VERIFICATION REPORT

CARBON MARKETING AND TRADING LTD.

VERIFICATION OF THE

"RECONSTRUCTION OF THE AGGLOMERATE AND BLAST-FURNACE PRODUCTION AT THE JSC "ZAPORIZHSTAL"

REPORT NO. UKRAINE-VER/0481/2012

REVISION NO. 01

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0481/2012

VERIFICATION REPORT

Date of first issue:	Organizational unit:
26/04/2012	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
Carbon Marketing and Trading Ltd.	Tahir Musayev

Summary:
Bureau Veritas Certification has made the verification for period from 01/07/2011 p. to 29/02/2012 of the JI project "Reconstruction of the agglomerate and blast-furnace production at the JSC "Zaporizhstal", project of Carbon Marketing and Trading Ltd. located in Zaporizhzha, 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 (CR, CAR and FAR), presented in Appendix A.

In summary, 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 ready to generate GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 555 341 tonnes of CO_2 equivalent for the monitoring period from 01/07/2011 to 29/02/2012.

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/0481/2012	JI
Project title:	
"Reconstruction of the agglomerate and blast-furnace production at the JSC "Zaporizhstal"	
Work carried out by:	
Rostislav Topchiy – Team Leader, Lead Verifier Vera Skitina – Team Member, Verifier Vladimir Kulish – Team Member, Verifier	
Work reviewed by:	
Ivan Sokolov – Internal Technical Reviewer	
Work approved by:	
Ivan Sokolov – Operational Manager	
Bureau Veritas Certification Holding SAS	

Date of this revision:	Rev. No.:	Number of pages:
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1 INTRODUCTION

The Company Carbon Marketing and Trading Ltd. has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project “Reconstruction of the agglomerate and blast-furnace production at the JSC “Zaporizhstal” (hereafter called “the project”) at Zaporizhzha, 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.

Verification covers the period from 01/07/2011 to 29/02/2012

1.1 Objective

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

1.2 Scope

The verification scope is defined as an independent and objective review of submitted monitoring reports 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:

Rostislav Topchiy
Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Vera Skitina
Bureau Veritas Certification Team member, Climate Change Lead Verifier

Vladimir Kulish
Bureau Veritas Certification Team Member, Climate Change Verifier

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by Carbon Marketing and Trading Ltd and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), developed JI specific approach and/or Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report version 02 dated 23/04/2012 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 19/04/2012 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues

identified in the document review. Representatives of JSC "Zaporizhstal" and Institute for Environment and Energy Conservation were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
JSC "Zaporizhstal"	➢ Organizational structure ➢ Responsibilities and authorities ➢ Training of personnel ➢ Quality management procedures and technology ➢ Implementation of equipment (records) ➢ Metering equipment control ➢ Metering record keeping system, database ➢ Monitoring procedure
Institute for Environment and Energy Conservation	➢ Baseline methodology ➢ Monitoring plan ➢ Monitoring reports ➢ Deviations from PDD ➢ Emission reduction calculation

2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

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

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

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

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

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

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 22 Clarification Requests.

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

3.1 Remaining issues and FARs from previous verifications

No FARs were raised during previous verification.

3.2 Project approval by Parties involved (90-91)

The project received approval from the Host Party, Ukraine, confirmed by Letter of Approval #1386/23/7, issued by the National Environmental Investment Agency of Ukraine dated 31/05/2011. Written approval from Switzerland, the other involved Party, has been issued by the National coordinating body of the Party no later than submitting to the secretariat of the first verification report for publication in accordance with paragraph 38 JI Guidelines (Letter of Approval from Swiss DFP - Federal Office for the Environment #J294-0485 dated 27/04/2011).

The abovementioned written approval is unconditional.

3.3 Project implementation (92-93)

JSC "Zaporizhstal" performs the project of reconstruction of the agglomerate and blast-furnace production aimed to improve energy efficiency, reduce greenhouse gases (GHG) emissions and solve other environmental problems of production process.

The proposed Joint Implementation project considers complex resource-saving effect based on introduction of new sintering machine # 1, radical reconstruction of blast furnace #2, retirement from service of blast furnace # 1 and gradual reconstruction of the remaining blast furnaces ##4 and 5 as well as technological improvements in the process of sintering and pig iron production.

