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"

FOURTH PERIODIC
(01/01/2012 – 31/03/2012)

REPORT NO. UKRAINE-VER/0500/2012
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BUREAU VERITAS CERTIFICATION

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05/06/2012	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
Institute for Environment and Energy Conservation Ltd.	Vasyl Vovchak

Summary:

Bureau Veritas Certification has made the fourth 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 monitoring report against 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 381 018 tonnes of CO_2 equivalent for the monitoring period 01/01/2012 – 31/03/2012.

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/0500/2012	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, Lead 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:			
Ivan Sokolov - Operational Manager		☐	Limited distribution
Date of this revision:	**Rev. No.:**	**Number of pages:**	
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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
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 (PDD) including the project’s baseline study and monitoring plan, monitoring report, 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 Lead 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 of 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, 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 30/05/2012 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 15 Corrective Action Requests, 6 Clarification Requests, and 0 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 are no remaining issues and FARs from the previous 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 implementation, project participants response and BV Certification's conclusion are described in Appendix A (refer to CAR 08).

3.3 Project implementation (92-93)

The implementation status of the project.

#	Measures	2004	2005	2006	2007	2008	2009	2010	2011	2012
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 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.									

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.

Monitoring report for the project is already using specific values of carbon dioxide emission factors for fuel based on specific carbon content or

calorific value of fuel. Emission factors for production of coke, iron pellets, lime and dolomite are based on IPCC data due to the fact that national data are not officially approved by the national designating entity. As soon as they are approved, the corresponding changes will be incorporated into the monitoring reports.

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

The fact that calculation of emission reductions is based on conservative assumptions can be proved by the following facts:

- the price of natural gas in the baseline period was lower than in the project line period. That's why there were no substitutions 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 in comparison with the baseline period. That was the reason of the total amount of emission reductions decrease.

The amount of emission reductions that was actually generated during the 1st quarter of 2012 was lower than it was expected in PDD (approximately 564 959 tonnes of CO_2e) because of the following reasons. First of all, taking into account that during this monitoring period the quality of raw materials and other inputs consumed under the project activity was low, the actual level of specific fuel and energy resources consumption per unit of output was a bit higher than it was expected in PDD. Secondly, taking into account that such measures as technological improvements of the BFs operation and modernization of the sintering process were not fully implemented as planned, it has also influenced on decrease of actual volumes of emission reductions in comparison with estimations in PDD.

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 01, CAR 02, CAR 06, CAR 11, CAR 12, CL 03, CAR 04, CAR 05, CL 05, CAR 03, CAR 07, CAR 09, and CAR 10).

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 improved list of the monitoring equipment is provided in Annex 1 of the Monitoring Report of the final version. The improvement made is explained by the following information.

Taking into account that the list of monitoring equipment did not correspond with this monitoring period, the project developer has revised and updated it. Revision and update of the list of monitoring equipment was conducted as the result of such reasons below:
1) some monitoring devices were sent on scheduled or unscheduled verifications/calibrations and were replaced by other monitoring devices;
2) due to the fact that meters ## 170, 171 and 172 were not included in the previous list of monitoring equipment, but which are used for electricity accounting under the project activity, the project developer has included them in the list of monitoring equipment for this period;
3) taking into account that some electricity supply meters of induction type have several modifications, which characterize their constructional differences, some insignificant misstatements and inaccuracies (concerning the types of abovementioned equipment) were made by DIISW. In the same time, physical configuration, functions and technical characteristics of these electricity supply meters are identical and such modifications do not influence quality and accuracy of measurements;
4) the list of monitoring equipment was improved in comparison with the list for the previous monitoring period by taking into account all previously made inaccuracies/misprints concerning types and factory numbers of some monitoring devices.

In case of having problems with certain monitoring equipment, 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 from the third parties.

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

The quality assurance procedures are based on the Plant's ISO 9001:2001 quality management system (QMS), which was further upgraded to the more recent ISO 9001:2008 version. The QMS covers the whole of the Plant's production process. Furthermore, an OHSAS 18001:2007 industrial safety management system and an ISO 14001:2004 environmental management system were implemented in 2009. Compliance audits for the mentioned above standards are performed in accordance with "Guidance on quality management systems" and other regulatory documents of DIISW. The bureau of standardized certification is responsible for management, realization and storage of audits data. The audits are conducted on 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. In addition, the Plant has a number of other certificates, which proof the project monitoring quality assurance.

