

VERIFICATION REPORT

INSTITUTE FOR ENVIRONMENT AND ENERGY CONSERVATION

VERIFICATION OF THE

TECHNICAL UPGRADE OF OJSC DNIPROVSKY
INTEGRATED IRON AND STEEL WORKS NAMED
AFTER DZERZHYNSKY BY
INSTALLATION OF TWO BILLET CONTINUOUS
CASTING MACHINES AND TWO LADLE
FURNACES

SECOND PERIODIC (01 JANUARY 2011 – 31 DECEMBER 2011)

REPORT NO. UKRAINE-VER/0435/2012

REVISION No. 02

BUREAU VERITAS CERTIFICATION



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23/03/2012		Organizational unit: Bureau Veritas Certification Holding SAS		
Client: Institute Energy C		Environment vation	and	Client ref.: Vasyl Vovchak

Summary:

Bureau Veritas Certification has made the 2nd periodic verification of the JI project "Technical Upgrade of OJSC Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky by Installation of Two Billet Continuous Casting Machines and Two Ladle Furnaces", ITL project ID UA1000280, the project of Institute for Environment and Energy Conservation located in the town of Dniprodzerzhynsk, Dnipropetrovsk region, Ukraine, and applying the JI specific approach, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the 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 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. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 1140132 tonnes of CO2 equivalent for the monitoring period from 01/01/2011 to 31/12/2011.

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.: UKRAINE-ver/0435/20		t Group:		2.4
Project title: Technical Upgrade Iron and Steel Wor Installation of Tw Machines and Two I	ks named afte	er Dzerzhynsky by Intinuous Casting	,	
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Work reviewed by: Ivan Sokolov – Integral Alekseenko - Work approved by: Ivan Sokolov – Op	rechnical exp	pert Bulleau Villa	tas Se	No distribution without permission from the Client or responsible organizational unit Limited distribution
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Abbreviations

AIE Accredited Independent Entity

BVC Bureau Veritas Certification Holding SAS

CAR Corrective Action Request
CCM Continuous Casting Machines
CDM Clean Development Mechanism

CL Clarification Request

CO₂ Carbon Dioxide

DFP Designated Focal Point

DIISW PJSC "Dniprovsky Integrated Iron and Steel Works named

after Dzerzhynsky"

DVM Determination and Verification Manual

ERU Emission Reduction Unit FAR Forward Action Request GHG Green House Gas(es)

IPCC Intergovernmental Panel on Climate Change

JI Joint Implementation

JISC Joint Implementation Supervisory Committee

LF Ladle Furnace
MP Monitoring Plan
MR Monitoring Report

PDD Project Design Document

UNFCCC United Nations Framework Convention for Climate Change

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1 INTRODUCTION

Institute for Environment and Energy Conservation has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Technical Upgrade of OJSC Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky by Installation of Two Billet Continuous Casting Machines and Two Ladle Furnaces" (hereafter called "the project") at the at 18-B Kirova Street, 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.

The verification covers the period from the 1st January 2011 to 31st December 2011.

1.1 Objective

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

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

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

1.2 Scope

The verification scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and 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:



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Bureau Veritas Certification, Team Leader, Climate Change Lead Verifier

Vitaliy Minyaylo

Bureau Veritas Certification Team Member, Climate Change Verifier

Elena Mazlova

Bureau Veritas Certification, Team Member, Technical Expert

This verification report was reviewed by:

Ivan Sokolov Bureau Veritas Certification, Internal Technical Reviewer

Igor Alekseenko Bureau Veritas Certification Technical Expert

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by Institute for Environment and Energy Conservation and additional background documents related to the project design, baseline, and monitoring plan, i.e. country Law, Project Design Document (PDD), Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on



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Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report version 1 of 23/02/2012, version 2 of 23/03/2012 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 13/03/2012 Bureau Veritas Certification verification team conducted a visit to the project site (PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky") and performed (on-site) interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Institute for Environment and Energy Conservation and PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" 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
Consultant: Institute for Environment and Energy Conservation Ltd.	Baseline methodology Monitoring plan Monitoring report Deviations from PDD

2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that



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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 11 Corrective Action Requests, 3 Clarification Requests

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



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3.1 Remaining issues and FARs from previous verifications
It was verified the implementation of corrective action to FAR 01 and FAR
03 from the previous verification. Corrective actions were not
implemented. Verification team issued a Corrective Action Requests (CAR
10 and CAR 11) that were closed during this verification, see Appendix A.