According to the investment plan the project envisaged the following basic phases (steps) of project implementation:

1. Improvement of pig iron production process:
    - 1.1. Radical reconstruction of blast furnace (BF) # 2;
    - 1.2. Reconstruction of BF # 4;
    - 1.3. Reconstruction of BF # 5;
    - 1.4. Installation of pulverized coal injection (PCI) facility at BFs ## 2, 3, 4, 5;
    - 1.5. Installation of the system of automatic control by BFs;
    - 1.6. Measures for BFs technological improvement:
        - a) Improvement of blast furnace coke quality;
        - b) Decreasing of silicon content in the pig iron;
        - c) Decreasing the blast-furnaces idle times and downtime;
        - d) Partitial substitution of the limestone by lime;
        - e) Improvement of the agglomerate quality;
        - f) Replacement of coke by natural gas and coal;
        - g) Oxygen enrichment of blast-furnace blowing etc.
2. Improvement of sintering process:
    - 2.1. Installation of a new sintering machine # 1;
    - 2.2. The commissioning of air aspiration equipment of tail part sintering machine.
3. Improvement of secondary energy resources production process:
    - 3.1. The construction of the station for heating gas and combustion of air in blast furnace shop.
    - 3.2. Efficiency improvement of oxygen and other secondary energy resources production

In general the JI project led to reduction of specific fuel and energy resources consumption per 1 tonne of pig iron output and, therefore, to GHGs emission reductions.

No outstanding issues were raised.

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 factors, 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 each fuel used in sintering process, electricity consumed in sintering process, quantity of each reducing agent in pig iron production, emission factor of each reducing agent, quantity of each other input in pig iron production, emission factor of each other input, quantity of each fuel used for balance of process needs, electricity consumed for balance of process needs, influencing the baseline emissions and the activity level of the project and the emissions due to the JI project as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating emission reductions or enhancements of net removals, such as (plant records, Statistics of JSC “Zaporizhstal”, IPCC Guidelines for National Greenhouse Inventories) 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 of net removals 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 Table 2 (refer to CL 01 - CL 22).

3.5 Revision of monitoring plan (99-100)

Not applicable for this verification.

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.

3.7 Verification regarding programmes of activities (102-110)

Not applicable

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the initial and periodic verification of the JI project “Reconstruction of the agglomerate and blast-furnace production at the JSC “Zaporizhstal” in Zaporizhzha, 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 JSC “Zaporizhstal”is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD version 02. 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 reports version 02 for the reporting periods 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 01/07/2011 to 29/02/2012

Baseline emissions	: 5 794 823	tonnes of CO_2 equivalent.
Project emissions	: 5 239 483	tonnes of CO_2 equivalent.
Emission Reductions	: 555 341	tonnes of CO_2 equivalent.

5 REFERENCES

Category 1 Documents:
Documents provided by JSC "Zaporizhstal" that relate directly to the GHG components of the project.

/1/ Monitoring report for the period 01/07/2011 to 29/02/2011 of JI project "Reconstruction of the agglomerate and blast-furnace production at the JSC "Zaporizhstal" version 01 dated 05/04/2012
/2/ The calculation of emissions reductions for the period 01/07/2011 to 29/02/2011 version 01 dated 02/04/2012
/3/ Monitoring report for the period 01/07/2011 to 29/02/2011 of JI project "Reconstruction of the agglomerate and blast-furnace production at the JSC "Zaporizhstal" version 02 dated 23/04/2012
/4/ Verification report for the period 01/01/2011 to 30/06/2011 of JI project "Reconstruction of the agglomerate and blast-furnace production at the JSC "Zaporizhstal" version 02 dated 05/09/2011
/5/ Letter of Approval from National Environmental Investment Agency of Ukraine № 1386/23/7 dated 31/05/2011
/6/ Letter of Approval from Swiss DFP - Federal Office for the Environment № J294-0485 dated 27/04/2011
/7/ PDD of the JI project "Reconstruction of the agglomerate and blast-furnace production at the JSC "Zaporizhstal" version 02 dated 14/04/2011
/8/ Determination report #UKRAINE-det/0250/2011 of the JI project "Reconstruction of the agglomerate and blast-furnace production at the JSC "Zaporizhstal" dated 04/05/2011