During this monitoring period, planned audits on compliance to the standards of ISO 9001:2008, ISO 14001 and OHSAS 18001 (according to the schedule) were conducted. Audit reports are provided to the verifiers.

All the equipment used for monitoring purposes is in line with national legislative requirements and standards. The documented instructions to operate the facilities are stored at working places. Verification and calibration of equipment are conducted at the plant in accordance with in STP 230-35-07 Metrological Support of Measuring Equipment. List of monitoring equipment are presented to the verification team in Annex 1 of the monitoring report of the final version. The data cross check as well as internal audits and corrective actions are taken as defined in STP 230-18-03 Quality Management System Internal Audits and according to the standards ISO 9001:2008, ISO 14001 and OHSAS 18001. 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.

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 06, CL 01, CL 02, CAR 13, CAR 14, and CL 04).

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the fourth 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 monitoring report against 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 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 PDD. 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 01/01/2012 to 31/03/2012

Baseline emissions	: 2 687 833 tonnes of CO_2 equivalents.
Project emissions	: 2 306 815 tonnes of CO_2 equivalents.
Emission Reductions	: 381 018 tonnes of CO_2 equivalents.

For the monitoring period (01/01/2012 – 31/03/2012), total amount of emission reductions is 381 018 tonnes of 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” (1 quarter of 2012), version 1 dated 17/05/2012;

/4/ Monitoring Report “Revamping of sintering and blast-furnace production at OJSC “Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky” (1 quarter of 2012), version 2 dated 05/06/2012;

/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 “Calculation of emission reductions for the project “Revamping of sintering and blast-furnace production at OJSC “Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky”_1 quarter of 2012”;

/9/ Excel-file “Calculation of coefficients for coke”.

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 03, JISC;
/3/ JISC "Clarification regarding the public availability of documents under the verification procedure under the Joint Implementation Supervisory Committee." Version 03;
/4/ Passport of electricity meter type И670, fabrication # 168047, last calibration date–17/08/2011
/5/ Passport of electricity meter type И670, fabrication # 681225, last calibration date–04/11/2010
/6/ Passport of electricity meter type И670, fabrication # 793115, last calibration date–19/07/2010
/7/ Report on environmental protection for the 1st quarter 2012. Form # 2-ТП (air) (per quarter)
/8/ Information dated 15/05/2012 on amending the Schedule of QMS internal audits in 2012
/9/ Schedule of QMS internal audits in 2012, approved 22/12/2011
/10/ Balance sheet on active energy consumption for January 2012
/11/ Balance sheet on active energy consumption for February 2012
/12/ Balance sheet on active energy consumption for March 2012
/13/ Balance sheet on blast-furnace and coke gases consumption for March 2012
/14/ Balance sheet on blast-furnace and coke gases consumption for January 2012
/15/ Balance sheet on blast-furnace and coke gases consumption for February 2012
/16/ Passport of electricity meter type И670, fabrication # 771697, last calibration date–09/07/2010
/17/ Passport of electricity meter type ИТ, fabrication # 111336, last calibration date–09/04/2010
/18/ Passport of electricity meter type И670, fabrication # 006194, last calibration date–03/12/2010
/19/ Passport of electricity meter type И670, fabrication # 011918, last calibration date–17/08/2011
/20/ Passport of electricity meter type И670, fabrication # 068744, last calibration date–03/12/2010