3.2 Project approval by Parties involved (90-91)

The project was approved by the host Party, Ukraine, which is confirmed by the Letter of Approval No. 2077/23/7 dated 08/08/2011 issued by State Environmental Investment Agency of Ukraine. As to the other Party involved, although the PDD indicates it as Spain with "Endesa Carbono" company being a legal entity project participant, the written approval for the current JI project was issued by the Netherlands authorizing Endesa Carbono to participate in this Project for the purpose of article 6 of the Kyoto Protocol (Declaration of Approval ref. No 2011JI28 dated 05/07/2011 issued by NL Agency, implementing agency of the Ministry of Economic Affairs, Agriculture and Innovation of the Netherlands). This happened because of the fact that the Spanish company Endesa Carbono has its accounts in national registries of both Spain and the Netherlands.

Bureau Veritas Certification received written approvals from the project participants and does not doubt their authenticity.

The abovementioned written approvals are unconditional.

3.3 Project implementation (92-93)

The project which is being implemented at the PJSC "Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky" (DIISW), is aimed at achieving steel production with lower energy consumption per unit of output through reduction of furnace process time in LD-converters as the result of introduction of two ladle furnaces (LF1 and LF2) and stabilization of casting process at two new seven-strand billet continuous casting machines (CCM1 and CCM3), which would inter alia yield significant reduction of GHG emissions to the atmosphere.

The project technology envisages that steel molten in converters are dressed in the new two LFs where ferroalloys and other required additives are fed. LFs additionally consume electricity compared to the baseline scenario, however they allow for shorter Furnace Process time and lower temperatures LD-Converters. Generally, energy saving in LD-Converters, as the result of LFs implementation, leads to reduction of overall energy intensity and stabilization of the furnace process. Thus, out-of-furnace treatment (secondary steelmaking) of steel at LFs saves time, energy, and produces higher quality steel on a consistent basis.



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The project technology also envisages that steel treated at LFs are fed into new seven-strand billet CCMs allowing direct square billet production. This, compared to the baseline scenario, leads to lower amount of clippings and energy saving.

Construction of CCM 1 was started in August 2007 and was completed in November 2008. First commissioning casting processes on CCM 1 had been conducted during August-September and commercial operation of equipment started from the 1st of October 2008, thereafter first volumes of square billets were produced in the fourth quarter of 2008.

According to the State Committee Protocol acceptance of finished object into operation is dated 16.12.2008.

Implementation of LF 1 was started in April 2007 and was completed in June 2009 (according to the Protocol on object readiness for setting into operation dated 07.09.2009).

Implementation of CCM 3 was started in May 2009 (according to the Protocol on object readiness for setting into operation dated 28.01.2011) and was completed in January 2011.

Implementation of LF 2 was started in August 2008 (according to the Permit for construction works # 76 dated 22.08.2008) and was completed in January 2012.

During the considered monitoring period such facilities as CCM 1, CCM 3 and LF 1 were operational.

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

The monitoring occurred in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.

For calculating the emission reductions, key factors, such as actual amount of total steel output in the project scenario, specific fuel and energy resources consumption in production processes, specific electricity consumption etc., 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, such as appropriately calibrated measuring equipment, enterprise's records, national officially approved data on the emission factor for Ukrainian



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power grid published by National Environmental Agency of Ukraine, IPCC guidelines 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 is based on conservative assumptions and the most plausible scenarios in a transparent manner.

The identified areas of concern as to the compliance of the monitoring plan with the monitoring methodology, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 01, CAR 02, CAR 03, CAR 04, CAR 05, CAR 06, CAR 07, CL 01, CL 02).

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.

The monitoring of JI project indicators at DIISW is realized on regular basis where the system of data collection on fuel and energy resources consumption is being used. The data needed for the monitoring of the project is collected during the process of normal equipment use. The monitoring of the project is carried out according to standard operational practices established at the enterprise. The scheme of data collection is provided in the section 6 of the Monitoring Report.

The quality assurance procedures are based on the Plant's quality management system certified against the requirements of ISO 9001:2008 international standard. Moreover, the occupational health and safety management system in accordance with OHSAS 18001 standard and environmental management system in accordance with ISO 14001 were implemented at the Plant in 2009.

