DETERMINATION REPORT
GLOBAL CARBON BV

DETERMINATION OF THE "ENERGY EFFICIENCY MEASURES AT OJSC "METALLURGICAL PLANT NAMED AFTER A.K. SEROV" UMMC COMPANY"

REPORT NO. RUSSIA-DET/0104/2010

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

Date of first issue:	Organizational unit:
18/03/2011	Bureau Veritas Certification Holding SAS
Client:	Client ref.:
Global Carbon BV	Mr. Lennard de Klerk

Summary:

Bureau Veritas Certification has made the determination of the project "Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company" project of company Global Carbon BV located in Netherlands, Utrecht, Niasstraat 1 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 determination scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final determination report and opinion. The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the determination process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project applies the appropriate baseline and monitoring methodology and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.:	Subject Group:
RUSSIA-det/0104/2010	JI

Project title:

"Finger Shaft Furnace construction at OJSC Severstal, Cherepovets, Vologda region, Russian Federation"

Work carried out by:

Vera Skitina – Team Leader, Lead Verifier

Andrey Rodionov - Verifier

Work reviewed by:

Leonid Yaskin – Internal Technical Reviewer

Work approved by:

Flavio Gomes – Operational Manager

Date of this revision:	Rev. No.:	Number of pages:
30/03/2011	02	60

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

Abbreviations

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification
BFP	Blast-furnace plant
CAR	Corrective Action Request
CL	Clarification Request
CO2	Carbon Dioxide
DDR	Draft Determination Report
DR	Document Review
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ERU	Emission Reduction Unit
EAF	Electric Arc Furnace
GHG	Greenhouse House Gas(es)
GC	Global Carbon BV
IE	Independent Entity
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
FSF	Finger Shaft Furnace
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
NG	Natural gas
OHP	Open Heart Plant
PDD	Project Design Document
PP	Project Participant
RF	Russian Federation
tCO2e	Tonnes CO2 equivalent
UNFCCC	United Nations Framework Convention for Climate Change

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

Table of Contents *Page*

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

1 INTRODUCTION

Global Carbon BV (hereafter called "GC") has commissioned Bureau Veritas Certification to determine JI project "Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company" (hereafter called "the project") located in the city Serov, Sverdlovsk Area, Ural region, Russian Federation.

This report summarizes the findings of the determination of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emissions reductions units (ERUs).

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 determination scope is defined as an independent and objective review of the project design document, 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 determination is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Determination team

The determination team consists of the following personnel:

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

Vera Skitina

Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Andrey Rodionov

Bureau Veritas Certification Verifier

This determination report was reviewed by:

Leonid Yaskin

Bureau Veritas Certification, Internal reviewer

2 METHODOLOGY

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

In order to ensure transparency, a determination 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 determination and the results from determining the identified criteria. The determination protocol serves the following purposes:

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by GC and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Requirements to be checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, GC revised the original PDD v.2.0 dated 10/12/2010 and resubmitted it as v.2.1 dated 16/12/2010. After site visit an approach of

calculation of emissions reductions was revised and the final PDD with the new approach version 2.2 dated 28/02/2011 was issued.

The determination findings presented in this Determination Report Revision 02 and Appendix A relate to the project as described in the PDD versions 2.1 (published) and version 2.2 (final) dated 28/02/11[1].

2.2 Follow-up Interviews

On 08/02/2011 Bureau Veritas Certification verifier A.Rodionov performed a visit to the project site. On-site interviews with the project participant OJSC "Metallurgical plant named after A.K. Serov" (hereafter called "OJSC Serov") and the PDD developer GC were conducted to confirm the selected information and to clarify some issues identified in the document review. Representatives of OJSC Serov and the PDD Developer GC were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
OGSC Serov	➢ OGSC Serov Investment Programme ➢ Reasoning for project implementation ➢ Project management organization ➢ Project history and Implementation schedule ➢ Baseline scenario ➢ Barriers and uncommon practice ➢ Project scenario ➢ Recourse consumption saving effects ➢ Emission calculation ➢ Investment issues ➢ Commissioning and proven trials ➢ Capacity replacement issues ➢ QC & QA Procedures ➢ Training of personnel ➢ Environmental permissions ➢ Environmental Impact Assessment ➢ Public hearings
CONSULTANT Global Carbon BV	➢ Ditto
Stakeholders	➢ N/A

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the determination 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 project design.

Corrective Action Request (CAR) is issued, where:
(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
(b) The JI requirements have not been met;
(c) There is a risk that emission reductions cannot be monitored or calculated.

The determination team may also issue Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable JI requirements have been met.

The determination team may also issue Forward Action Request (FAR), informing the project participants of an issue that needs to be reviewed during 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 PROJECT DESCRIPTION

In the project scenario the existing five open hearth furnaces are dismantled in the steelmaking shop and the new electric arc furnace (EAF) is installed. This furnace's planned production capacity is 720 thousand tonnes per year. Description and technical parameters of the EAF are presented in Section A.4.2. The same as in the baseline scenario, the vacuum degassing unit was put into operation in 2008. Other technical processes of steel production operate without any changes. GHG emission is reduced because the new EAF consumes fossil fuel in significantly lower amount than OHFs. Also liquid iron consumption per tonne of steel is decreased and GHG emission associated with liquid iron production is decreased too.

Total estimated amount of emission reductions due to project implementation is 1,715,583 tonnes of CO2 equivalent as determined in Section E.

4 DETERMINATION CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 26 Corrective Action Requests and 3 Clarification Requests.

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

4.1 Project approvals by Parties involved (19-20)

The project has no approvals by the Host Party, therefore CAR 04 remains pending.

A written project approval by Party B should be provided to the AIE and made available to the secretariat by the AIE when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines. It has not been provided to AIE at the determination stage.

4.2 Authorization of project participants by Parties involved (21)

The authorisation is deemed to be carried out through the issuance of the project approvals.

4.3 Baseline setting (22-26)

The PDD explicitly indicates that using a methodology for baseline setting and monitoring developed in accordance with appendix B of the JI guidelines (hereinafter referred to as JI specific approach) was the selected approach for identifying the baseline.

JI specific approach

The PDD provides a detailed theoretical description in a complete and transparent manner, as well as justification, that the baseline is established:

(a) By listing and describing the following plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one being Alternative1:
   a. Alternative 1: Continuation of a situation existing prior to the project;

b. Alternative 2: Installation of EAF;

(b) Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. In this context, the following key factors that affect a baseline are taken into account:

a. Sectoral reform policies and legislation in steel industry.
The PDD reads that the main development goal of the metallurgical industry is reducing of domestic metal demand (refer to approved state strategy of metallurgical industry) and also any project must be approved by a local administration (permission for construction) and by a local conservancy;

b. Economic situation in Russian steel industry and predicted demand.
The PDD shows that in the beginning of 2002 in Russia the metal production decreased. It was related to the reduction of the metal demand. The situation was changed at the end of 2002. Growth of metal production in 2003-2007 (2-7% per year) was replaced by the fall of one in 2008 (about 6%);

c. Availability of capital to OJSC Severstal (including investment barriers).
The PDD reads that after default in 1998 there was the high level of inflation in Russia. It was 15% in 2002 and 12% in 2003. Refinancing Rate of the Central Bank of the Russian Federation was 18-21%. As result a capital is available but at high bank rate, high country investment risk and other risks make new equipment introduction in Russia unprofitable.
This aspect was considered during additionality proof (Section B.2);

d. Local availability of technology/techniques and equipment.
The PDD reads that production process by OHF and EAF are better-known and applied in Russia. Steel production by new EAF is not widely practiced in Russia (15%) and mostly all of the EAF projects were considered as JI projects.
This aspect was considered during additionality proof (Section B.2);

e. Price and availability of fuel.
The PDD shows that as a result of project implementation the fuel and liquid iron consumption are reduced and electricity consumption is increased. Electricity, natural gas and coke are widely used and available in Russia and the PDD gives detailed information about fuel prices evolution in Russia, (refer to PDD, Sections B.1 and B.2).