/21/ Passport of electricity meter type И670, fabrication # 069187, last calibration date–19/09/2011
/22/ Passport of electricity meter type И670, fabrication # 377759, last calibration date–04/11/2010
/23/ Passport of electricity meter type И670, fabrication # 082160, last calibration date–07/05/2010
/24/ Passport of electricity meter type И670, fabrication # 237322, last calibration date–17/08/2011
/25/ Passport of electricity meter type И670, fabrication # 095620, last calibration date–17/10/2011
/26/ Passport of electricity meter type И670, fabrication # 096018, last calibration date–09/04/2010
/27/ Passport of electricity meter type И670, fabrication # 115317, last calibration date–17/10/2011
/28/ Passport of electricity meter type И670, fabrication # 130888, last calibration date–18/11/2011
/29/ Passport of electricity meter type И670, fabrication # 143541, last calibration date–16/02/2012
/30/ Passport of electricity meter type И681, fabrication # 655731, last calibration date–16/05/2011
/31/ Passport of electricity meter type И670, fabrication # 146522, last calibration date–07/05/2010
/32/ Passport of electricity meter type И670, fabrication # 188830, last calibration date–16/06/2011
/33/ Passport of electricity meter type И670, fabrication # 193791, last calibration date–06/03/2012
/34/ Passport of electricity meter type И670, fabrication # 233827, last calibration date–09/04/2010
/35/ Passport of electricity meter type И670, fabrication # 303419, last calibration date–09/06/2010
/36/ Passport of electricity meter type И43, fabrication # 201587, last calibration date–17/10/2011
/37/ Passport of electricity meter type И670, fabrication # 306278, last calibration date–03/12/2010
/38/ Passport of electricity meter type И670, fabrication # 350258, last calibration date–06/03/2012
/39/ Passport of electricity meter type ИТ, fabrication # 313176, last calibration date–04/11/2010
/40/ Passport of electricity meter type И687, fabrication # 355820, last calibration date–16/05/2011
/41/ Passport of electricity meter type И670, fabrication # 736250, last calibration date–04/10/2010
/42/ Passport of electricity meter type И670М, fabrication # 366136, last calibration date–07/05/2010
/43/ Passport of electricity meter type И670, fabrication # 374202, last

calibration date–06/03/2012
/44/ Passport of electricity meter type И670М, fabrication # 429768, last calibration date–18/11/2011
/45/ Passport of electricity meter type ИТ, fabrication # 691814, last calibration date–24/03/2010
/46/ Passport of electricity meter type И670, fabrication # 233755, last calibration date–16/01/2012
/47/ Passport of electricity meter type И670, fabrication # 754589, last calibration date–17/10/2011
/48/ Passport of electricity meter type И670, fabrication # 233380, last calibration date–23/12/2009
/49/ Passport of electricity meter type И670М, fabrication # 365718, last calibration date–18/11/2011
/50/ Passport of electricity meter type И670Д, fabrication # 619098, last calibration date–10/09/2010
/51/ Passport of electricity meter type И670Д, fabrication # 619944, last calibration date–09/04/2010
/52/ Passport of electricity meter type И670Д, fabrication # 350258, last calibration date–06/03/2012
/53/ Technical report on sinter plant # 2 operation for January 2012
/54/ Technical report on blast-furnace shop operation for January 2012
/55/ Technical report on sinter plant # 2 operation for February 2012
/56/ Technical report on blast-furnace shop operation for February 2012
/57/ Technical report on sinter plant # 2 operation for March 2012
/58/ Technical report on blast-furnace shop operation for March 2012
/59/ Report dated 10/04/2012 on internal audits on conformity to ISO 14001 system for the 1st quarter 2012
/60/ Passport on natural gas physical and chemical parameters for the period from 01/01/2012 to 31/01/2012
/61/ Passport on natural gas physical and chemical parameters for the period from 01/03/2012 to 31/03/2012
/62/ Passport on natural gas physical and chemical parameters for the period from 01/02/2012 to 29/02/2012
/63/ Passport on electricity meter type ET, fabrication # 8875 (last calibration date–06/09/2006)
/64/ Passport of electricity meter type И670М, fabrication # 021916, last calibration date–14/12/2011
/65/ Passport of electricity meter type И670, fabrication # 134849, last calibration date–10/09/2010
/66/ Passport of electricity meter type И43, fabrication # 155427, last calibration date–12/10/2011
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/68/ Passport of electricity meter type И670, fabrication # 305171, last calibration date–08/02/2012