The roles and obligation within the project monitoring are presented under the section 9 of the Monitoring Report.



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The function of the monitoring equipment, including its calibration status, is in order. The measurement equipment used for project monitoring is serviced, calibrated and maintained in accordance with the original manufacturer's instructions, industry standards and internal procedures; relevant records are kept as required. As to the internal procedures, the calibration and verification are regulated by internal standards of DIISW such as STP 230-35-07 Metrological Support of Measuring Equipment and Guideline on Plant's Metrology Department.

Taking into account that the list of monitoring equipment was not in accordance with this monitoring period, the project developer has revised and updated it. The list of monitoring equipment is now in accordance with this specific monitoring period. Revision and update of the monitoring equipment was done by taking into account the following reasons:

- 1) some monitoring equipment were sent on scheduled or unscheduled verifications/calibrations and were replaced by another monitoring equipment (same type but other serial number);
- 2) some monitoring equipment were removed from the data accounting and data accounting was conducted on other equipment;
- 3) additional monitoring equipment was installed in order to monitor the same indicators;
- 4) after the monitoring equipment were removed from one accounting spot and after verifications/calibrations were conducted, the monitoring equipment were installed at the other accounting spot for data accounting; 5) monitoring equipment were changed on another and sent in order to conduct repairing works;
- 6) the list of monitoring equipment was improved in comparison with the list for the previous monitoring period by taking into account all inaccuracies that were made in the past.

All facts of monitoring equipment substitution are reflected in the internal journals of monitoring equipment substitution.

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.

The evidence and records used for the monitoring are maintained in a traceable manner. Data is collected into electronic database of DIISW as well as in paper format. Data is further compiled in day-to-day records, quarterly records, and annual records. All records are finally stored in Planning-economic department. All necessary information for monitoring of GHGs emission reductions are stored in paper and electronic formats and will be saved till the end of the crediting period and for two years after the last operation with ERUs from the project.



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The data collection and management system for the project is in accordance with the monitoring plan.

The Monitoring Report provides sufficient information on the assigning roles, responsibilities and authorities for implementation and maintenance of monitoring procedures including control of data. The verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.

The identified areas of concern as to the data management, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 08, CAR 09, CAR 10, CAR 11, CL 03).

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 2nd verification of the "Technical Upgrade of OJSC Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky by Installation of Two Billet Continuous Casting Machines and Two Ladle Furnaces" 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 the Institute for Environment and Energy Conservation 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 Plan indicated in the final PDD version 08. 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 indicated below. Bureau Veritas Certification confirms that the project is implemented is implemented as



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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 emission reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/2011 to 31/12/2011

Baseline emissions : 6038524 tonnes of CO_2 equivalent. Project emissions : 4898392 tonnes of CO_2 equivalent. Emission Reductions : 1140132 tonnes of CO_2 equivalent.

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5 REFERENCES

Category 1 Documents:

Documents provided by the project participants that relate directly to the GHG components of the project.

- /1/ Monitoring Report for the period from 01/01/2011 till 31/12/2011 version 1 dated 23/02/2012
- /2/ Monitoring Report for the period from 01/01/2011 till 31/12/2011 version 2 dated 23/03/2012
- /3/ Calculation of emission reductions for the period 01/01/2011-31/12/2011, Excel file
- /4/ PDD "Technical Upgrade of OJSC Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky by Installation of Two Billet Continuous Casting Machines and Two Ladle Furnaces", version 8 dated 12/07/2011
- /5/ Determination Report "Technical Upgrade of OJSC Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky by Installation of Two Billet Continuous Casting Machines and Two Ladle Furnaces" No.UKRAINE-det/0170/2010, rev.05 of 12/07/2011 issued by Bureau Veritas Certification
- /6/ Letter of Approval No. 2077/23/7 dated 08/08/2011 issued by State Environmental Investment Agency of Ukraine
- /7/ Declaration of Approval ref. No 2011JI28 dated 05/07/2011 issued by NL Agency, implementing agency of the Ministry of Economic Affairs, Agriculture and Innovation of the Netherlands

Category 2 Documents:

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

- Certificate of Metrology Laboratory PJSC «Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky»
- 1. № 06544-5-1-7-KL 31/02/2013
- License number 585747 on professionally-technical training PJSC 2. «Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky»
 - Certificate of OHSAS management system BS OHSAS 18001:2007 № TIS 15116 1020 2 PJSC «Dniprovsky Integrated Iron and Steel Works
- 3. named after Dzerzhynsky»
 - Certificate of EMS management system EN ISO 14001:2004 № TIS 15 104 1069 7 PJSC «Dniprovsky Integrated Iron and Steel Works named
- 4. after Dzerzhynsky»
- 5. Schedule of internal audit at the requirement standards of OHSAS 18001 and ISO 14001 in 2011



- 6. Report on internal audit on 28 February 2011
- 7. Certificate Bohdanovich A. the right of verification and calibration 2009
 - Certificate Dziuba A.M. the right of verification and calibration
- 8. 2009
- 9. Certificate Nabyvach D. the right of verification and calibration 2009
 - Certificate Kuchuk S. the right of verification and calibration
- 10. 2010
- Book of the account of electricity consumption for 2010-2011
- 12. Book of the account evidence of electricity meters 2011
- 13. Photo. Continuous Casting Machine number 3
- 14. Photo. Continuous Casting Machine number 1
 - Operation Rules of CCM-1 in the converter shop TR 230 C16 2011.
- 15. Validity from 01/02/2011
- 16. Photo. Ladle Furnace number 2
- 17. Operating logbook ДРЗ-10 for 2011
- 18. Electricity substation logbook ДРЗ-10 for 2011
- 19. Photo. Electricity meter V670 number 565029
- 20. Technical report of converter plant. August 2011.
- 21. Consumption of powders and mass. Converter plant. August 2011.
- 22. Consumption of charge metal. Converter plant. August 2011.
- 23. Consumption of scrap metal. Converter plant. August 2011
- Semifinished products in converter plant for August 2011.
- The balance of coke and natural gases from the gas plant for August
- 25. 2011
- 26. Natural gas consumption for August 2011
- 27. Report to the reception and distribution of electricity for August 2011
- 28. Electricity distribution statement from 1 to 31 August 2011



- 29. The balance of electricity for August 2011
- 30. The result of the consumption of electricity for August 2011
- 31. Fuel consumption report for August 2011
- 32. Coke oven gas consumption for August 2011
- 33. Blast furnace gas consumption for August 2011
- 34. Natural gas consumption for August 2011
- Report on the development of oxygen-compressor plant for August 2011
- 36. Technical report on the oxygen compressor plant for August 2011
- 37. Report of CHP for August 2011
- 38. Report of water supply plant for August 2011
- 39. Electronic database of consumption of raw materials and resources in 2011
- 40. Technical report of converter plant. December 2011.
- Consumption of powders and mass. Converter plant. December 2011.
- 42. Consumption of scrap metal. Converter plant. December 2011.
- 43. Consumption of charge metal. Converter plant. December 2011
- Semifinished products in converter plant for December 2011.
- 45. The balance of coke and natural gas from the gas plant for December 2011
- 46. Natural gas consumption for December 2011
- Report to the reception and distribution of electricity for December 2011
- 48. Electricity distribution statement from 1 to 31 December 2011
- 49. The balance of electricity for December 2011
- The result of the consumption of electricity for December 2011
- 51. Fuel consumption report for December 2011
- 52. Coke oven gas consumption for December 2011
- 53. Blast furnace gas consumption for December 2011



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- Natural gas consumption for December 2011
- Report on the development of oxygen-compressor plant for December 55. 2011
- Technical report on the oxygen compressor plant for December 2011
- 57. Report of CHP for December 2011
- 58. Report of water supply plant for December 2011

Conclusion number 501 of the State Ecological Expertise of the project "Reconstruction of converter workshop of the construction of "ladle furnace" on PJSC «Dniprovsky Integrated Iron and Steel Works named