After screening the second alternative scenarios the first alternative is left as the most plausible, namely:

Alternative 1: Continuation of a situation existing prior to the project.

The first alternative was identified as the most plausible scenario for the following reasons:

(a) There are not legal or other requirements that enforce OGSC Serov to stop or reduce steelmaking by OHP;
(b) All OHP equipment is maintained with routine and capital repairs and they will be operated further without any constraints;
(c) Implementation of new EAF is not financially attractive for OJSC Serov and requires significant additional investment. Investment analysis has been presented to prove the additionality in section B.2.

All explanations, descriptions and analyses pertaining to the baseline in the PDD are made in accordance with the referenced JI specific approach and the baseline is identified appropriately.

Outstanding issues related to Baseline setting (23), PP's response and the AIE conclusion are summarized in Appendix A (refer to CARs 05-09).

4.4 Additionality (27-31)

JI specific approach

The most recent version 05.2 of the "Tool for the demonstration and assessment of additionality" approved by the CDM Executive Board is used to demonstrate additionality. All explanations, descriptions and analyses are made in accordance with the selected tool.

The PDD developer provides a justification of the applicability of the approach with a clear and transparent description, as per item 4.3 above. PDD developer described and scrutinized plausible alternative scenarios which have been provided in Section B.1:

Alternative 1: Continuation of a situation existing prior to the project;
Alternative 2: Installation of EAF.

Justification of additionality has been done in several steps, based on consideration of economic attractiveness of alternative technological options of commercial steel production, namely:

(a) identification of alternatives to the project activity,
(b) investment analysis,
(c) common practice analysis.

The key additionality proofs were the results of the benchmark and sensitivity analyses. The benchmark analysis has shown that the project's IRR is below the justified benchmark. The sensitivity analysis of variations

of key parameters (investment cost, pig iron and scrap price, electricity tariffs) confirms the conclusion of the basic investment analysis.

The spreadsheet with the benchmark analysis was made available for the verifier, and Bureau Veritas Certification will submit it to JISC at the final determination as the supporting documentation.

The common practice analysis has shown that the proposed JI project does not represent a widely observed practice in the geographical area concerned.

The verifier determined that additionality is demonstrated appropriately as a result of the analysis using the approach chosen.

Outstanding issues related to Additioality (29), PP's response and the AIE conclusion are summarized in Appendix A (refer to CARs 10-15 and CLs 02 and 03).

4.5 Project boundary (32-33)

JI specific approach

The project boundary defined in the PDD, Section B.3, Table B.3.1 for project and baseline scenario accordingly, encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

(i) Under the control of the project participants such as:
- Emission from the raw materials consumption (iron, limestone, dolomite and electrodes) during the steelmaking process;
- Emission from the raw materials consumption (coke and sinter) during the iron making process;

(ii) Reasonably attributable to the project such as:
- GHG emissions from the electricity consumption from the Russian electricity grid;

(iii) Significant such as:
- Emission from the fuel combustion.

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD, Section B.3.

Based on the above assessment, the AIE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

Outstanding issues related to Project boundary (32), PP's response and the AIE conclusion are summarized in Appendix A (refer to CARs 16 and 17).

4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project began, and the starting date is 25/09/2003, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 20 years or 240 months.

The PDD states the length of the crediting period in years and months, which is 5 years or 60 months, and its starting date as 01/01/2008, which is on the date the first emission reductions are generated by the project.

The PDD states that the extension of its crediting period beyond 2012 is subject to the host Party approval, and the estimates of emission reductions or enhancements of net removals are presented separately for those until 2012 and those after 2012 in all relevant sections of the PDD, Sections A 4.3.1, E.6.

Outstanding issue related to Crediting period (34), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 18).

4.7 Monitoring plan (35-39)

JI specific approach

The PDD, in its monitoring plan section, explicitly indicates that JI specific approach was the selected.
The monitoring plan describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance, such as PE_y (the annual project emissions in year, (tCO2)).

Remainder factors and key characteristics are listed in the PDD, Sections B.1, D. 1 and Annex 2.

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. be clearly connected with the effect to be measured), and that provide a transparent picture of the emission reductions or enhancements of net removals to be monitored such as $PE_{EAF\_NG,\,y}$ (natural gas consumption by

EAF in year, ((tCO2)). Indicators, constants and variables are listed in the PDD, Sections B.1, D. 1 and Annex 2.

The monitoring plan is developed subject to the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC.

All categories of data to be collected in order to monitor GHG emissions from the project and determine the baseline of GHG emissions (Option 1) are described in required details.

The monitoring plan explicitly and clearly distinguishes:

(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as:
- CO2 emission factors for natural gas, coke, lime and electrode, NCV for fuel;

(ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination such as:
- CO2 emission factors for electricity consumption EF_{el} = 0.541 tCO2/MWh. This parameter is fixed ex-ante for period 2008-2012 (Sections B1 and Annex 2);

(iii) Data and parameters that are monitored throughout the crediting period, such as:
- the annual electricity consumption at EAF in the year y, (MWh), consumption of oxygen, combustion of fuel.

Step-by-step application of the used approach for monitoring is described in PDD Section D and Annex 2 including monitoring procedures, formulae, parameters, data sources etc.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording, namely the annual steel production at EAF in year, (tonnes of steel) which are measured annually; the data are archived in technical report. Refer to PDD, Section D.1.
The monitoring plan elaborates all algorithms and formulae used for the estimation of baseline emissions and project emissions such as formula to calculate the project emission associated with lime consumption in year (Section D.1.1.2, Formula 6).

The monitoring plan presents the quality assurance and control procedures for the monitoring process, namely:

- Steel production is determined as sum of metal yield and metal waste. They are defined by weighting method. Personal of Steelmaking Shop will register data every day. Production department will collect and achieve daily data and transfer annual data to Technical Department of UMMC-Steel.

The procedures include, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities, namely Technical Department is responsible for all data collection for monitoring.

Collection of data required for estimation of GHG emission reductions is planned to be performed to high industry standard in both electronic and paper way.

On the whole, the monitoring report reflects good monitoring practices appropriate to the project type.

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources (IPCC) but not including data that are calculated with equations

The monitoring plan indicates that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project.