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

/1/ Internal standard of JSC "Zaporizhstal" STP 7.6-01-03 "Metrological support"
/2/ Internal standard of JSC "Zaporizhstal" STP 7.6-03-03 "Procedure for repair of measuring equipment"
/3/ Internal standard of JSC "Zaporizhstal" STP 7.6-04-03 "Procedure for metrological review"
/4/ Internal standard of JSC "Zaporizhstal" STP 7.6-05-03 "Procedure for metrological certification"
/5/ Internal standard of JSC "Zaporizhstal" STP 7.6-06-03 "Procedure for analyze ensuring of technological process"
/6/ Internal standard of JSC "Zaporizhstal" STP 7.6-07-03 "Procedures for verification and calibration"
/7/ Internal standard of JSC "Zaporizhstal" STP 7.6-08-03 "Provisions on liability for condition of measuring equipment in subdivisions"
/8/ Internal standard of JSC "Zaporizhstal" STP 7.6-09-03 "Procedure

for developing, manufacturing and operating templates"
/9/ Internal standard of JSC "Zaporizhstal" STP 7.6-10-03 "Metrological supervision of the flowmeters"
/10/ Order on saving and archiving project documentation #211 dated 28/04/2011
/11/ Report of the air protection for 2011. Form 2TP (air).
/12/ Report of the air protection for 2012. Form 2TP (air).
/13/ Information note the class-voltage electricity consumed in the agglomerate and blast-furnace production.
/14/ The protocol the meeting with Technical Director on the state of basic production assets Zaporizhstal and prepare a strategy for its reconstruction and technical upgrading dated 25 december 2002.
/15/ JSC "Zaporizhstal". Business-plan. Technical reequipment of agglofactory. Reconstruction of agglomachine No.1. Reg No.539584
/16/ Direction of approval of state technical committee statement No. 678p dated 23.06.2005
/17/ State technical committee statement of putting ready-built object into operation No. 678p dated 23.06.2005
/18/ Business-plan. General overhaul and reconstruction of blast-furnace-2. DT 336456. Volume 4. Reg. No.488408
/19/ List of volumes related to general overhaul of blast-furnace-2 JSC "Zaporizhstal"
/20/ Certificate of physical-chemical parameters of natural gas for the period 2011-2012
/21/ Natural gas composition register for the period 2011-2012
/22/ Detailed design "Complex of objectives for fuel accounting, taking into consideration the new requirements for procedure of settlement and automation of receiving new forms of reporting" dated 03.12.1998
/23/ Rules of gas and liquids wastes measurement using restriction equipment RD 50-213-80
/24/ Gas balance register for the period 2011-2012
/25/ Natural and blast-furnace gas register. 2011-2012
/26/ Consumer technical and economic calculation accounting
/27/ Water assessment register for the period 2011-2012
/28/ Actual volumes of production in departments of industrial complex for 2011-2012
/29/ Report on electric power wastes in metallurgical industrial complex JSC "Zaporizhstal" for 2011-2012
/30/ Report on work of gas department 2011-2012
/31/ Meeting initiated by technical director record dated 25.12.2002
/32/ Conclusion No.161 of state ecological expertise dated 26.12.2002
/33/ Project of JSC "Zaporizhstal" "General overhaul and reconstruction of blast-furnace-2 DT 336456 Volume 1
/34/ Project of JSC "Zaporizhstal" "General overhaul and reconstruction of blast-furnace-2 DT 336456 Volume 2 Reg. No.488406