os. after Dzerzhynsky» № 6413/11 of 08.06.07

- Certificate number DP001081 on project documentation "Gradual reconstruction of converter plant for the construction of two CCM and "ladle furnace". 11 April 2011.
 - Ecological assessment of project "Reconstruction of converter plant" PJSC «Dniprovsky Integrated Iron and Steel Works named after
- 61. Dzerzhynsky»
- Passport physico-chemical parameters of gas for the period from 62. 01.11.2011 to 30.11.2011
- Passport physico-chemical parameters of gas for the period from 63. 01.03.2011 to 31.03.2011
- Passport physico-chemical parameters of gas for the period from 64. 01.06.2011 to 30.06.2011
- Passport physico-chemical parameters of gas for the period from 65. 01.02.2011 to 28.02.2011
- Photo. Scheme of power substations
- Permit number 1210400000-288 emissions of pollutants into the atmosphere from stationary sources (01.06.2011-11.06.2015)
- Permit number 1210436900-99a emissions of pollutants into the atmosphere from stationary sources (01.06.2011-18.02.2013)
- 69. Report on air protection form number 2-TP (air) for 2011
- Certificate number 06544-5-1-26/3-HOMS (20.08.2010-20.08.2013).
- 70. Ecological Laboratory of PJSC «Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky»



- 71. Electronic Register of measuring equipment
 The decision of Dnipropetrovs'k Regional Council of 29.04.2011 № 116-
- 72. 6/VI «About improving the ecological condition of Dnipropetrovsk region by reducing pollution major enterprises-polluters for 2007 2015»
- Decision Dniprodzerzhinskoyi City Council of 28.12.2011 № 305-17/VI «About improving the ecological condition of Dnipropetrovsk region by reducing pollution major enterprises-polluters for 2010-2015»
- Certificate № 24-11 Solohina S.I. Senior Engineer Ecological Laboratory of PJSC «Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky»
- Certificate № 5-11 Chumachenko I.P. Senior Engineer Ecological Laboratory of PJSC «Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky»
- Certificate of Chumachenko I.P. "Standardization, Metrology and 76. Certification"
- Certificate of Solohina S.I. "Standardization, Metrology and 77. Certification"
- Certificate of Zolotarevska I.G. "Standardization, Metrology and 78. Certification"
- Certificate of Deineko S.V. "Standardization, Metrology and 79. Certification"
- Certificate of Tatarenko O.V. "Standardization, Metrology and 80. Certification"
- Certificate of Pankratova L.M. "Standardization, Metrology and 81. Certification"
- 82. Certificate of Bairak Y.M. "Standardization, Metrology and Certification"
- Certificate of Chepurna A.V. "Permit system and the legislative regulation of waste production"
 Certificate of Piven I.V. "Permit system and the legislative regulation of waste production"
- OHSAS and EMS Management review for 11 months in 2011
- 86. Schedule of Internal Audit for 2011
- Certificate of Quality management system ISO 9001:2008. TUV 87. THURINGEN (31.01.2012-30.01.2015)
- 88. Certificate of Quality management system ISO ISO 9001:2009.



- UkrSEPRO (21.06.2011-05.04.2014)
- 89. Report on the Internal Audit in 2011
- 90. Letter number 01/314 of 31/05/2011 concerning the change of name of the company PJSC «Dniprovsky Integrated Iron and Steel Works named after Dzerzhynsky»
- Order № 327 dated 23.03.2012 on the preparation and storage of data 91. on the Joint Implementation projects under the Kyoto Protocol.
- 92. Meter card: type ИТ, factory № 106631
- 93. Meter card: type И670, factory № 376504
- 94. Meter card: type ИТ, factory № 113199
- 95. Meter card: type И43, factory № 192130
- 96. Meter card: type ИТ, factory № 236783
- 97. Meter card: type И670, factory № 350061
- 98. Meter card: type И670, factory № 754749
- 99. Meter card: type ИТ, factory № 691814
- 100. Meter card: type И670, factory № 232756
- 101. Meter card: type И670, factory № 690556
- 102. Meter card: type И670, factory № 233827
- 103. Meter card: type И670, factory № 351680
- 104. Meter card: type И670, factory № 905679
- 105. Meter card: type И670, factory № 740734
- 106. Meter card: type И670M, factory № 329704
- 107. Meter card: type И670Д, factory № 363453
- 108. Meter card: type И670, factory № 754589
- 109. Meter card: type И670, factory № 626945
- 110. Meter card: type И670, factory № 306034
- 111. Meter card: type И670, factory № 192034
- 112. Meter card: type И670, factory № 188830