Outstanding issues related to Monitoring plan (36), PP's response and the AIE conclusion are summarized in Appendix A (refer to CARs 19-24 and CAR 26).

4.8 Leakage (40-41)

JI specific approach

The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains that the estimation of leakage is neglected from conservative reasons because the leakages in project scenario are less than in baseline scenario.

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

4.9 Estimation of emission reductions or enhancements of net removals (42-47)

JI specific approach

The PDD indicates assessment of emissions in the baseline and project scenario as the approach chosen to estimate the emission reductions of the project.

The PDD provides the ex ante estimates of:

(a) Emissions for the project scenario (within the project boundary), which are 2,906,011 tons of CO2eq;
(b) Leakage (N/A);
(c) Emissions for the baseline scenario (within the project boundary), which are 4,621,595 tons of CO2eq;
(d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are 1,715,583 tons of CO2eq.

Reporting period: From 01/01/2008 to 31/12/2012.

The formulae used for calculating the estimates are referred in the PDD, Sections E.1-E.6, Section D.1.4.

For calculating the estimates referred to above, key factors defined in the monitoring plain influencing the project and baseline emissions were taken into account, as appropriate.

Data sources used for calculating the estimates referred to above, such as OJSC Serov are clearly identified, reliable and transparent.

Emission factors, such as emission factor of coke production, were selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

The estimation referred to above is based on conservative assumptions and the most plausible scenario in a transparent manner.

The estimates referred to above are consistent throughout the PDD.

The annual average of estimated emission reductions over the crediting period is calculated by dividing the total estimated emission reductions over the crediting period by the number of months of the crediting period, and multiplying by twelve.

The PDD Section E includes an illustrative ex ante emissions calculation.

Outstanding issue related to Estimation (43), PP's response and the AIE conclusion are summarized in Appendix A (refer to CAR 25).

4.10 Environmental impacts (48)

The PDD lists and attaches documentation on the analysis of the environmental impacts of the project in accordance with procedures as determined by the host Party, such as the Federal Law "On the Environmental Expertise".

The PDD provides conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party. The PDD shows that the project implementation enables to decrease emission of pollutants and the environmental impacts of the project are not considered significant by the project participants.

4.11 Stakeholder consultation (49)

Public has been informed about the planned project activities with the goal to identify public attitudes and take public opinion in account during environmental impact assessment process.

No comments from the public were received within the deadlines indicated in these publications. Public hearings have not been organized.

4.12 Determination regarding small scale projects (50-57)

Not applicable

4.13 Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64)

Not applicable

4.14 Determination regarding programmes of activities (65-73)

Not applicable

5 SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES

No comments, pursuant to paragraph 32 of the JI Guidelines, were received.

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the project "Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company" Project in Russia. The determination 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 determination consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final determination report and opinion.

Project participants used "Tool for the demonstration and assessment of additionality" (Version 05.2). In line with this tool, the PDD provides investment analysis and common practice analysis, to determine that the project activity itself is not the baseline scenario.

Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The review of the project design documentation and the follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria.

The determination revealed two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party. If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 2.2 dated 28/02/2011 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The determination is based on the information made available to us and the engagement conditions detailed in this report.

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

7 REFERENCES

Category 1 Documents:
Documents provided by Type the name of the company that relate directly to the GHG components of the project.

/1/ PDD "20110228_PDD_UGMK-MZIS_ver2.2_en", Version 2.2, Februrary 28, 2011.

Supporting documentation:

a. 20110228_ER_UGMK-MZIS_ver2.2_en;
b. 20110228_CF_UGMK-MZIS_ver2.2_en.

/2/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.

/3/ Guidance on criteria for baseline setting and monitoring (Version 02).

/4/ "Strategy of metal industry development in Russia till 2020" http://www.minprom.gov.ru/activity/metal/strateg/2.

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

/1/ Technical reports for 2004-2009

/2/ Internal memorandum (JI history) for 2003

/3/ Internal memorandum N 69-84 (prices for materials, energy, fuels for 2003)

/4/ Contractor design, Section "Investment analysis", 2005

/5/ Acceptance certificate of Ladle furnace, 2003

/6/ Agreement with company Danieli N156Y.002/03, dated 25/09/2003

/7/ Conclusion of Rostehnadzor N 07-101 at Contractor design "Construction of new EAF", 2007

/8/ Conclusion of Rostehnadzor N 531 about accordance new EAF with statute-established norm and rules, 2008

/9/ Permissions on emissions NN 1543, 1543P, 1543P(C), 2008-2011

/10/ Passport N 2938, weighing machine Schenck, calibration for 2004-2010

/11/ Passport N 19230, counter of gas, calibration for 2006-2010

/12/ Permission of object implementation N RU 66317000-503, 2008

/13/ Accreditation of metrological service, 2007-2011

/14/ Certificate of accreditation to permit a carrying out of calibration, 2010-2015

"Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company"

Persons interviewed:

List persons interviewed during the determination or persons that contributed with other information that are not included in the documents listed above.

/1/ E. Prein – OJSC Serov, Chief engineer

/2/ S. Glushkov – OMMC Company, Deputy technical director, chief of facilities management

/3/ O. Isakova – OJSC Serov, Deputy chief financial officer

/4/ A. Ziablicev - OJSC Serov, Deputy chief engineer, chief of ecological monitoring department

/5/ A. Kopilov – OMMC Company, Chief of technical analysis department of Service of energy design