/69/ Passport of electricity meter type И670, fabrication # 672417, last calibration date–16/02/2012
/70/ Passport of electricity meter type ИТ, fabrication # 690221, last calibration date–18/11/2011
/71/ Passport of electricity meter type И670, fabrication # 712689, last calibration date–10/03/2011
/72/ Passport of electricity meter type И670, fabrication # 919610, last calibration date–06/03/2012
/73/ Passport on electricity meter type ЕвроАльфа, fabrication # 01132767 (last calibration date–09/02/2006)
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/76/ Energy consumption by the plant shops (for 2011, 2012)
/77/ Energy distribution by GSU-CHP for January 2012
/78/ Energy distribution by GSU-CHP for February 2012
/79/ Energy distribution by GSU-CHP for March 2012
/80/ Passport on natural gas consumption meter type Метран-100, fabrication # 66737 (last calibration date–05/03/2012)
/81/ Passport on natural gas consumption meter type Сапфир-М, fabrication # 03831731 (last calibration date–01/02/2012)
/82/ Passport on natural gas consumption meter type Метран-100, fabrication # 65430 (last calibration date–01/02/2012)
/83/ Analysis of personnel training according to the plan prescribed by the order # 7 dated 03/01/2012 for the I quarter 2012
/84/ Order on personnel development # 7 dated 03/01/2012
/85/ Composite book of working educational plans, training and vocational training programmes as for 3-4 category doser occupation (approved 26/06/2008)
/86/ Composite book of working educational plans, training and vocational training programmes as for 3 category ventilation and aspiration units operator occupation (approved 30/09/2008)
/87/ Technical passport on scales type 2370BB-150E/2C, fabrication # 70 (last calibration date–15/05/2012)
/88/ Logbook on CHP electric shop operation. Started: 18/02/2012. Finished: 09/05/2012
/89/ Logbook on CHP electric shop operation (steam-air power plant). Started: 26/02/2012. Finished: 13/05/2012
/90/ Sinter production cost analysis for January, February, March 2012
/91/ One tonne of pig iron production cost analysis for January, February, March 2012
/92/ Report on the audit (conducted in blast-furnace shop) on compliance with QMS dated 04/04/2012.
/93/ Report on the audit (conducted in planning and economic

department) on compliance with QMS dated 03/02/2012.

/94/ Statement on internal control of QMS and ISS at PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" dated 29/03/2012.

/95/ Calculation of coefficient for coke (DIISW), 1st quarter of 2012.

/96/ Passport on natural gas flow meter type Сапфир, fabrication #517758 (last calibration date – 06/09/2011)

/97/ Passport on natural gas flow meter type И670, fabrication #082160 (last calibration date – 26/04/2010)

/98/ Passport on meter type И670, fabrication #603211 (last calibration date 27/01/2012)

/99/ Logbook on electricity meter replacement (data for the first quarter of 2012)

/100/ Passport on meter type И 670, fabrication #605102 (last calibration date – 09/01/2012).

/101/ Passport on electricity meter type ЕвроАльфа, fabrication #01132780 (last calibration date – 09/02/2006)

/102/ Passport on meter type И670, fabrication #127301 (last calibration date – 29/06/2010)

/103/ Passport of electricity meter type И670, fabrication # 168047, last calibration date–17/08/2011

/104/ Passport of electricity meter type И670, fabrication # 681225, last calibration date–04/11/2010

/105/ Passport of electricity meter type И670, fabrication # 793115, last calibration date–19/07/2010

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/ Zolotarevskaya I. G. – acting head of the environment protection service of DIISW

/2/ Motsnyi V. V. – head of the technical department DIISW W

/3/ Turkyn M. B. – deputy chief power engineer DIISW

/4/ Filipov A. V. – acting deputy chief power engineer DIISW

/5/ Sinelnikov N. A. – representative of electronical laboratory of DIISW

/6/ Bogdanovic I.N. – representative of the laboratory of metrology of DIISW

/7/ Chayun O.N. – acting head of the personnel technical education and training department of DIISW

/8/ Ivanov G.B. – head of the Office of Standardization and Certification
/9/ Honcharenko S. H. – head of the technical department of DIISW
/10/ Seredyuk V.V. – ecology department manager of Institute for Environment and Energy Conservation Ltd.
/11/ Linnik Y. – leading specialist of ecology department acting head of of Institute for Environment and Energy Conservation Ltd.

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 08.** Please, include (in the MR section 1) information on letter of approval not only from the Netherlands, but also from the Host country.	CAR 08	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 period?	Monitoring report indicates the current status of the project activity 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.	OK	OK

		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.		
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	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