- 113. Meter card: type И670M, factory № 365024
- 114. Meter card: type И670M, factory № 367107
- 115. Meter card: type И670, factory № 473710
- 116. Meter card: type И670, factory № 552166
- 117. Meter card: type И670, factory № 130498
- 118. Meter card: type И670, factory № 192117
- 119. Meter card: type И670, factory № 584132
- 120. Meter card: type И670M, factory № 011918
- 121. Meter card: type И670, factory № 062944
- 122. Meter card: type И670M, factory № 036772
- 123. Meter card: type И670, factory № 095716
- 124. Meter card: type И670, factory № 319838
- 125. Meter card: type И670, factory № 193881
- 126. Meter card: type И670, factory № 130180
- 127. Meter card: type И670M, factory № 096018
- 128. Meter card: type И670, factory № 690636
- 129. Meter card: type И670, factory № 649492
- 130. Meter card: type И43, factory № 237322
- 131. Meter card: type И670M, factory № 095620
- 132. Meter card: type И670M, factory № 506019
- 133. Meter card: type И670, factory № 394310
- 134. Meter card: type И670, factory № 869032
- 135. Meter card: type И687, factory № 219078
- 136. Meter card: type И670M, factory № 157116
- 137. Meter card: type И670, factory № 584122



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- 138. Meter card: type И670M, factory № 644511
- 139. Meter card: type И670M, factory № 643487
- 140. Meter card: type И670, factory № 054130
- Meter card: type И670M, factory № 771057
- 142. Meter card: type И670, factory № 793273

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/ Romanenko V.I. CEO Assistant of DIISW
- /2/ Rudenko Y.R. Head of the Laboratory of Technical Department of DIISW
- /3/ Zadorskaya A.G. -Head of Planning and Economic Department of DIISW
- /4/ Korolenko A.V. Head of Foreign Economic Relations Department of DIISW
- /5/ Bogdanovic I.N. Head of the metrological laboratory bureau of DIISW
- /6/ Rod A.G. Chief steelmaking worker of DIISW
- /7/ Hyriy Y. V. Chief sintering worker of DIISW
- /8/ Krupyi V. H. Chief blast furnace worker of DIISW
- /9/ Turkyn M. B. Deputy chief power engineer of DIISW
- /10/ lehorov Y. V. Chief metrologist, Head of the control measuring equipment and facilities shop of DIISW
- /11/ Borovikov G.F. Head of the project development and construction department of DIISW
- /12/ Motsnyi V. V. Head of the technical department of DIISW
- /13/ Shabanova I. R. head of the personnel technical education and training department of DIISW
- /14/ Hrytsan I. V. Deputy head of the planning and economical department of DIISW
- /15/ Bairak Y. M. Acting head of the environmental protection service of DIISW
- /16/ Rudenko Y. R. Head of the sintering and blast furnace production technical department of DIISW



- /17/ Honcharenko S. H. Head of the technical department of DIISW
- /18/ Seredyuk V.V. Ecology department manager of Institute for Environment and Energy Conservation Ltd.
- /19/ Khakimzyanov S.A. Consultant of Institute for Environment and Energy Conservation Ltd.



VERIFICATION REPORT

APPENDIX A: PROJECT VERIFICATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

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 appr	ovals 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?	indicates it as Spain with "Endesa Carbono" company being a legal entity project participant, the written approval for the current JI project was issued by the	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 impl	ementation			
92	Has the project been implemented in	Implementation of LF 1 was started in April 2007 and	OK	OK



