



DETERMINATION REPORT Global Carbon BV

DETERMINATION OF THE “CONSTRUCTION OF ELECTRIC ARC FURNACE SHOP WITH OPEN HEART FURNACE PRODUCTION DECOMMISSIONING AT OJSC “NSMMZ”, REVDA, RUSSIA”

REPORT No. RUSSIA-DET/0148/2011
REVISION No. 04

BUREAU VERITAS CERTIFICATION



DETERMINATION REPORT ON JI PROJECT

“Construction of electric arc furnace shop with open heart furnace production decommissioning at OJSC “NSMMZ”, Revda, Russia”

Date of first issue: 19/07/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Global Carbon BV	Client ref.: Mr. Lennard de Klerk

Summary:
Bureau Veritas Certification has made the determination of the “Construction of electric arc furnace shop with open heart furnace production decommissioning at OJSC “NSMMZ”, Revda, Russia” project of 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 2 Clarification and 13 Corrective Actions Requests 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.

In the Determination Report rev.03, Bureau Veritas Certification recommended the project for approval by the Host Party. The approval was issued by the Ministry for Economic Development of the Russian Federation by Order No 112 dated 12 March 2012. The Project Participant issued on 16 March 2012 the PDD version 1.5 which refers in Section A.5 to the received project approval. Due to the above, CAR 01 in the Determination Report rev.01 which addressed the absence of the project approval is closed and hence all implications in the Determination Report and Appendix A related to CAR 01 have become irrelevant to the approved project.

Report No.: Russia-det/0148/2011	Subject Group: JI	
Project title: “Construction of electric arc furnace shop with open heart furnace production decommissioning at OJSC “NSMMZ”, Revda, Russia”		
Work carried out by: Andrey Rodionov – Lead verifier		
Work reviewed by: Vera Skitina – Internal Technical Reviewer		
Work approved by: Leonid Yaskin – Operational Manager		
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Abbreviations

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CCM	Continuous Casting Machine
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
EAFP	Electric Arc Furnace Plant
GHG	Greenhouse House Gas(es)
GC	Global Carbon BV
IE	Independent Entity
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
LD	Ladle Furnace
NG	Natural gas
NGO	Non Governmental Organization
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



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1 INTRODUCTION

Global Carbon BV has commissioned Bureau Veritas Certification to determine its JI project “Construction of electric arc furnace shop with open heart furnace production decommissioning at OJSC “NSMMZ”, Revda, Russia” (hereafter called “the project”) located in town Revda, Sverdlovsk region, western Russia.

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:

Andrey Rodionov
Bureau Veritas Certification, Lead Verifier



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This verification report was reviewed by:

Vera Skitina

Bureau Veritas Certification, Internal Technical 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 Global Carbon BV 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, Approved CDM methodology and/or Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Global Carbon BV revised the PDD v. 1.1 dated 26/04/11 and resubmitted final PDD version 1.4 on 21/07/2011.

The first deliverable of the document review was the Determination Protocol Version 01 dated 21/05/2011 which contained 13 CARs and 2 CLs. The determination of the revised PDD v.1.2 dated 12/07/11 led to issue requests in Table 2 of Appendix A. After revision Global Carbon BV resubmitted PDD version 1.3 dated 14/07/11.



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The last Determination Protocol Version 03 is based on the changes made in the revised PDD v.1.4 after Internal Technical Review.

The determination findings presented in this report relate to the project as described in the final PDD version 1.4 dated 21/07/2011 /1/.

2.2 Follow-up Interviews

On 23/06/2011 Bureau Veritas Certification performed (on-site) interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of OJSC “NSMMZ” were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
OJSC NSMMZ	<ul style="list-style-type: none"> ➤ OGSC NSMMZ 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	<ul style="list-style-type: none"> ➤ Ditto
Stakeholders	<ul style="list-style-type: none"> ➤ 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



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that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

If the determination team, in assessing the PDD and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to JI project requirements, it will raise these issues and inform the project participants of these issues in the form of:

(a) Corrective action request (CAR), requesting the project participants to correct a mistake in the published PDD that is not in accordance with the (technical) process used for the project or relevant JI project requirement or that shows any other logical flaw;

(b) Clarification request (CL), requesting the project participants to provide additional information for the determination team to assess compliance with the JI project requirement in question;

(c) Forward action request (FAR), informing the project participants of an issue, relating to project implementation but not project design, that needs to be reviewed during the first verification of the project.

