 05	OK
		CAR 05. Please, unify the information on emission factors for electricity consumption and fuel consumption used for different processes.	CAR 05	OK
		CL 09. Please, clarify what value of emission factor for coke consumption is used; also, please, explain whether this factor is based on actual carbon content of coke or not.	CL 09	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?	**CAR 04.** Please, provide Excel-file with calculations of ERUs for the monitoring period.	CAR 04	OK
		CL 06. Please, give more detail information (justification) concerning the amount of leakages of GHG emissions for this monitoring period (provide the reference to the Monitoring Report for the relevant	CL 06	OK

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
	Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?			
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	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 07.** Please, give transparent (traceable) description of the data collection procedures in the Monitoring report.	CL 07	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
		CL 08. Please, provide in the Monitoring report information on conducting the internal audit of quality management system at AISW in the years 2008-2009 (please, indicate the date of conducting the internal audit and the presence of the Report on internal audit).	CL 08	OK
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 are collected in the electronic database of PJSC “AISW” and in printed documents. Also data are systematized in the documents of the daily, monthly and annually registration. All those documents are saved in the planning-economic department. After the determination of the project “Revamping of sintering and blast-furnace production at OJSC “Alchevsk Iron and Steel Works”, 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 PJSC “Alchevsk		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
		Iron and Steel Works" in June 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 for two years after the last transfer of ERUs for the project. The order concerning the procedure for keeping monitoring data should be issued by PJSC "Alchevsk Iron and Steel Works".	FAR 01	Pending
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 PJSC "Alchevsk Iron and Steel Works" the order concerning indication of the names of the personnel involved in the monitoring should be issued.	FAR 02	Pending
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	N/A	N/A	N/A

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
	− The complexity of the applicable technologies and/or measures used; − The geographical location of each JPA; − The amounts of expected emission reductions of the JPAs being verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	N/A	N/A	N/A
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total	N/A	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclu-sion
	JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?			
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
Corrective Action Request (CAR) 01 There is no written project approval from Parties involved.	90	The letters of approval were received from the Government of Ukraine (National Environmental Investment Agency of Ukraine, #1155/23/7 of 11.05.2011) and from the Government of the Netherlands (Ministry of Economic Affairs, reference: 2011JI14 of 10.05.2011).The copies of LoAs are provided to the verifier.	Copies of the letters of approval were provided to the verifier. CAR 01 is closed.
Corrective Action Request (CAR) 02 Please, correct spelling errors in the items (#9, 11, 12, and 13) of the section 3 of MR.	93	The spelling mistakes are now corrected.	Due to the corrections made, the issue is closed.

Corrective Action Request (CAR) 03 Please, explain the difference between amount of Emission Reductions calculated at the PJSC "AISW" (the Excel-spreadsheet (2008-2009) provided by deputy chief engineer of PJSC "AISW" on the site-visit) and amount of Emission Reductions stated in the Monitoring Report (2008-2009) provided.	95 (b)	The difference between amount of Emission Reductions calculated at the PJSC "AISW" (the Excel-spreadsheet (2008-2009) provided by deputy chief engineer of PJSC "AISW" on the site-visit) and amount of Emission Reductions stated in the Monitoring Report (2008-2009) was caused by the fact that the Excel-spreadsheet (2008-2009) provided by deputy chief engineer of PJSC "AISW" contained outdated emission factors such as: emission factor for electricity consumption, emission factor for natural gas consumption (together with taking into account additional emissions from its transportation) etc. However the volumes of fuel and energy resources consumption together with the production volumes under the project activity fully correlates between the Excel-spreadsheet (2008-2009) provided by deputy chief engineer of PJSC "AISW" on the site-visit and Excel-spreadsheet (2008-2009) provided by IEEC. Together with this Excel-spreadsheet (2008-2009) provided by IEEC contains the most updated CO_2 emission factors.	Based on the information provided, CAR 03 is closed.
Corrective Action Request (CAR) 04 Please, provide Excel-file with calculations of ERUs for the monitoring period.	95 (d)	The Excel-file with calculations of ERU is now provided to the verifier.	The required Excel-file is provided. CAR 04 is closed.

Corrective Action Request (CAR) 05 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.	Based on the amendments made, the issue is closed.
Clarification Request (CL) 01 Please, clarify the current status of the project (stated in the Monitoring Report for 2008-2009) in the point of construction of new sinter plant. Explain whether implementation of this measure was started in 2006 and still is going on or not.	92	The project is realized in compliance with proposed schedule given in the PDD. Construction of new sinter plant itself requires several years under regular financing. However, AISW faced serious financial difficulties during the years 2007-2009. Therefore, only a part of initial expenses have been done in terms of building a new sinter plant mostly related to development of necessary feasibility studies and obtaining permits. The work on construction of a new sinter plant will be continued in the upcoming years. It is expected that the new sinter plant will be put into operation after commissioning of BF #2.	The explanation was received and found satisfactory. CL 01 is closed.
Clarification Request (CL) 02 Please, provide information considering reporting risks and include this 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.	95 (a)	The reporting risk is rather low. In case of having problems with certain monitoring devices, the accounting 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 was not appeared in the suggested monitoring period.	Based on the information received, the issue is closed.