	UNFCCC JI website?			
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	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 06.** 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 in case of having problems with the used monitoring equipment. **CAR 01.** Please, give detailed clarification concerning the difference between amount of emission reductions provided in the PDD and in the Monitoring Report. Please, make necessary amendments in the MR.	CL 06 CAR 01	OK 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 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 the values (in the tables on projectline parameters monitored) by providing appropriate documents (calculations).	CAR 02	OK
		CAR 06. Please, provide calculation of carbon content of coke in the Excel file.	CAR 06	OK
		CAR 11. Please, the following documents: CHP electrical department operational logbook with data for the first quarter of 2012; data on electricity distribution by GSU-CHP for January, February and March of 2012; logbook on electricity consumption with data for the first quarter	CAR 11	OK

		of 2012; report on generated, transferred and consumed active energy for January, February and March of 2012; and logbook on meters replacement (with data for the first quarter of 2012). **CAR 12.** Please, provide actual calculations for the first quarter of 2012 (for sintering shop). **CAR 15.** Please, selectively provide daily pie charts on natural gas consumption by BF (at least 3-4 charts for the first quarter of 2012).	CAR 12 CAR 15	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, clarify the use of emission factors from IPCC while the latest values of national emission factors (in accordance with National Inventory of Greenhouse Gases) are available. Specifically, pay attention to the carbon emission factor for coal as just the value of this factor is stated in the National Inventory while the project developer has used emission factor based on calorific value of anthracite taken from IPCC 2006.	CL 03	OK

		CAR 04. Please, pay attention to the fact that emission factor for coke can not be default as each time this factor is calculated by the formula indicated in the MR section 3. Also, please, revise the reference related to the coke emission factor (please, see tables of the MR section 6 and tables in the Excel-file).	CAR 04	OK
		CAR 05. Please, explain why emission factor for natural gas consumption based on fixed calorific value of natural gas consumption, not on actual calorific value. Please, correct/clarify.	CAR 05	OK
		CL 05. Please, revise (pg. 4 of the MR) the name of DFP which has issued Order #75 (all the words in the name should be with a capital letter).	CL 05	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	The calculation of emission reductions is based on conservative assumptions.	OK	OK

Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	N/A	N/A	N/A
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	N/A	N/A	N/A
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	N/A	N/A	N/A

98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	N/A	N/A	N/A
Revision of monitoring plan Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an 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	N/A	N/A	N/A

	establishment of monitoring plans?			
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	Procedures of data collection are implemented in compliance with the monitoring plan. **CL 01.** Please, add to the MR section 5 information on audits on compliance to the standards ISO 9001, ISO 14001, and OHSAS 18001 conducted during the monitoring period (1 quarter 2012), if such audits were performed within this period; please, mention report on compliance audits. **CL 02.** Please, give (in the section 6 of the MR) more detailed information on trainings/seminars organized by DIISW just during the monitoring period (1 quarter of 2012). **CAR 13.** Please, provide to the verification team evidence of training/seminars conducted at DIISW for the first quarter of	CL 01 CL 02 CAR 13	OK OK OK

		2012. **CAR 14.** Please, provide to the verification team internal audit reports on conformity to the requirements of ISO 9001 and OHSAS 18001 standards (if such audits were conducted during the first quarter of 2012).	CAR 14	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	The monitoring equipment is properly calibrated. **CAR 03.** Please, prepare more improved and clearer list of monitoring equipment by revising and updating present one. Particularly, add one more column to the table of the MR Annex 1; and, please, put information on the last calibration dates of monitoring equipment in the column mentioned above. **CAR 07.** Please, explain why types and serial numbers of some units of the measuring equipment indicated in the MR for this monitoring period differs from the types and numbers of the same measuring equipment indicated in the MR for the	CAR 03 CAR 07	OK OK

		previous monitoring period. If necessary, please, describe and justify (in the MR) the fact of the meters replacement; or describe why the previous types and numbers included mistakes or misprints. (Particularly, please, pay special attention to the electricity meter #17 of electric substation of blast-furnace shop; electricity meters #1 and #5 of electric substation of sinter plant; electricity meter #109 of electric substation of water supply shop; electricity meters #145 and #150 of electric substation of oxygen shop; electricity meters #167, 170, 171, and 172 of electric substation of gas shop; and electricity meters #154, 159, 161, and 162 of electric substation of CHP). **CAR 09.** Please, provide passports for natural gas consumption meters Сапфир-М ser. #03831731, Метран-100 ser. #66737, Сапфир ser. 517758 and natural gas pressure meter Метран-100 ser. #65430. Also, please, provide a passport for scales for weighing coke and anthracite 2370BB-	CAR 09	OK