/6/ A. Orlov – OJSC Serov, Main power engineering specialist

/7/ A. Ushakov – OJSC Serov, Main metrologist

/8/ D. Dedov – OJSC Serov, Chief of Capital Construction Board

/9/ A. Varfolomeev – Global Carbon, PDD developer, Lead Specialist

DETERMINATION PROTOCOL

Table 1
Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
Guidelines for JI PDD Form Users Section A General description of the project					
A.1. Title of the project					
A.1	Is the title of the project presented? Is the sectoral scope to which project pertains presented? Is the current version number of the document presented? Is the date when the document was completed presented?	The title of the project is: "Energy Efficiency measures at OJSC "Metallurgical plant named after A.K. Serov" UMMC Company" Sectoral scope 9: Metal production. JI PDD version is 2.0. PDD is dated 10/12/2010.	N/A	N/A	OK
A.2 Description of the project					
A.2	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the	The purpose of the project is formulated as follows: "The goal of the proposed Joint Implementation (JI) project is to reduce GHG emission by application of a more	Response 1 to CAR 01 The following information was added in Section A.2 on page 5: "The project was considered as JI at the UMMC technical	Conclusion on Response 1 CAR is closed based on due amendments made to the revised PDD	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description). Is the history of the project (incl. its JI component) briefly summarized?	energy efficient technology for steel production." The requirements to the content of Section A.2 are met except those indicated in CAR 01. **CAR 01.** Please briefly summarize the history of the project, including its JI component.	meeting in the middle 2003. However the project documentation development to register the project as JI was delayed till the acceptance of National approval procedure. In February 2008 Global Carbon offered UMMC Holding to provide services to prepare project documentation in order to register UMMC projects (including the proposed project) as JI. Finally UMMC Holding and Global Carbon concluded contract in 2010 (after the acceptance of National approval procedure in November 2009)." The copy of technical meeting protocol was submitted to AIE.	and the received protocol with evidence of JI project history.	
A.3 Project participants					
A.3	Are project participants and Party(ies) involved in the	Party(ies) and project participants involved	Response 1 to CAR 02	Conclusion on	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	project listed? Is contact information provided in Annex 1 of the PDD?	in the project are listed as follows: - Party A the Russian Federation and its legal entity UMMC Holding Co Ltd. - Party B The Netherlands and its legal entity Global Carbon BV. The contact information is provided in PDD Annex 1. **CAR 02.** The titles of project participants in Section A.3 and Annex 1 should not differ.	The titles of project participants in Section A.3 and Annex 1 were made identical. Also title of UMMC Holding in table D.3.1 was changed in line with that.	Response 1 CAR is closed based on due amendments made to the revised PDD.	
A.4 Technical description of the project					
A.4.1	Location of the project	Refer to A.4.1, A.4.1.1-A.4.1.4.	N/A	N/A	OK
A.4.1.1	Host Party(ies)	The Russian Federation.	N/A	N/A	OK
A.4.1.2	Region/State/Province etc.	Sverdlovsk region.	N/A	N/A	OK
A.4.1.3	City/Town/Community etc.	Serov town.	N/A	N/A	OK
A.4.1.4	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	Unique identification of the project is provided by indicating postal address and geographic latitude, and geographic longitude in Serov town. **CAR 03.** Please provide the source of information of coordinates provided in PDD.	Response 1 to CAR 03 The postal address was obtained from MZIS charter in the official MZIS web site. The footnote #3 with the hyperlink on the corresponding web site was added in Section A4.1.4.	Conclusion on Response 1 CAR is closed based on due amendments made to the revised PDD.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			The geographic latitude and geographic longitude of MZIS was defined thought the instrumentality of the web site: www.topglobus.ru. The footnote #4 with the hyperlink on the corresponding web site was added in Section A4.1.4.		
A.4.2. Technologies to be employed, or measures, operations or actions to be implemented by the project					
A.4.2	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described?	The project activity envisages the installation at the steelmaking shop of new electric arc furnace (EAF) made by Danieli (Italy). New installation consists of: - Electric arc furnace; - Transformer; - Gas-cleaning system; - Casting-ladle transfer car; - Automatic feed system;	N/A	N/A	OK
A.4.3. Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances					

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
A.4.3	Is it explained briefly how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page.)	Steel production in EAF is less power-intensive technology than it is with open heath furnace (OHF) using. Switch from OHF to EAF will cause reduction of fossil fuels consumption and of liquid iron consumption. On the other hand, consumption of electricity will increase. Summarized effect is 360,000 tCO2 - annual emission reductions.	N/A	N/A	OK
A.4.3.1. Estimated amount of emission reductions over the crediting period					
A.4.3.1	Is the length of the crediting period Indicated? Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided?	The length of the crediting period is indicated: 5 years. Total, annual and average annual emission reductions were provided in Section A.4.3.1.	N/A	N/A	OK
A.5. Project approval by the Parties involved					
A.5	Is written project approvals by the Parties involved attached?	The project approval by the Host Party will be provided after the determination of the PDD. **CAR 04.** The project has no approval of the host Party. **CL 01.** Please clarify, is there any approval of the project by the Netherlands.	Response 1 to CAR 04 Response 1 to CL 01 The LoA of the Netherlands is dated 24 January 2011.	Conclusion on Response 1 to CL 01 CL is closed based	Pending OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			Necessary information was added in Section A.5. The copy of LoA was submitted to AIE.	on due amendments made to the revised PDD and explanations which are given in response.	
DVM					
Project approvals by Parties					
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	No, pending a response to CAR 04.	N/A	N/A	Pending
19	Does the PDD identify at least the host Party as a "Party involved"?	Host Party involved is the Russian Federation.	N/A	N/A	OK
19	Has the DFP of the host Party issued a written project approval?	No, pending a response to CAR 04.	N/A	N/A	Pending
20	Are all the written project approvals by Parties involved unconditional?	Yes, the written project approvals by Parties involved are unconditional.	N/A	N/A	OK
Authorization of project participants by Parties involved					
21	Is each of the legal entities listed as project participants in the PDD authorized by a	Legal entity for Party A is UMMC Holding Co Ltd. and for Party B is Global Carbon BV. Global Carbon BV is authorized by	N/A	N/A	Pending