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

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

The goal of the proposed Joint Implementation (JI) project is to reduce impact of the steelmaking process on the climate by construction of mini-plants that would use electric furnaces steelmaking technology and produce section steel by the more energy efficient continuous casting machines. Existed open-hearth steel production process was replaced by an electric arc steelmaking process due to fossil fuels consumption reduction. Emissions of GHG were reduced significantly as a result of the project implementation.

The open hearth process at NSMMZ was replaced by an electric furnace steelmaking and continuous casting. The project (construction of two independent processing lines) was completed in three stages.



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Initially new Continuous Casting Machine (CCM) #1 and Ladle Furnace (LF) were installed in February 2004 (stage #1). Along with that Revda’s open-hearth steel was directed to the CCM for bloom production instead of pouring it into the molds. Nizhnie Sergy steelmaking complex (open-hearth steel) continued pouring it into the molds. Construction of Electric Arc Furnace (EAF) #1 was finished in January 2005 (stage #2). Since that time electric furnace steelmaking capacity exceeds open-hearth steelmaking capacity in Revda and Nizhnie Sergy, all open hearth furnaces were decommissioned in February 2005. Capacity of processing line #1 is about 1 million of steel blooms per year.

In August-September 2006 processing line #2 (stage #3 includes construction of CCM#2, LF#2 and EAF#2) was run to operate. Total bloom production of two processing lines achieved capacity of about 2 million tonnes per year. Project boundary covers bloom production by reason casting bloom (mold) is equivalent to as-cast bloom (CCM).

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 13 Corrective Action Requests and 2 Clarification Requests.

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

4.1 Project approvals by Parties involved (19-20)

The project has no approvals by the Host Party, therefore CAR 02 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.

Bureau Veritas Certification considers the letters as unconditional in accordance with paragraphs 19 - 20 of the DVM.



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Outstanding issues related to Project approvals by Parties involved (19-20), PP’s response and the AIE conclusion are summarized in Appendix A Table 2 (refer to CAR 02).

4.2 Authorization of project participants by Parties involved (21)

The participation for each of the legal entities listed as project participants in the PDD is authorized by a Party involved, which is also listed in the PDD, through 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.

The authorization 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 (the existing open hearth plants continue their operation and incremental steel volume would be produced by the other steel plants);
 - b. Alternative 2: Construction of new arc-furnace plant with old OHPs dismantling (Project activity not implemented as JI);
 - c. Alternative 3: Construction of a new Basic Oxygen Furnace and a Blast Furnace;
- (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.



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The PDD refers to the main development goal of the metallurgical industry is satisfaction of domestic metal demand.

Project activity is in line with the mentioned goals however they do not impose any obligations for the company owner of the metallurgical plant;

- b. Economic situation in Russian steel industry and predicted demand.

The PDD shows that the total output of the project activity is equal to the baseline. In case of the project absence the baseline equipment (OHP) and other steel producers would operate and satisfy steel demand. The OHP and other steel producers emissions are determined in line with the methodological approach as described in Annex 2 of PDD;

- c. Availability of capital to OJSC NSMMZ (including investment barriers).

Capital is available but high bank rate and high country investment risk 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 steel production process by OHF, EAF, and BOF are better-known and applied in Russia. Training of responsible for operating personnel may be organized by supplier of equipment .This aspect was considered during baseline setting (Section B.1);

- e. Price and availability of fuel.

Electricity, natural gas and coke are widely used and available in Russia. All of them are produced inland. Fuel prices in Russia are less than world market price. Detailed information is given in the PDD, Section B.2.

After screening the second and the third alternatives is left as the most plausible baseline scenario, namely:

Alternative 1: Continuation of a situation existing prior to the project (the existing open hearth plants continue their operation and incremental steel volume would be produced by the other steel plants).