		150E/2C ser. #70. **CAR 10.** Please, provide passports for the following electricity meters: ЕвроАльфа ser. #01132780, ЕвроАльфа ser. #01132767, ЕвроАльфа ser. # 01132774, ЕвроАльфа ser. #01132785, И670 ser. #304986, И670 ser. #273014, И43 ser. #237322, И670 ser. #155427, ИТ ser. #690221, И670 ser. #305171, И670 ser. #157142, И670 ser. #082160, И670, ser. #919610, ЕТ ser.#8875, И670 ser. 134849, И670 ser. 672417, И670 #712689, И670 #021916, and И670 ser. #603211.	CAR 10	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.	OK	OK
101 (d)	Is the data collection and management system for the project in accordance with the	The data collection and management system for the project is in accordance with the monitoring plan.	OK	OK

	monitoring plan?	**CL 04.** Please, add to the Monitoring Report information on the order (#327) concerning the procedure for keeping monitoring data and concerning indication of the names of the personnel involved in the monitoring.	CL 04	OK
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	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 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; - The complexity of the applicable technologies and/or measures used;	N/A	N/A	N/A

	- 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	N/A	N/A	N/A

	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?			
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 verification team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR 01. Please, give detailed clarification concerning the difference between amount of emission reductions provided in the PDD and in the Monitoring Report. Please, make necessary amendments in the MR.	95 (a)	The amount of emission reductions that was actually generated during the 1st quarter of 2012 was lower than it was expected in PDD (approximately 564 959 tonnes of CO_{2e}) because of the following reasons. First of all, taking into account that during this monitoring period the quality of raw materials and other inputs consumed under the project activity was low, the actual level of specific fuel and energy resources consumption per unit of output was a bit higher than it was expected in PDD. Secondly, taking into account that such measures as	The issue is closed based on the explanation provided.

		technological improvements of the BFs operation and modernization of the sintering process were not fully implemented as planned, it has also influenced on decrease of actual volumes of emission reductions in comparison with estimations in PDD.	
CAR 02. Please, confirm the values (in the tables on projectline parameters monitored) by providing appropriate documents (calculations).	95 (b)	Documents that confirm the values of project parameters monitored (calculations) are provided to the verifier.	The issue is closed due to the documentation provided.
CL 01. Please, add to the MR section 5 information on audits on compliance to the standards ISO 9001, ISO 14001, and OHSAS 18001 conducted during the monitoring period (1 quarter 2012), if such audits were performed within this period; please, mention report on compliance audits.	101 (a)	Information on audits on compliance to the standards ISO 9001, ISO 14001, and OHSAS 18001 conducted during the 1st quarter 2012 is added to the MR. Please see modified version of the MR.	CL 01 is closed based on the information added to the MR.

CL 02. Please, give (in the section 6 of the MR) more detailed information on trainings/seminars organized by DIISW just during the monitoring period (1 quarter of 2012).	101 (a)	Information on trainings/seminars organized by DIISW during the 1st quarter of 2012 is now provided in the MR. Please see modified version of the MR.	The issue is closed due to the amendments made in the monitoring report.
CAR 03. Please, prepare more improved and clearer list of monitoring equipment by revising and updating present one. Particularly, add one more column to the table of the MR Annex 1; and, please, put information on the last calibration dates of monitoring equipment in the column mentioned above.	101 (b)	List of monitoring equipment is revised and updated. See version 2 of MR.	The issue is closed.
CL 03. Please, clarify the use of emission factors from IPCC while the latest values of national emission factors (in accordance with National Inventory of Greenhouse Gases) are available. Specifically, pay attention to the carbon emission factor for coal as just the value of this factor is stated in the	95 (c)	Monitoring report is already using specific values of carbon dioxide emission factors for fuel based on specific carbon content or calorific value of fuel. Emission factors from consumption of coal (anthracite), limestone and dolomite and for production of coke and iron pellets are based	Based on the explanation provided, the issue is closed.

National Inventory while the project developer has used emission factor based on calorific value of anthracite taken from IPCC 2006.		on IPCC data due to the fact that national data are not officially approved by the national designating entity. As soon as they are approved, the corresponding changes will be incorporated into the monitoring reports. Together with this, taking into account that most of coal, that was consumed, had common quality characteristics and calorific value to anthracite and also because National GHG Inventory doesn't provide information regarding the net calorific value of anthracite, the project developer calculated carbon emission factor for coal based on carbon content of anthracite, which is in accordance with IPCC 1996 data and on the net calorific value of anthracite, which in accordance with IPCC 2006 data.	
CAR 04. Please, pay attention to the fact that emission factor for coke can	95 (c)	Necessary corrections are now made in the monitoring report	Due to the amendments made, the issue is closed.