/35/ Project of JSC "Zaporizhstal" "General overhaul and reconstruction blast-furnace-2 DT 336456 Volume 2. Statement of ecological consequence
/36/ Project of JSC "Zaporizhstal" "General overhaul and reconstruction blast-furnace-2 DT 336456 Volume 2. Environmental impact assessment
/37/ Information on personnel training of JSC "Zaporizhstal" for 2011
/38/ Personnel training programm of JSC "Zaporizhstal" for working with equipment for preparation and injection of dust-coal fuel into blast-furnace
/39/ Second stage of training according appendix B to the contract No. 1323.37515.06.64I dated 08.12.06 between JSC "Zaporizhstal" and Kuttner GmbH & Co. KG
/40/ Certificate of attendance the seminar "Introduction into explosion proof equipment "ATEX" of hoover facility of product company INTENSIV FILTER" for A. Merezniyk
/41/ Certificate of attendance the seminar "Introduction into explosion proof equipment "ATEX" of hoover facility of product company INTENSIV FILTER" for N. Stakhanova
/42/ Certificate of attendance the seminar LAB-01 for laboratory personnel for N. Povstyana
/43/ Certificate of attendance the group seminar GEN01/PLC01/PLC02/PLC03/POS01 for V.Bublej
/44/ Certificate of attendance the group seminar GEN01/PLC01/PLC02/PLC03/POS01 for A.Gavrylenko
/45/ Certificate of attendance the group seminar GEN01/PLC01/PLC02/PLC03/POS01 for S.Moscalets
/46/ Photo Passport Disc-250-1121 natural gas consumption № 82670
/47/ Photo Disc-250-1121 natural gas consumption № 82670
/48/ Photo passport transducer DM-3583 № 12560
/49/ Photo passport secondary device KSD-3 steam consumption № 195038
/50/ Photo Secondary device KSD-3 steam consumption № 195038
/51/ Photo passport transducer DM-3583 № 5654
/52/ Photo passport converter BPL № 5805
/53/ Photo passport secondary device Disk-250-1121 airflow № 20327
/54/ Photo Secondary device Disc-250-1121 airflow № 20327
/55/ Photo passport Disc-250-1121 consumption of industrial water № 91467
/56/ Photo passport KSD-3 consumption of industrial water № 191712
/57/ Photo passport KSD-3 consumption of industrial water № 362835
/58/ Photo Secondary device. Disc-250-1121 rate of industrial water № 91467
/59/ Photo Secondary device KSD-3 consumption of industrial water № 191712
/60/ Photo Secondary device KSD-3 consumption of industrial water № 362835

/61/ Photo Journal of industrial water balance on sinister workshop
/62/ Photo Act to withdraw assets from the blast furnace#1 from July 2005
/63/ Photos Act a technical survey of Blast Furnace#1 of 20/01/2005
/64/ Photo Decision about the cancellation of BF#1
/65/ Photo passport number 45 on the scale electromechanical HR-200000RT with information about the verification
/66/ Photo Passport number 46 on the scale electromechanical HR-200000RT with information on the verification
/67/ Photo Shipped pig iron logbook
/68/ Photo Electromechanical scales HR-200000RT № 45
/69/ Photo Electromechanical scales HR-200000RT № 46
/70/ Passport on the scales 02/16E
/71/ Passport on the scales 02/25E
/72/ Passport on the scales 02/26E
/73/ Passport on the scales 02/27E
/74/ Passport on the scales 02/24E
/75/ Passport on the scales 02/23E
/76/ Passport on the scales 02/22E
/77/ Passport on the scales 02/21E
/78/ Passport on the scales 02/20E
/79/ Passport on the scales 02/19E
/80/ Passport on the scales 02/18E
/81/ Passport on the scales 02/17E
/82/ Passport on the scales 02/29E
/83/ Photo Electronic form accounting of electricity consumption by the blast furnace workshop
/84/ Photo Report on energy consumption for active power
/85/ Photo Electronic form accounting of electricity consumption in the sinter workshop
/86/ Photo Report on energy consumption for active power
/87/ Photo Counting of electricity per day substation M-1 logbook
/88/ Photo monthly report on consumption of electricity
/89/ Photo Daily statement of electricity consumption by substation M-1
/90/ Photo passport multifunction electricity meter type EvroALFA number 01103132
/91/ Photo passport multifunction electricity meter type EvroALFA number 01103390
/92/ Photo passport multifunction electricity meter type EvroALFA number 01103359
/93/ Photo passport multifunction electricity meter type EvroALFA number 01103265
/94/ Photo passport multifunction electricity meter type EvroALFA number 01103170
/95/ Photo passport multifunction electricity meter type EvroALFA number 01103184
/96/ Photo passport multifunction electricity meter type EvroALFA

number 01103186
/97/ Photo passport multifunction electricity meter type EvroALFA number 01103368
/98/ Photo passport multifunction electricity meter type EvroALFA number 01103372
/99/ Photo passport multifunction electricity meter type EvroALFA number 01103293
/100 Photo passport multifunction electricity meter type EvroALFA number 01103190
/101 Photo passport multifunction electricity meter type EvroALFA number 01103155
/102 Photo passport multifunction electricity meter type EvroALFA number 01103161
/103 Photo passport multifunction electricity meter type EvroALFA number 01103275
/104 Photo passport multifunction electricity meter type EvroALFA number 01103156
/105 Photo passport multifunction electricity meter type EvroALFA number 01103276