DVM	Check Item	Initial finding	Draft	Final
Paragraph			Conclusion	Conclusion
	accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	was completed in June 2009 (according to the Protocol on object readiness for setting into operation dated 07.09.2009).		
		Implementation of CCM 3 was started in May 2009 (according to the Protocol on object readiness for setting into operation dated 28.01.2011) and was completed in January 2011.		
		Implementation of LF 2 was started in August 2008 (according to the Permit for construction works # 76 dated 22.08.2008) and was completed in January 2012.		
93	What is the status of operation of the project during the monitoring period?	Monitoring report 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			
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?	Yes, monitoring occurs in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and verified changes and is so listed on the UNFCCC JI website. The MR ver.1 contains no information as to the baseline and monitoring "methodology" used in the project:	CL 01	OK
		CL 01. Please, give an explanation about the difference between the name of the company in the title of the project, and in the text of the monitoring report.		
95 (a)	For calculating the emission reductions or	Key factors, such as actual amount of total steel output	CAR 01	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
3 - 1	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?	in the project scenario, specific fuel and energy resources consumption in production processes, specific electricity consumption etc., 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. CAR 01. The Excel file with calculations of emission reductions, which is specified in reference # 27 is missing. Please make appropriate corrections.		
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	The data sources used for calculating emission reductions are clearly identified, reliable and transparent. Data sources include calibrated measuring equipment, enterprise's records, IPCC guidelines (1996 and 2006) etc. CAR 02. The numbering of schemes and drawings are absent in the monitoring report. Please make appropriate corrections. CAR 03. The numbering of tables are absent in the monitoring report. Please make appropriate corrections. CAR 04. Please, make a continuous numbering of formulas in the monitoring report. CAR 05. Internet links ## 13 and 17 are not working. Please make appropriate corrections.	CAR 02 CAR 03 CAR 04 CAR 05 CAR 06 CAR 07	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
raragrapii		CAR 06. Internet links ## 29 and 33 direct to outdated version of certificate. Please make appropriate corrections.	Control	Conordation
		CAR 07. References to the standards ISO 14000, OHSAS 18000 are incorrect. Please make appropriate corrections.		
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 used for calculating the emission reduction by the project, such as CO ₂ emission factors for each fuel (natural gas), reducing agent (coke, anthracite, coal electrodes), other input (limestone, dolomite, pellets) and electricity consumption, are 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 performed calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in accordance with the methodology and formulas provided in the approved monitoring plan. CL 02. Please, explain the information in Excel File	CL 02	OK
Applicable t	o JI SSC projects only	with calculations of emission reductions, "Page 3".		
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	N/a	N/a	N/a



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?			
Applicable t	o 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
	monitoring plan			
	only if monitoring plan is revised by proje	· · · · · · · · · · · · · · · · · · ·		
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	The approved monitoring plan in the determined PDD ver.8 was not revised by the project participants.	N/a	N/a
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the	N/a	N/a	N/a



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?			
Data manag				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The implementation of data collection procedures is in accordance with the monitoring plan. The monitoring of JI project indicators at DIISW is realized on regular basis where the system of data collection on fuel and energy resources consumption is being used. The data needed for the monitoring of the project is collected during the process of normal equipment use. The monitoring of the project is carried out according to standard operational practices established at the enterprise. The quality assurance procedures are based on the Plant's quality management system certified against the requirements of ISO 9001:2008 international standard. Moreover, the occupational health and safety management system in accordance with OHSAS 18001 standard and environmental management system in accordance with ISO 14001 were implemented at the Plant in 2009.	OK	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	The monitoring equipment used for project monitoring is in order; its calibration status complies with the requirements. CAR 08. List of measuring equipment is incorrect. Please make appropriate corrections.	CAR 08 CAR 09 CL 03	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CAR 09. Dates of verifications of measuring equipment are incorrect. Please make appropriate corrections. CL 03. The list of monitoring equipment includes electricity meters №№91, 96-100, 105, that should be verified (calibrated) once in 6 years. The last verification (calibration) of these electricity meters was conducted in 2003. Please explain such fact.		
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 in a traceable manner. Data is collected into electronic database of DIISW as well as in paper format. Data is further compiled in day-to-day records, quarterly records, and annual records. All records are finally stored in Planning-economic department.	CAR 10	OK
		The interviews conducted during site visit demonstrated that monitoring records storage time is not clearly established and known by all responsible personnel. CAR 10. Documents that confirm data storage under the		
		emission reductions project (records, log books) are absent.		
101 (d)	Is the data collection and management system for the project in accordance with	The data collection and management system for the project is in accordance with the monitoring plan.	CAR 11	OK
	the monitoring plan?	CAR 11. A special order (instruction, guideline or other relevant document) on allocation of specific roles and responsibilities within JI project monitoring must be issued by the Management of the plant and responsible		



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		personnel should be informed regarding the issuance of such document.		
Verification	regarding programs of activities (addition	nal 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 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 t	o 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	N/a	N/a	N/a



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Paragraph	into account differences among the characteristics of JPAs, such as: - The types of JPAs; - The complexity of the applicable technologies and/or measures used; - The geographical location of each JPA; - The amounts of expected emission reductions of the JPAs being verified; - The number of JPAs for which emission reductions are being verified; - The length of monitoring periods of the JPAs being verified; and - The samples selected for prior verifications, if any?		Conclusion	Conclusion
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	N/a	N/a	N/a
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	N/a	N/a	N/a
109	Is the sampling plan available for	N/a	N/a	N/a



DVM	Check Item	Initial finding	Draft	Final
Paragraph			Conclusion	Conclusion
	submission to the secretariat for the JISC.s ex ante assessment? (Optional)			
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

 Table 2
 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by verification team	 Summary of project participant response	Verification team conclusion
CL 01. Please, give an explanation about the difference between the name of the company in the title of the project, and in the text of the monitoring report.	In accordance with documentation checked on 23/05/2011 by verifiers, 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". Additional documents are now provided to the verifier.	Based on the explanation received, CL 01 is closed.