Clarification Request (CL) 03 Please, clarify exactly whether the calculation of ERUs is based on conservative assumptions or not. If yes, indicate this in the Monitoring Report.	95 (b)	The information on conservativeness of baseline emissions and therefore ERU was given in the PDD. As it can be seen from the monitoring data, in the project line the volume of natural gas was decreased and alternatively coal consumption was increased in comparison with the baseline. This was caused mostly by market situation and plays at a factor of conservative estimations of ERU.	Due to the clarification received, CL 03 is closed.
Clarification Request (CL) 04 Please, provide the list of monitoring equipment, and, include information on the monitoring equipment in the tables of section 5 of the Monitoring Report (indicate the monitoring equipment for all the data variable).	95 (b)	The list of monitoring equipment is now provided to the verifier. The list of monitoring equipment is now also included in the Annex 1 of the monitoring report.	The list of monitoring equipment is provided to the verifier. CL 04 is closed.
Clarification Request (CL) 05 Please, justify usage of the applied value of emission factor for electricity consumption for the monitoring period (years 2008-2009) by giving clear references to the actual appropriate data source in the tables of section 4 of the Monitoring Report.	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. Such information is now included to the Section 5 of the monitoring report.	Based on the explanation provided, the issue is closed.

Clarification Request (CL) 06 Please, give more detail information (justification) concerning the amount of leakages of GHG emissions for this monitoring period (provide the reference to the Monitoring Report for the relevant period).	95 (d)	Taking into account that the project boundary of the JI project "Installation of a new waste heat recovery system at Alchevsk Coke Plant, Ukraine" (UA1000130 - registered under Track 1) includes blast-furnaces of AISW with respect to particular volumes of consumed dry blast-furnace coke, the CO_{2e} emission reductions that were generated during the period of 01/01/2008 – 31/12/2009 due to component three (3) of mentioned above JI project were attributed to the leakages of GHG's. Leakages of GHG emissions from the JI project "Installation of a new waste heat recovery system at Alchevsk Coke Plant, Ukraine" were calculated by subtracting total project line emissions from the baseline emissions that were generated by the component 3 of the mentioned above project. After that, leakages of GHG emissions were subtracted from the total volume of emission reductions associated with this project during this monitoring period. Such text is now included in the monitoring report.	Based on justification provided, the issue is closed.

Clarification Request (CL) 07 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 AISW. 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 PJSC "AISW" and in printed documents. All records where finally stored in Planning Department. The monitoring plan was implemented by different specialists of the AISW under supervision of Chief Energy Specialist and managed by Director General of the Plant. All main production shops and specialists of the plant were involved in preparation of monitoring report under coordination of Chief Energy Specialist. Such information is now included in the monitoring report.	Based on the information received, CL 07 is closed.
Clarification Request (CL) 08 Please, provide in the Monitoring report information on conducting the internal audit of quality management system at AISW in the years 2008-2009 (please, indicate the date of conducting the internal audit and the presence of the Report on internal audit).	101 (a)	The information on conducting the internal audit of quality management system at AISW in 2008-2009 was provided in the Monitoring report as follows. AISW uses the accredited quality management system according to the requirements of the ISO 9001 standard. In order to ensure the appropriate quality management system implementation the internal audits are conducted at the plant on monthly basis based on the AISW order # 931 of 25.12.2009. The department of quality management is responsible for the internal audit implementation at the plant and for the storage of the Reports on the results of the audits.	Due to the information provided, CL 08 is closed.

Clarification Request (CL) 09 Please, clarify what value of emission factor for coke consumption is used; also, please, explain whether this factor is based on actual carbon content of coke or not.	95 (c)	During this monitoring period the emission factor for coke is based on actual carbon content of coke. In order to calculate emission factor for coke due to its production and consumption based on actual carbon content, the following formula was used: $EF_{ra} = (C_{coke} * 44/12) + 0,56$ where: EF_{ra} – emission factor for coke, tonnes CO_{2e}/tonne of coke; C_{coke} – carbon content of coke, %; 0,56 – CO_{2e} emission factor for coke production, tonnes CO_{2e}/tonne of coke produced. The carbon content of coke is calculated by the following formula: $C_{coke} = 100 – (C_{ash} + C_{sulphur} + C_{volatile\ matters})$ where: C_{ash} – ash content of coke, %; $C_{sulphur}$ – sulfur content of coke, %; $C_{volatile\ matters}$ – volatile matters content of coke, %.	Based on the explanation received, the issue is closed.

Forward Action Request (FAR) 01 The data to be monitored and required for determination are to be kept for two years after the last transfer of ERUs for the project. The order concerning the procedure for keeping monitoring data should be issued by PJSC "Alchevsk Iron and Steel Works".	101 (c)	The order concerning the procedure for keeping monitoring data is expected to be issued by PJSC "Alchevsk Iron and Steel Works" in June 2011.	Pending
Forward Action Request (FAR) 02 At the PJSC "Alchevsk Iron and Steel Works" the order concerning indication of the names of the personnel involved in the monitoring should be issued.	101 (d)	The order concerning the personnel responsible for the monitoring will be issued by PJSC "Alchevsk Iron and Steel Works" in June 2011.	Pending