not be default as each time this factor is calculated by the formula indicated in the MR section 3. Also, please, revise the reference related to the coke emission factor (please, see tables of the MR section 6 and tables in the Excel-file).		and in the Excel-file. Please see modified monitoring report and Excel-file. Together with this, the project developer leaves the reference related to coke emission factor unchanged because the reference states that the emission factor for coke consumption is based on actual carbon content of coke and the data source that is provided, just gives information regarding emission factor for coke production, which is in accordance with IPCC 2006 data.	
CAR 05. Please, explain why emission factor for natural gas consumption based on fixed calorific value of natural gas consumption, not on actual calorific value. Please, correct/clarify.	95 (c)	Taking into account that during this monitoring report the data regarding net calorific value of natural gas was not received on regular basis, the emission factor for natural gas consumption was calculated based on estimated net calorific value which is in accordance with DIISW average data.	CAR 05 is closed based on the clarification provided.

		Net calorific value for natural gas was anticipated at the level of 8100 kcal/m3 in order to follow the conservativeness of approach (calorific value varied between 8050-8300 kcal/m3 during the period of 2006 – 2010 with very low level of fluctuations). Despite this fact, in case if data regarding net calorific value of natural gas will be received at DIISW on regular basis, the emission factor for natural gas will be accordingly modified based on actual net calorific value at the stage of monitoring report development.	
CAR 06. Please, provide calculation of carbon content of coke in the Excel file.	95 (b)	Calculation of carbon content of coke in the Excel file is now provided to the verifier.	The Excel-file with calculation of carbon content of coke is now provided to the verification team. The issue is closed.

CL 04. Please, add to the Monitoring Report information on the order (#327) concerning the procedure for keeping monitoring data and concerning indication of the names of the personnel involved in the monitoring.	101 (d)	Information on the order (#327) concerning the procedure for keeping monitoring data and concerning indication of the names of the personnel involved in the monitoring is now added to the Monitoring Report.	The issue is closed due to the information added to the monitoring report.
CAR 07. Please, explain why types and serial numbers of some units of the measuring equipment indicated in the MR for this monitoring period differs from the types and numbers of the same measuring equipment indicated in the MR for the previous monitoring period. If necessary, please, describe and justify (in the MR) the fact of the meters replacement; or describe why the previous types and numbers included mistakes or misprints. (Particularly, please, pay special attention to the electricity meter #17 of electric substation of blast-furnace shop; electricity meters #1 and #5 of electric	101 (b)	Taking into account that the list of monitoring equipment did not correspond with this monitoring period, the project developer has revised and updated it. Revision and update of the list of monitoring equipment was conducted as the result of such reasons below: 1) some monitoring devices were sent on scheduled or unscheduled verifications/calibrations and were replaced by other monitoring devices; 2) due to the fact that meters ## 170, 171 and 172 were not included in the previous list of monitoring	The issue is closed based on the detail clarification provided.

substation of sinter plant; electricity meter #109 of electric substation of water supply shop; electricity meters #145 and #150 of electric substation of oxygen shop; electricity meters #167, 170, 171, and 172 of electric substation of gas shop; and electricity meters #154, 159, 161, and 162 of electric substation of CHP).		equipment, but which are used for electricity accounting under the project activity, the project developer has included them in the list of monitoring equipment for this period; 3) taking into account that some electricity supply meters of induction type have several modifications, which characterize their constructional differences, some insignificant misstatements and inaccuracies (concerning the types of abovementioned equipment) were made by DIISW. In the same time, physical configuration, functions and technical characteristics of these electricity supply meters are identical and such modifications do not influence quality and accuracy of measurements; 4) the list of monitoring equipment was improved in comparison with the list for the previous monitoring period by	

		taking into account all previously made inaccuracies/misprints concerning types and factory numbers of some monitoring devices. The list of monitoring equipment is now in accordance with this specific monitoring period.	
CL 05. Please, revise (pg. 4 of the MR) the name of DFP which has issued Order #75 (all the words in the name should be with a capital letter).	95 (c)	Appropriate corrections have been done. Please see modified version of the MR.	The issue is closed based on the amendments made.
CL 06. 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 in case of having problems with the used monitoring equipment.	95 (a)	Information concerning reporting risks is provided in the Monitoring Report. Please see modified version of the MR.	The issue is closed.
CAR 08. Please, include (in the MR	90	Information on letter of approval from Ukraine is	The issue is closed due to