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/	Aleksandr Grabko	– head of automation and metrology bureau, JSC “Zaporizhstal”
/2/	Nikolay Nechyporuk	– deputy head of personnel training department, JSC “Zaporizhstal”
/3/	Pavel Sidelnikov	- Head of sintering workshop, JSC “Zaporizhstal”
/4/	Evgeniy Gonchar	- Senior Master of metrological department (sintering workshop), JSC “Zaporizhstal”
/5/	Vladimir Yarysh	– deputy head of power engineering department, JSC “Zaporizhstal”
/6/	Inna Kholina	– head of environmental laboratory, JSC “Zaporizhstal”
/7/	Vladimir Piven	- Senior master blast-furnace workshop, JSC “Zaporizhstal”
/8/	Vladimir Otryshko	- Senior master of the electric plant CHPP, JSC “Zaporizhstal”
/9/	Peter Yatsyshyn	- engineer on safety, JSC “Zaporizhstal”
/10/	Georgiy Veremeychyk	- ecology Deputy Department, Institute for Environment and Energy Conservation

APPENDIX A: VERIFICATION PROTOCOL

Table 1 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?	DFP of Switzerland have issued written project approval (LoA) when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines.	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	OK	OK
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	Implementation of the project activity was realized according to the project implementation schedule described in the project design document. There are no deviations or revisions to the determined PDD.	OK	OK
93	What is the status of operation of the project during the monitoring period?	Monitoring reports indicated the current status of the project activity implementation. Based on provided materials, there is known that all project equipments were operational in the reporting period.	OK	OK
Compliance with monitoring plan				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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 process at JSC "Zaporizhstal" is carried out in accordance with the monitoring plan included in the registered PDD version 02 dated 14.04.2011. Data used for calculation of emissions reduction based on information that confirmed by JSC "Zaporizhstal" documents.	OK	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	All key factors influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project were taken into account, as appropriate for calculating the emission reductions. CL 01. Please provide documented evidence about class voltage electricity consumed by the project.	CL 01	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 clearly identified, reliable and transparent. On site responsible persons register data from the measurement equipments and fixed monitoring data to logbooks, monthly data collected to the technical reports. All roles and responsibilities are described in details in the Monitoring reports.	CL 02 CL 04 CL 05 CL 06 CL 07 CL 08 CL 09 CL 10 CL 11	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CL 02. Please provide documented evidence of the stage on which the introduction of pulverized coal injection (PCI). CL 03. Please submit the EIA for the project. CL 04. Please explain the procedure of collection of data monitored (Cl.3.1.1). CL 05. Please explain and provide options "the normal course of operation of the equipment". CL 06. Please explain what programs are used "to obtain data on costing and obtaining values of specific consumption of fuel and materials per unit of production". CL 07. Please explain how the data determined that "partially stored in the electronic database". CL 08. Please explain how the systematization of data in documents daily, monthly and annual registration. CL 09. Please pass "Ukrainian norms" for the accuracy and error. CL 10. Please provide estimates of error level devices and certificates that confirm this.	CL 12 CL 13 CL 14 CL 15 CL 16 CL 17 CL 18 CL 19 CL 20 CL 21 CL 22	