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	Party involved, which is also listed in the PDD, through: − A written project approval by a Party involved, explicitly indicating the name of the legal entity? or − Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	Party B (The Netherlands). The authorization by the Party A will be received later. Pending a response to CAR 04.			
Baseline setting					
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? − JI specific approach − Approved CDM methodology approach	It is explicitly indicated that a JI specific approach is chosen.	N/A	N/A	OK
JI specific approach only					
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	A detailed theoretical description in a complete and transparent manner is provided for the applied JI specific approach. It includes the following steps: - Identification and listing of plausible baseline scenarios; - Identification of the most plausible scenario; Identification and listing key factors for	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		baseline setting.			
23	Does the PDD provide justification that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? − Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors? (d) Taking into account of uncertainties and using conservative assumptions? (e) In such a way that ERUs cannot be earned for decreases in activity levels	Baseline is established: - By listing and describing future scenarios available for the project owner OJSC "UMMC Holding Co Ltd" and selecting the most plausible one. Hypothetical alternative like installation of basic oxygen furnace (BOF), was not considered plausible. Two alternative scenarios for steel making were listed and described as follows. Alternative scenario 1:Continuation of situation existing prior to the project; Alternative scenario 2: Installation of electric arc furnace (EAF). Based on the Alternatives analysis with taking into account the results of the investment analyses presented in Section B.2, a conclusion is made that alternative 1 is the most plausible and credible baseline scenario. - Taking into account key appropriate factors that affect a baseline, such as availability of capital for the project implementation; local availability of project technologies and techniques, fuel prices and availability. - In a transparent manner with regard to the choice of the JI specific approach and	Response 1 to CAR 05 The following relevant national and/or sectoral policies and circumstances were considered in PDD: • Sectoral reform policies and legislation, • Economic situation, • Availability of capital, • Availability of technologies, • Fuel prices and availability. Only economic factors (prices and credit rate) affect to baseline. Such conclusion was added in Section B.1. These key factors were used for analysis of baseline scenario 2. Response 1 to CAR 06 Summary table of key elements of the baseline	Conclusion on Response 1 to CAR 05 CAR 05 is closed based on due amendments made to the revised PDD. Conclusion on Response 1 to CAR 06	OK OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	outside the project or due to force majeure? (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?	related assumptions, parameters, data sources and key factors for baseline setting, which are listed in tabular format in Section B.1. - By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", such as specific fuel consumption, CO2 emission factor of fossil fuel type *i* in year, specific electricity consumption, CO2 emission factor for electricity consumption, CO2 emission factor for limestone and dolomite consumption, CO2 emission factor of iron production. - In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure. **CAR 05.** Please indicate in PDD what kind of national and/or sectoral policies and circumstances were taken into account for baseline setting. **CAR 06.** Annex 2 should contain a summary of the key elements (of the baseline) in tabular form. **CAR 07.** The values of SFC_i presented in tables of Section B.1 are incorrect.	was added in Annex 2 (Table Anx.2.6). Response 1 to CAR 07 The values of SFC_i presented in tables of Section B.1 were recalculated according to adjusted data. Also calculation of these values was made clearer in Annex 2 (Table Anx.2.1) and in table in spreadsheet "20110228_ER_UGMK-MZIS_ ver2.2_en"). Response 1 to CAR 08 The exact value of parameters EF_{lime}, EF_{dol} and EF_{iron} were added in Section B.1 (tabular form of key elements). Response 1 to CAR 09 The formula number was changed from 7 to 9	CAR 06 is closed based on due amendments made to the revised PDD. Conclusion on Response 1 to CAR 07 CAR 07 is closed based on due amendments made to the revised PDD. Conclusion on Response 1 to CAR 08 CAR 08 is closed based on due amendments made to the revised PDD. Conclusion on Response 1 to CAR 09 CAR 09 is closed	OK OK OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		CAR 08. In the table of Section B.1 please indicate the exact value of parameters: EF_{lime} , EF_{dol}, EF_{iron}. **CAR 09.** Reference to formula 7 in the table of Section B.1 doesn't reflect the calculation of EF_{iron}.		based on due amendments made to the revised PDD.	
24	If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above?	N/A	N/A	N/A	N/A
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	N/A	N/A	N/A	N/A
Approved CDM methodology approach only_Paragraphs 26(a) – 26(d)_Not applicable					
Additionality					
JI specific approach only					
28	Does the PDD indicate which of the following approaches for demonstrating	It is explicitly indicated that the latest version of the CDM "Tool for the demonstration and assessment of	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	additionality is used? (a) Provision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the	additionality" (Version 05.2) was used.			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	CDM Executive Board".				
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	PDD provides a justification of the applicability of the CDM Tool with reference to Paragraph 2 of the Annex 1 to the Guidance on criteria for baseline setting and monitoring, version 02. A clear and transparent description of the Tool steps is provided. The same alternatives to the JI project activity as in Section B.1 are defined. They are consistent with mandatory laws and regulations.	N/A	N/A	OK
29 (b)	Are additionality proofs provided?	To prove additionality investment analysis and common practice analysis were applied. Justification of the investment analysis is provided in file "20101210_CF_UGMK-MZIS _ver2.0_en". The investment analysis reflects the application of benchmark analysis. The definition of benchmark is based on risk-free rate taken for the assessment is the German T-bonds rate cleared inflation at the time of investment decision. And the suitable risk premiums include: systematic market risk; country risk; project specific risk. Performed investment analysis shows that	Response 1 to CAR 10 The inflation value for Germany in 2003 was changed and the benchmark value was recalculated. Response 1 to CAR 11 The value of project specific risk was changed from 4% to 3% and the benchmark was recalculated.	Conclusion on Response 1 to CAR 10 CAR 10 is closed based on due amendments made to the revised PDD. Conclusion on Response 1 to CAR 11 CAR 11 is closed based on due amendments made to the revised PDD.	OK OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		IRR value (3.54%) is less than chosen benchmark (12.63%). The sensitivity analysis proves that conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions. In line with the Additionality Tool no barrier analysis is needed when investment analysis is applied. The common practice analysis has shown that the project activity is not the common practice in Russian metal industry. This conclusion is determined by AIE through Internet search. All in all, a conclusion is made in PDD that the project activity is additional. **CAR 10.** The benchmark estimation is incorrect as value of inflation for Germany is not 1.8% but 1.0% for 2003. **CAR 11.** Please justify the conservativeness of used value (4%) for project specific risk in benchmark definition. Please take note: the document "Methodological recommendations on	<u>Response 1 to CAR 12</u> For definition of systematic market risk value (filename: wacc03.xls) the Long Term Treasury bond rate (on the top of spreadsheet) must be made equal zero because such parameter was already used for definition of the risk-free rate. The value of systematic market risk is indicated in Cost of Equity column for Steel (Integrated) Industry. <u>Response 1 to CL 02</u> The electrodes are used at Ladle furnace (LF). LF was constructed in 2003 before the project implementation in 2006. As LF was excluded from the project boundary so electrodes cost of LF was	<u>Conclusion on Response 1 to CAR 12</u> CAR 12 is closed based on due amendments made to the revised PDD. <u>Conclusion on Response 1 to CL 02</u> CL 02 is closed based on due explanations.	