section 1) information on letter of approval not only from the Netherlands, but also from the Host country.		included in the MR. Please see modified version of the MR.	the information added to the monitoring report.
CAR 09. Please, provide passports for natural gas consumption meters Сапфир-М ser. #03831731, Метран-100 ser. #66737, Сапфир ser. 517758 and natural gas pressure meter Метран-100 ser. #65430. Also, please, provide a passport for scales for weighing coke and anthracite 2370BB-150E/2C ser. #70.	101 (b)	Response #1. Passports are provided to the verifier. Response #2. The passport for the meter Сапфир ser. 517758 is provided to the verifier.	Conclusion on response #1. The passport for the meter Сапфир ser. 517758 is still needed for verification. Conclusion on response #2. The issue is closed.
CAR 10. Please, provide passports for the following electricity meters: ЕвроАльфа ser. #01132780, ЕвроАльфа ser. #01132767, ЕвроАльфа ser. # 01132774, ЕвроАльфа ser. #01132785, И670 ser. #304986, И670 ser. #273014, И43 ser. #237322, И670 ser. #155427, ИТ ser. #690221, И670 ser.	101 (b)	Response #1. Passports are provided to the verifier.	Conclusion on response #1. The passports for the following electricity meters ЕвроАльфа ser. #01132780, И670 ser. #273014, И43 ser. #237322, И670 ser. #157142, И670 ser.

#305171, И670 ser. #157142, И670 ser. #082160, И670, ser. #919610, ET ser.#8875, И670 ser. 134849, И670 ser. 672417, И670 #712689, И670 #021916, and И670 ser. #603211.		Response #2. Verifier is provided with passports for the electricity meters И670 ser. #603211 and И670 ser. # 605102, which is instead of И670 ser. # 157142. Appropriate corrections have been done to the MR. Please, see modified version of the MR. Response #3. Required passports for the electricity meters are provided to the verifier.	#082160, and И670 ser. #603211 are still needed for verification. Conclusion on response #2. The passport for the electricity meters ser. #01132780 and И670 ser. #273014 are still needed for verification. Conclusion on response #3. The issue is closed.
CAR 11. Please, provide the following documents: CHP electrical department operational logbook with data for the first quarter of 2012; data on electricity distribution by GSU-CHP for January, February and March of 2012; logbook on electricity consumption	95 (b)	Response #1. Documents are provided to the verifier.	Conclusion on response #1. Report on generated, transferred and consumed active energy for January, February and March of 2012 and logbook on

with data for the first quarter of 2012; report on generated, transferred and consumed active energy for January, February and March of 2012; and logbook on meters replacement (with data for the first quarter of 2012).		Response #2. Report on generated, transferred and consumed active energy for January, February and March of 2012 and logbook on meters replacement (with data for the first quarter of 2012) are provided to the verifier. Response #3. Logbook on meters replacement for the first quarter of 2012 is provided to the verifier.	meters replacement replacement (with data for the first quarter of 2012) are still needed for verification. Conclusion on response #2. The logbook on meters replacement (with data for the first quarter of 2012) is still needed for verification. Conclusion on response #3. The issue is closed.
CAR 12. Please, provide actual calculations for the first quarter of 2012 (for sintering shop).	95 (b)	Actual calculations for the first quarter of 2012 are provided to the verifier.	The issue is closed.
CAR 13. Please, provide to the verification team evidence of	101 (a)	Evidence of training/seminars conducted at DIISW during the	CAR 13 is closed due to the information provided

training/seminars conducted at DIISW for the first quarter of 2012.		first quarter of 2012 is already provided to the verifier.	to the verification team.
CAR 14. Please, provide to the verification team internal audit reports on conformity to the requirements of ISO 9001 and OHSAS 18001 standards (if such audits were conducted during the first quarter of 2012).	101 (a)	Information on internal audit reports on conformity to the requirements of ISO 9001, ISO 14001 and OHSAS 18001 standards is now provided to the verifier.	Based on the documentation provided, CAR 14 is closed.
CAR 15. Please, selectively provide daily pie charts on natural gas consumption by BF (at least 3-4 charts for the first quarter of 2012).	95 (b)	Daily pie charts on natural gas are not applied at the plant.	The issue is closed based on the explanation provided.