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CL 11 Please specify Table 2 according to the list of devices listed in Annex 2. CL 12. Please provide the name internal standard used. CL 13. Please explain which establish the responsibility of the Chief Metrologist. CL 14. Please explain why calculations using data from IPCC 2006 and not from the NIR. CL 15. Please adjust the style statement of the formulas used for calculations. CL 16. Please post a description of the data presented in Tables 8 and 9 in the appropriate places. CL 17. Please adjust the schemes listed in Appendix 1. CL 18. Please add information about the last test / calibration in table Appendix 2. CL 19. Please indicate which of the completed project for the event include equipment is given in Appendix 2. CL 20. Please explain why serial number set of measuring equipment does not meet specified by the report of the monitoring. For example, sensor 3095 FB serial number,		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		according to MR - 105150, serial number actually installed sensor 0105157 CL 21. Please provide documents replacing equipment and explain why these options were not reflected in the MR. For example, object "steam pressure input 2" equipment "Pressure sensor ДМ3583 serial number 12991" and "secondary device КСД-3 serial number 176470" were replaced by "sensor "Safyr" and "secondary device "Диск-250", respectively. CL 22. Please correct the typos in the serial number of devices listed in Annex 2.		
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?	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	OK	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	The calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		As a result of documents revision, all data connected with estimation of emission reduction are consistent through the Monitoring reports and excel spreadsheets with calculation.		
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	Not applicable	OK	OK
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?	Not applicable	OK	OK
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring reports?	Not applicable	OK	OK
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per	Not applicable	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	component of the project clearly specified in the monitoring reports? 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?	Not applicable	OK	OK
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?	Not applicable	OK	OK
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	Procedures of data collection are implemented in compliance with the approved monitoring plan. Monitoring data of the project is monitored in compliance with scheduled frequency approved in the developed monitoring plan and monitoring procedure. The quality control and quality assurance	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		procedures realised due to performing of internal audits and checking measures, participation of third parties, and carrying out of procedures of emergencies finding.		
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	All monitoring equipments have calibration. It is calibrated with periodic frequency (passport states the calibration frequency for every device) according to the national regulations. During site visit verifiers received and reviewed passports and/or certificates on calibration of all measurement equipments.	OK	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidence and records used for the monitoring are maintained on site of some devices and in responsible departments in a traceable manner.	OK	OK
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 approved monitoring plan. Implementation of monitoring system was checked through site visit, and concluded that monitoring system is completely in accordance with the monitoring plan. This fact is also confirmed by the documents.	OK	OK
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	Not applicable	OK	OK
103	Is the verification based on the monitoring reports of all JPAs to be	Not applicable	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	verified?			
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	Not applicable	OK	OK
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable	OK	OK
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	Not applicable	OK	OK
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:	Not applicable	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− The types of JPAs; − The complexity of the applicable technologies and/or measures used; − The geographical location of each JPA; − The amounts of expected emission reductions of the JPAs being verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	Not applicable	OK	OK
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs,	Not applicable	OK	OK

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

Table 2 Resolution of Corrective Action Requests 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
CL 01. Please provide documented evidence about class voltage electricity consumed by the project.	95 (a)	"Information on voltage class of electricity (1-st or 2-nd class) consumed in the sinter plant and blast-furnace shop during 2008-2012" dated 30/03/2012 and signed by deputy Chief energy specialist is already provided.	Issue is closed.
CL 02. Please provide documented evidence of the stage on which the introduction of pulverized coal injection (PCI).	95 (b)	PCI implementation is at the stage of full-scale testing (Protocol of actual results of hot testing dated 04/12/2011 is already provided).	Issue is closed.
CL 03. Please submit the EIA for the project	95 (b)	EIA for the project "The commissioning of air aspiration equipment of tail part sintering machine" is already provided.	Issue is closed.
CL 04. Please explain the procedure of collection of data monitored (Cl.3.1.1).	95 (b)	General monitoring procedure is provided in STP 8.2-13-11 "Monitoring of GHG emission reductions". Procedure of data collection concerning this project is shortly set out in a new version of clause 3.1.1. of the annual monitoring report (MR). See MR version 2.0.	Issue is closed.

CL 05. Please explain and provide options "the normal course of operation of the equipment."	95 (b)	This comment is taken into account and version of clause 3.1.1. of MR is altered. See MR version 2.0.	Issue is closed.
CL 06. Please explain what programs are used "to obtain data on costing and obtaining values of specific consumption of fuel and materials per unit of production"	95 (b)	Appropriate corrections are made. Clause 3.1.1 is corrected. See MR version 2.0.	Issue is closed.
CL 07. Please explain how the data determined that "partially stored in the electronic database"	95 (b)	Data which is initially on paper is systemized and stored in electronic database of the plant. Therefore extra paper may be utilized. Paragraph of clause 3.1.1 is edited. See MR version 2.0.	Issue is closed.
CL 08. Please explain how the systematization of data in documents daily, monthly and annual registration.	95 (b)	Data collection is in accordance with general requirements of STP 8.2-13-11 “Monitoring of GHG emission reductions” and periodic reports of departments of the plant (daily, monthly, annually), which are developed in compliance with procedures of process control. Clause 3.1.1 is modified. See MR version 2.0.	Issue is closed.