OK OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		evaluation of investment project efficiency"has range (3%-5%) for investment to the production development based on well-known technology and the value 3% is more conservative. **CAR 12.** The reference to the source of systematic market risk value in "20101210_CF_UGMK-MZIS _ver2.0_en" is not representative. The value cannot be determined by AIE. **CAR 13.** Please provide in PDD the sources of the used values for NG tariff, electricity tariff, heavy fuel oil tariff, iron production internal cost, electrode cost, scrap cost, property and income tax rate for SMZ in 2003. Also, please provide in PDD the sources of values for NG consumption, heavy fuel oil consumption, iron consumption, electricity and electrode consumption, additional scrap consumption before and after the project. **CL 02.** In investments calculation electrode consumption before the project was indicated. Please clarify how the electrode could be used in open hearth furnaces in the baseline?	excluded from total cost of the situation before the project implementation. It is conservative. Response 1 to CL 03 The word "Additional" was excluded. It is technical mistake. At first project participants supposed to use the values of difference of baseline and project scenario but then baseline and project parameters were put separately. Response 1 to CAR 13 Confirmation of investment cost, tariffs and other costs was submitted to AIE. The air separated installation and the scrap shearing machine costs were excluded from total project investment cost and project investment parameters was	Conclusion on Response 1 to CL 03 CL 03 is closed based on due amendments made to the revised PDD. Conclusion on Response 1 to CAR 13 CAR 13 is closed based on the received evidence.	OK OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		CL 03. In file "20101210_CF_UGMK-MZIS _ver2.0_en" values of " additional scrap consumption" for both baseline and project scenarios were used. Please clarify the cause of additional consumption of scrap in both scenarios? **CAR 14.** Please justify the used value of depreciation 5% (=1/20) applied in the file "20101210_ER_UGMK-MZIS _ver2.0_en". **CAR 15.** Please adjust the benchmark for taxation as required by paragraph 5 of Annex: Guidance on the Assessment of Investment Analysis (Version 02) of "Tool for the demonstration and assessment of additionality" version 05.2	recalculated. Other necessary documents were submitted to AIE. According to these documents the technical project and baseline parameters were adjusted. The project and baseline emissions were recalculated. <u>Response 1 to CAR 14</u> Taxation was excluded from investment analysis (please see the response 1 to CAR 15). In this case the depreciation does not used in the investment analysis. <u>Response 1 to CAR 15</u> Taxation was excluded from investment analysis.	<u>Conclusion on Response 1 to CAR 14</u> CAR 12 is closed based on due amendments made to the revised PDD. <u>Conclusion on Response 1 to CAR 15</u> CAR 12 is closed based on due amendments made to the revised PDD.	OK OK
29 (c)	Is the additionality demonstrated appropriately	With the unresolved CAR 10 – CAR 15 and CL 02 – CL 03 the additionality of the	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	as a result?	project activity is not demonstrated.			
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	All explanations, descriptions and analyses are made in accordance with the used additionality tool. Refer to CAR 10 – CAR 15.	N/A	N/A	OK
Approved CDM methodology approach only_ Paragraphs 31(a) – 31(e)_Not applicable					
Project boundary (applicable except for JI LULUCF projects					
JI specific approach only					
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: (i) Under the control of the project participants? (ii) Reasonably attributable to the project? (iii) Significant?	The project boundary defined in the PDD encompasses all anthropogenic emissions by sources of GHGs that are (i) under the control of the project participants, (ii) reasonably attributable to the project, and (iii) significant. These are: - Emissions from the raw materials (iron, coke, electrodes) during the iron and steelmaking processes; - Fuel combustion; - GHG emissions from the Russian electricity grid; - Emission associated with oxygen, blast-furnace air and compressed air production; - Leakages. **CAR 16.** As depicted on Figure B.3.1, Ladle furnace (LF) and Vaccumator (V) are	<u>Response 1 to CAR 16</u> The following information was added in Section B.3: "As shown in Section A.2 the Ladle Furnace (LF) was constructed in 2003 before the project implementation in 2006. LF was operated with OHFs during 2003-2006. It enabled to produce a semi product steel at the OHFs as at the new EAF. In 2008 the Vacuum Degassing Unit (V) was put into operation at the steelmaking shop. Some part of steel after LF (less	<u>Conclusion on Response 1 to CAR 16</u> CAR 16 is closed based on convincing explanations which are given in Response 1 and due amendments made to the revised PDD.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		not included in the project boundary. Please make it clear in PDD that the same composition of liquid steel is ensured directly after EAF (project) and OHFs (baseline). **CAR 17.** The exclusion of blast furnace gas post-combustion in preheater is not conservative. Please correct.	than 1% of the total steel production. Please see the supporting document "2004-2009. Steel and iron production") is treated in the unit that enables to improve steel quality only. It means that the Vacuum Degassing Unit would be operated in the baseline also. Thus the emissions related to the Ladle Furnace and the Vacuum Degassing Unit operation is the same in the project scenario and in the baseline and can be excluded from the project boundary for simplicity." The copy of LF commissioning act was submitted to AIE. <u>Response 1 to CAR 17</u> BFG is produced during the coke, natural gas and coal burning in a blast	<u>Conclusion on Response 1 to CAR 17</u> CAR 17 is closed based on	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			furnace. IPCC default emission factors were used for emission calculation from the coke, natural gas and coal burning. These EFs suppose that carbon contained in coke, natural gas and coal is transferred to CO2 completely. Therefore addition of the emission related to the blast furnace gas post-combustion in preheater is double counting.	convincing explanations which are given in Response 1.	
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	Project boundary is defined on the basis of case-by-case assessment of different emission sources.	N/A	N/A	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	Conclusion is pending a response to CAR 16 and 17.	N/A	N/A	OK
32 (d)	Are all gases and sources	All gases and sources included are	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	explicitly stated; refer to 32 (a) above. Exclusion of CH_4 and N_2O emission is appropriate as a conservative assumption. Emissions from limestone consumption and electricity consumption for blast-furnace air production are conservatively neglected. Conclusion on blast furnace gas post-combustion in preheater exclusion is pending a response to CAR 17.			
Approved CDM methodology approach only_Paragraph 33_ Not applicable					
Crediting period					
34 (a)	Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	The starting date is not defined. **CAR 18.** Please provide the starting date of a JI project on which the implementation or construction or real action of the project begins.	Response 1 to CAR 18 The following information was added in Section B.2 on page 22 (footnote #31) and in Section C.1 on page 29 (footnote #40): "Contract #156Y.002/03 dated 25.09.2003 between OJSC "Metallurgical plant named after A.K. Serov" and DANIELI & C. OFFICINE MECCANICHE S.p.A "Steelmaking shop	Conclusion on Response 1 to CAR 18 CAR 18 is closed based on due amendments made to the revised PDD.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			reconstruction". Also please see Section A.2." The copy of the contract's first page (with date) was submitted to AIE.		
34 (a)	Is the starting date after the beginning of 2000?	Yes.	N/A	N/A	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	Operational lifetime is defined as 20 years (240 months).	N/A	N/A	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	The length of crediting period is defined as 5 years (60 months).	N/A	N/A	OK
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	Starting date of crediting period is after the first emission reductions generated by the project.	N/A	N/A	OK
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	The start of crediting period is 01/01/2008 and its length is 5 years or 60 months.	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	N/A	N/A	N/A	N/A
Monitoring plan					
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	It is explicitly indicated that a JI specific approach is chosen.	N/A	N/A	OK
JI specific approach only					