CAR 01. The Excel file with calculations of emission reductions, which is specified in reference # 27 is missing. Please make appropriate corrections.	95 (a)	Excel-file is now provided to the verifier.	CAR 01 is closed.
CAR 02. The numbering of schemes and drawings are absent in the monitoring report. Please make appropriate corrections.	95 (b)	Necessary amendments are now made. Please see modified MR.	CAR 02 is closed due to the amendments made in the PDD.
CAR 03. The numbering of tables are absent in the monitoring report. Please make appropriate corrections.	95 (b)	Necessary amendments are now made. Please see modified MR.	CAR 03 is closed due to the amendments made in the MR.
CAR 04. Please, make a continuous numbering of formulas in the monitoring report.	95 (b)	Necessary corrections are now made. Please see modified MR.	CAR 04 is closed due to the amendments made in the MR.
CAR 05. Internet links ## 13 and 17 are not working. Please make appropriate corrections.	95 (b)	All links are working. Please see MR.	CAR 05 is closed due to the amendments made in the MR.



CAR 06. Internet links ## 29 and 33 direct to outdated version of certificate. Please make appropriate corrections.	95 (b)	Necessary links are now updated. Please see modified MR.	CAR 06 is closed due to the amendments made in the MR.
CAR 07. References to the standards ISO 14000, OHSAS 18000 are incorrect. Please make appropriate corrections.	95 (b)	Necessary corrections are now made. Please see modified MR.	CAR07 is closed based on due corrections made to the MR.
CL 02. Please, explain the information in Excel File with calculations of emission reductions, "Page 3".	95 (d)	Data provided on "page 3" of the Excel- file were inserted during calculations of emission reductions for the previous periods. Taking into account that this page has nothing to do with the calculations of emission reductions for the year 2011 it was deleted. Please see modified Excel-file.	Based on the explanation received, CL 02 is closed.
CAR 08. List of measuring equipment is incorrect. Please make appropriate corrections.	101 (b)	The list of monitoring equipment is now revised and updated. Please see modified MR. All necessary passports for the monitoring equipment are now provided to the verification team.	CAR 08 is closed.
CAR 09. Dates of verifications of measuring equipment are incorrect. Please make appropriate corrections.	101 (b)	Necessary corrections are now made. Please see modified MR.	CAR 09 is closed.



CL 03. The list of monitoring equipment includes electricity meters №№91, 96-100, 105, that should be verified (calibrated) once in 6 years. The last verification (calibration) of these electricity meters was conducted in 2003. Please explain such fact.		Electricity meters were verified (calibrated) in 2003 and have not been verified (calibrated) since that time, because of the following reason. Electricity meters had been under direct voltage and due to the continuity of technological process and complexity of temporary replacement of such meters by others, they couldn't be released from voltage in order to conduct scheduled verification (calibration). These electricity meters are in good condition and metrologists of the Plant will conduct verification (calibration) in the nearest future. In case of having problems with certain monitoring devices, the accounting system is organized in such way that allows double checking of all the data. Ultimately all information can be proven by independent invoices from the third parties.	provided, closed.	the	information issue is
CAR 10. Documents that confirm data storage under the emission reductions project (records, log books) are absent.	101 (c)	The order concerning the procedure for keeping monitoring data #327 dated 23/03/2012 was issued by DIISW and is now provided to the verification team.	provided,	the the	information issue is



CAR 11. A special order 10	1 (d) The order concerning indication of the		
(instruction, guideline or other relevant document) on allocation of specific roles and responsibilities within JI project monitoring must be issued by the Management of the plant and responsible personnel should be informed regarding the issuance of such document.	names of the personnel involved in the monitoring #327 dated 23/03/2012 was issued by DIISW and is now provided to the verification team.	provided,	