CL 09. Please pass "Ukrainian norms" for the accuracy and error.	95 (b)	Verification and calibration of equipment at the plant complies with STP 7.6-07-03 “Organization and procedure of measuring equipment verification”, as well as national regulations on measuring equipment. Clause 3.1.2 is modified. See MR version 2.0.	Issue is closed.
CL 10. Please provide estimates of error level devices and certificates that confirm this.	95 (b)	Equipment error level is determined by manufacturers and indicated in documentation for equipment. Meanwhile Metrological and automation department of the plant provides periodic verification/calibration of measuring equipment, including those used under the JI project. Passports for the measuring equipment used for data collection under the project and information on regular verification/calibration are already provided. Clause 3.1.2 is modified. See MR version 2.0.	Issue is closed.
CL 11 Please specify Table 2 according to the list of devices listed in Annex 2.	95 (b)	With the purpose to improve MR structure Table of the clause 3.1.2 of MR was excluded. See MR version 2.0.	Issue is closed.

CL 12. Please provide the name internal standard used.	95 (b)	Clause 3.2. is modified. Reference numbers and titles of the standards which control operation of measuring equipment are provided. See MR version 2.0.	Issue is closed.
CL 13. Please explain which establish the responsibility of the Chief Metrologist.	95 (b)	Responsibility of Chief energy specialist is determined by his job description, as well as standards of the plant indicated in section 3.2 of MR and other regulations of the plant, e.g. in clause 8.3. of STP 7.6-07-03 it's indicated "Chief energy specialist and heads of other departments are responsible for verification and calibration of measuring equipment", in clause 7.2. of STP 7.6-03-03 it's indicated "Chief energy specialist is responsible for compliance to this standard ". Clause 3.2 of MR is modified. See MR version 2.0.	Issue is closed.

CL 14. Please explain why calculations using data from IPCC 2006 and not from the NIR.	95 (b)	According to recommendations of the National (now – State) Environmental Investment Agency of Ukraine in calculations of emission reduction units must be applied either emission factors based on actual calorific value and actual carbon content of FER and materials used at a correspondent plant or, in case if it's not possible to get data required for the calculation of such emission factors, default emission factors recommended by international panel on climate change.	Issue is closed.
CL 15. Please adjust the style statement of the formulas used for calculations.	95 (b)	Formulas are modified. See MR version 2.0.	Issue is closed.
CL 16. Please post a description of the data presented in Tables 8 and 9 in the appropriate places.	95 (b)	Description of data provided in section 5.2 is placed in a correspondent place. See MR version 2.0.	Issue is closed.
CL 17. Please adjust the schemes listed in Appendix 1.	95 (b)	Schemes provided in Annex 1 are part of the determined project design documentation, so they can't be changed at the stage of regular MR development.	Issue is closed.
CL 18. Please add information about the last verification/calibration in table Appendix 2.	95 (b)	Data concerning last verification/calibration is added in Table 2 of MR. See MR version 2.0.	Issue is closed.

CL 19. Please indicate which of the completed project for the event include equipment is given in Appendix 2.	95 (b)	Measuring equipment indicated in Annex 2 is grouped by types of production activities and equipment can't be ascribed to project measures as it's cumulative effect of implemented measures assessed.	Issue is closed.
CL 20. Please explain why serial number set of measuring equipment does not meet specified by the report of the monitoring. For example, sensor 3095 FB serial number, according to MR - 105150, serial number actually installed sensor 0105157	95 (b)	List of monitoring equipment indicated in Annex 2 of MR was prepared by the plant earlier. Recently there had been replaced some equipment what was determined during this verification. Annex 2 is modified with regards to these changes. See MR version 2.0.	Issue is closed.
CL 21. Please provide documents replacing equipment and explain why these options were not reflected in the MR. For example, object "steam pressure input 2" equipment "Pressure sensor ДМ3583 serial number 12991" and "secondary device КСД-3 serial number 176470" were replaced by "sensor "Safyr" and "secondary device "Диск-250", respectively.	95 (b)	Protocols on equipment replacement are already provided. Correspondent corrections are made in MR. See MR version 2.0.	Issue is closed.
CL 22. Please correct the typos in the serial number of devices listed in Annex 2.	95 (b)	Typos are corrected. See MR version 2.0.	Issue is closed.