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
36 (a)	Does the monitoring plan describe: − All relevant factors and key characteristics that will be monitored? − The period in which they will be monitored? − All decisive factors for the control and reporting of project performance?	The monitoring plan describes: - data to be monitored; - the period in which they will be monitored: annually, monthly or they will be fixed ex-ante; - all decisive factors for the control and reporting of project performance: ecological reporting; quality control (QC) and quality assurance (QA) procedures; the operational and management structure that will be applied in implementing the monitoring plan.	N/A	N/A	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	The monitoring plan specifies the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions to be monitored. For data to be monitored, please refer to 36(a) above. For constants please refer to the next paragraph.	N/A	N/A	OK
36 (b)	If default values are used: − Are accuracy and reasonableness carefully balanced in their selection?	Constants used are the default values of the parameters as follows: - Electricity grid CO2 emission factor for JI	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	− Do the default values originate from recognized sources? − Are the default values supported by statistical analyses providing reasonable confidence levels? − Are the default values presented in a transparent manner?	projects in regional energy system "Ural" (from the Study commissioned by "Carbon Trade and Finance SICAR S.A."); - CO2 emission factors for natural gas, coal and heavy fuel oil (from 2006 IPCC, v.2, ch.2); - CO2 emission factor for electrodes consumption (from 2006 IPCC, v.3, ch.4); - CO2 emission factor from lime consumption (from 2006 IPCC, v.3, ch.2); - CO2 emission factor from charge carbon consumption (from 2006 IPCC, v.3, ch.4); - Net calorific value of coal (from 2006 IPCC, v.2, ch.1); - CO2 emission factor from coke consumption (from 2006 IPCC, v.3, ch.4); - CO2 emission factor from sinter production (from 2006 IPCC, v.3, ch.4);			
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	Net calorific value of natural gas is provided by gas supplier every month and then it is calculated as weighted average for the year by the formula (4).	N/A	N/A	OK
36 (b) (ii)	For other values, − Does the monitoring plan clearly indicate the precise references from which these	The monitoring plan provides explicit description of the data sources for all parameters concerned.	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	values are taken? − Is the conservativeness of the values provided justified?	The conservativeness of used variables is justified by the use of values from Guidelines for National Greenhouse Gas Inventories 2006 that provides averaged values for all industry worldwide.			
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	All parameters included in the monitoring plan are to be either monitored under regular operational practice or taken as constants. Means of monitoring are indicated: gas flow meters, weighing machines, electricity meters, gas analyzers. **CAR 19.** Data unit for parameter P10 in the table D.1.1.1 is incorrect. Data unit for $PF_{EAF\_NG,y}$ in D.1.1.1 and in formula (3) should not differ. The same observation pertains to P22 and formula (8).	Response 1 to CAR 19 $PF_{EAF\_NG,y}$ (formula 3) and EF_{iron} (P22) data units were changed.	Conclusion on Response 1 to CAR 19 CAR 19 is closed based on due amendments made to the revised PDD.	OK
36 (b) (iv)	Are International System Units (SI units) used?	International System Units (SI units) are used.	N/A	N/A	OK
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	The monitoring plan notes parameters, coefficients, variables, etc. that are used to calculate baseline emissions: - Annual liquid steel production at EAF; - CO2 emission factor of iron production.	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	There is consistency between parameters, coefficients, variables, etc. used in baseline and monitoring plan.	N/A	N/A	OK
36 (c)	Does the monitoring plan draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" such as such as specific fuel consumption, CO_2 emission factor of fuels, NCV of natural gas, coal and heavy fuel oil, specific energy consumption.	N/A	N/A	OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout	Description of the monitoring plan in Section D.1 explicitly and clearly distinguishes: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination regarding the PDD. Refer to emission factors of natural gas, coal, heavy fuel oil, electricity grid CO2 emission factor for JI projects in Russian Energy System "Ural", CO2 emission factor for electrodes, lime, charge, carbon, sinter consumption, net	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored throughout the crediting period?	calorific value of coal. (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination. There are no such parameters in the monitoring plan. (iii) Data and parameters that are to be monitored throughout the crediting period. Refer to total volume of natural gas combustion, annual electricity, lime, charge carbon, liquid iron consumption, liquid iron production, electricity consumption at the BFS, total volume of natural gas combusted in the BFS, total consumption of coke, sinter at the BFS, volume of blast furnace gas burning outside of project, annual liquid steel production at EAF, annual liquid steel production at EAF and CO2 emission factor of iron production.			
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	Yes, the methods used (gas flow meters, certificate for natural gas, etc.) and data collection frequency (annually or monthly) and recording (electronic and paper) are clearly defined in the monitoring plan.	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/ removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	These are Formulae (1) – (15) for project emissions, (16) – (21) for baseline emissions. Leakages are not considered based on conservative assumptions. **CAR 20.** Dimension of terms in formulae (19) and (20) for specific limestone and dolomite consumption are incorrect.	Response 1 to CAR 20 Dimension of terms in formulae (19) and (20) for specific limestone and dolomite consumption were changed (from MWh/tonnes of steel to tonne/tonnes of steel)	Conclusion on Response 1 to CAR 19 CAR 19 is closed based on due amendments made to the revised PDD.	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	Yes.	N/A	N/A	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Consistent variables, equation formats, subscripts etc. are used.	N/A	N/A	OK
36 (f) (iii)	Are all equations numbered?	Yes.	N/A	N/A	OK
36 (f) (iv)	Are all variables, with units indicated defined?	Yes.	N/A	N/A	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	Conservative values of parameters were used. Refer to information above.	N/A	N/A	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	N/A			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	There is consistency between the elaboration on the baseline scenario and calculating the baseline emission in the spreadsheet. **CAR 21.** Calculations of gas consumption in GJ in the tables "Emissions calculation", "Initial data for emissions calculations", "Parameters of OHFs" and of heavy fuel oil consumption in GJ in the table "Parameters of OHFs" (all tables in spreadsheet "20101210_ER_UGMK-MZIS_ ver2.0_en") are incorrect. **CAR 26**. According to technical reports provided to AIE following the site visit to OJSC "Metallurgical plant named after A.K. Serov" the average annual output of OHP steel for 2004-2006 is about 622115 tonnes. According to PDD Section A.4.2 the annual technical capacity of EAF is 720000 tonnes of steel. As the production of steel in the baseline scenario equals to the same in the project (refer to PDD Section D page 31), please justify the technical possibility of the OHF to produce 720000 tonnes of steel.	Response 1 to CAR 21 Calculations of gas consumption and of heavy fuel oil consumption in GJ were correct. The calculations were made clearer in the corresponding tables and files. Response 1 to CAR 26 As indicated in Section A.2 PDD (pages 2 and 4) there were five OHFs before the project implementation. Load of the each OHF was 180 tonnes. The melting duration was about 7.5-9 hours. Total amount of the working days per a year was about 320. Therefore the total annual technical capacity of OHFs before the project implementation	Conclusion on Response 1 to CAR 21 CAR 21 is closed based on due amendments made to the revised PDD. Conclusion on Response 1 to CAR 26 CAR 26 is closed based on convincing explanations which are given in Response 1.	OK OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
			was approximately 770,000 (5×180×(24/9)×320) tonnes of liquid steel or 730,000 tonnes of solid steel production (5% of steel waste). Therefore the technical possibility of the OHFs was more than 720,000 tonnes of steel (solid).		
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	N/A	N/A	N/A	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	Yes, the monitoring is in line with current operational routines.	N/A	N/A	OK
36 (f) (vii)	Are references provided as necessary?	References to Study commissioned by "Carbon Trade and Finance SICAR S.A.", Guidelines for National Greenhouse Gas Inventories IPCC, 2006 v.2 ch.2, v.3 ch.4, v.3 ch.2, v.2 ch.1.	N/A	N/A	OK
36 (f) (vii)	Are implicit and explicit key	All key assumptions are explained in a	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	assumptions explained in a transparent manner?	transparent manner.			
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	N/A			
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	The uncertainty level of monitored data is low for different meters and medium for weighting method. Refer to the table D.2. **CAR 22.** Please indicate the uncertainty range for monitored parameters in the table D.2.	Response 1 to CAR 22 National standard MI 1317-2004 "Result and characteristic of measurement uncertainty. Presentation form. Using method for test specimens and its parameters control" recommends using 95% confidence level (footnote 3 of Table 1). As shown in Section D.2 of the PDD all measuring units at MZIS are calibrated according to national standards. It means that necessary level is provided.	Conclusion on Response 1 to CAR 22 CAR 22 is closed based on explanations which are given in Response 1 and due amendments made to the revised PDD.	OK
36 (g)	Does the monitoring plan identify a national or	**CAR 23.** Please provide the references to	Response 1 to CAR 23	Conclusion on	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	international monitoring standard if such standard has to be and/or is applied to certain aspects of the project? Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?	national monitoring standards used for monitoring routines.	There are not special national monitoring standards. Monitoring routines are regulated by MZIS internal rules. Quality Management System of MZIS is certificated according to ISO as indicated in Section D.2 of the PDD. National standards regulate the calibration of measuring units. The internal rules based on national standards were prepared at MZIS. Information about the internal rules was added in Section D.2 of the PDD. The monitoring plan was established in accordance with appendix B of the JI guidelines as indicated in Section D.1 of the PDD.	Response 1 to CAR 23 CAR 22 is closed based on explanations which are given in Response 1 and due amendments made to the revised PDD.	
36 (h)	Does the monitoring plan document statistical techniques, if used for	N/A			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	monitoring, and that they are used in a conservative manner?				
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?	QC/QA procedures are specified in PDD Section D.2. They include basic information about the calibration procedures for gas flow meters, electricity meters, and weighting method.	N/A	N/A	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	The operational and management structure that the project participants(s) will implement in order to monitor emission reduction generated by the project is described in PDD Section D.3. Responsibilities and the authority regarding the monitoring activities are indicated.	N/A	N/A	OK
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is	Monitoring techniques are in line with current operation routines.	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	the good practice guidance developed by IPCC applied?				
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?	Tables D.1.1.1 and D.1.1.3 provide compilation of all data needed to monitor project and baseline emissions.	N/A	N/A	OK
36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	**CAR 24.** Section D reads: "The monitored data required for verification and issuance will be kept for two years after the end of the crediting period or the last issuance of ERUs." This is not in line with Paragraph 41 of the Guidance: "Data monitored and required for determination according to paragraph 37 of the JI guidelines are to be kept for two years after the last transfer of ERUs for the project".	Response 1 to CAR 24 This wording (in Section D.1) was put to rights in line with Paragraph 41 of the Guidance: "Monitored data required for verification and issuance will be kept for two years after the last transfer of ERUs for the project"	Conclusion on Response 1 to CAR 24 CAR 24 is closed based on the received evidence.	OK
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the	N/A			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?				
Approved CDM methodology approach only_Paragraphs 38(a) – 38(d)_Not applicable					
Applicable to both JI specific approach and approved CDM methodology approach_Paragraph 39_Not applicable					
Leakage					
JI specific approach only					
40 (a)	Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	PDD describes the assessment leakage from fugitive CH4 emissions associated with fuel extraction, processing, transportation and distribution and also from technical transmission and distribution losses of electricity. Refer to PDD Section B.3.	N/A	N/A	OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	No. Refer to paragraph 40 (b).	N/A	N/A	OK
Approved CDM methodology approach only_Paragraph 41_Not applicable					
Estimation of emission reductions or enhancements of net removals					
42	Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the	Assessment of emissions in the baseline scenario and in the project scenario is chosen.	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	baseline scenario and in the project scenario (b) Direct assessment of emission reductions				
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	PDD provides ex ante estimates of: (a) Emissions for the project scenario (Section E.1); (b) Not applicable; (c) Emissions for the baseline scenario (Section E.4); (d) Emission reductions (Section E.6). For years 2008 and 2009 the actual data were taken for emission reductions calculations. For 2010-2012 period were taken forecast (project) data. **CAR 25.** The values of "Iron production emission factor" presented in Table E.1.2 "Actual data of the blast furnace shop operation for 2008-2009 and estimation of the emission connected to iron production and the emission factor for iron production" in Section E.1 and in spreadsheet "20101210_ER_UGMK-MZIS_ ver2.0_en" (the same table) should not differ.	Response 1 to CAR 25 Necessary amendments (the value of total emissions and iron production emission factors) were entered in Table E.1.2 of PDD.	Conclusion on Response 1 to CAR 25 CAR 25 is closed based on due amendments made to the revised PDD.	OK
44	If the approach (b) in 42 is chosen, does the PDD	N/A			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?				
45	For both approaches in 42 (a) Are the estimates in 43 or 44 given: (i) On a periodic basis? (ii) At least from the beginning until the end of the crediting period? (iii) On a source-by-source/sink-by-sink basis? (iv) For each GHG? (v) In tones of CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol?	- Estimates in 43 are given on the periodic basis, from the beginning until the end of the crediting period, in tones of CO2 equivalent. - The formulae used in PDD are consistent. - Key factors influencing the baseline emissions and the activity level of the project and the emissions are taken into account, as appropriate. - Data sources used for calculating the estimates are clearly identified, reliable and transparent. - Default values were taken from 2006 IPCC and from the Study commissioned by "Carbon Trade and Finance SICAR S.A.". - Estimation in 43 is based on conservative assumptions and the most	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	(b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD? (c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate? (d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent? (e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice? (f) Is the estimation in 43 or	plausible scenario in a transparent manner. - Estimates in 43 are consistent throughout the PDD. - The annual average of estimated emission reductions calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period and multiplying by twelve.			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	44 based on conservative assumptions and the most plausible scenarios in a transparent manner? (g) Are the estimates in 43 or 44 consistent throughout the PDD? (h) Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?				
46	If the calculation of the baseline emissions or net removals is to be performed ex post, does the PDD include an illustrative ex ante emissions or net removals calculation?	Illustrative ex-ante estimation of baseline emissions are made on the excel spreadsheet.	N/A	N/A	OK
Approved CDM methodology approach only_Paragraphs 47(a) – 47(b)_Not applicable					
Environmental impacts					
48 (a)	Does the PDD list and attach	PDD Section F.1 refers to Design	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	Document of the project "Reconstruction of steelmaking production with installation of the electric arc furnace at OJSC "Metallrgical plant named after A.K. Serov" including Section "Environment Protection" prepared by OJSC "Uralgipromez". In compliance with the Construction code the Design Document should contain Section "Measures on Environment Protection" which includes paragraph (a) Environmental Impact Assessment (EIA). The whole Design Document including the environmental part is subject to the formal state expertise. The project participant submitted the Project Design to Yekaterinburg branch of the Federal State Institution "The Main Agency of the State expertise" (FGU "Glavgosexpertiza") in August 2007 and received its approval in September 2008. The main conclusions of the Expert Conclusion by FGU "Glavgosexpertiza" for the project are summarised in Section F.1. The main conclusion is: "The proposed project complies with the regulatory requirements of the Russian federation and it is recommended for approval". PDD			

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
		refers to this document. Transboundary impacts are irrelevant for the project due to the tremendous distance to the nearest border.			
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	Russian legislation does not use the term "significant environmental impacts". The company is permitted to operate on the basis on permission of air emission issued by the state authority Rostekhnadzor.	N/A	N/A	OK
Stakeholder consultation					
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects have been received,	Stakeholder consultation is not required by the Russian legislation. Hence public hearings were not organized. The project was approved by mayor of Serov town without public hearings (letter of mayor of Serov town on 21 December #01-3252). MZIS published the project information on its website. No comments were received	N/A	N/A	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Response from project participants	Review of project Participants' action	Conclusion
	if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	on the proposed project.			
Determination regarding small-scale projects (additional elements for assessment)_Paragraphs 50 - 57_Not applicable					
Determination regarding land use, land-use change and forestry projects _Paragraphs 58 – 64(d)_Not applicable					
Determination regarding programmes of activities_Paragraphs 66 – 73_Not applicable					