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

- (a) There are not legal or other requirements that enforce OJSC NSMMZ to stop or reduce steelmaking by OHP. The baseline capacity OHP and other steel producers could satisfy steel market demand. OJSC NSMMZ does not need investment to operate OHP;



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- (b) Implementation of new EAFs is not financially attractive for OJSC Severstal and requires significant additional investment. Investment analysis has been presented to prove the additionality in section B.2;
- (c) The third alternative “Construction of a new Basic Oxygen Furnace and a Blast Furnace” has technological barriers for OJSC NSMMZ so requires construction of additional iron making and oxygen producing capacities in absence of free place to implement the appropriate equipments.

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 Table 2 (refer to CARs 03-06).

4.4 Additionality (27-31)

JI specific approach

The most recent version of the “the CDM “Tool for the demonstration and assessment of additionality” (Version 05.2) approved by the CDM Executive Board, was used for proving additionality.

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 3 “Construction of a new Basic Oxygen Furnace and a Blast Furnace” is neglected in Section B.1 by relevant reasons):

Alternative 1: Continuation of a situation existing prior to the project (the existing open hearth plants continue their operation and incremental steel volume would be produced by the other steel plants);

Alternative 2: Construction of new arc-furnace plant with old OHPs dismantling (Project activity not implemented as JI).

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 investment comparison and sensitivity analyses. The investment comparison analysis shows that the summarized costs of steel production by OHP (baseline) is



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less than the steel production by new EAFs (project) and so the project cannot be considered as a financially attractive. The sensitivity analysis of variations of key parameters (investment costs and different product items prices) confirms the conclusion of the basic investment analysis.

The spreadsheet with the investment comparison 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 Additionality (29), PP’s response and the AIE conclusion are summarized in Appendix A Table 2 (refer to CARs 07-10).

4.5 Project boundary (32-33)

JI specific approach

The project boundary defined in the PDD, Section B.3 and 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, coke, electrodes) during the steelmaking 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.



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Outstanding issues related to Project boundary (32), PP’s response and the AIE conclusion are summarized in Appendix A Table 2 (refer to CAR 11).

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 will begin or began, and the starting date is 23/01/2003, 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 includes estimation of emission reduction for the extension of its crediting period beyond 2012. The estimation is presented separately for those until 2012 and those after 2012 in all relevant sections of the PDD.

Outstanding issues related to Crediting period (34), PP’s response and the AIE conclusion are summarized in Appendix A Table 2 (refer to CL 01).

4.7 Monitoring plan (35-39)

The PDD, in its monitoring plan section, explicitly indicates that JI specific approach was the selected.

JI specific approach

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 (refer to PDD, Sections B.1, D. 1.1.1, D.1.1.3 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 to be monitored (refer to PDD, Sections B.1, D. 1.1.1, D.1.1.3 and Annex 2).

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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 fuel, coke, lime and electrode, NCV for fuel (refer to PDD, Section D.1.1.1);
- (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 (refer to PDD, Section B.1 and Annex 2);
- (iii) Data and parameters that are monitored throughout the crediting period, such as production of solid steel by new EAFs, consumption of raw materials, consumption of oxygen, electricity and steam, combustion of fuel (refer to PDD, Sections D.1.1.1 and D.1.1.3).

Step-by-step application of the used approach for monitoring is described in PDD Section D and Annex 2 including monitoring procedures, formulae, parameters and data sources. The monitoring plan elaborates all algorithms and formulae used for the estimation of baseline emissions and project emissions refer to PDD, Sections D.1.1.2 and D.1.1.4. The internal quality system at NSMMZ is functioning in accordance with the national standards and regulations in force. NSMMZ has implemented standard for monitoring and measuring system (CTO 177- 9001.19-2010). This standard corresponds with the federal law N102 about ensuring the uniformity of measurements.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording, such as the production of steel by EAFs which are measured annually; the data are archived in technical report (refer to PDD, Sections D.1.1.1 and D.1.1.3).

The monitoring plan presents the quality assurance and control procedures for the monitoring process (refer to PDD, Sections B.1, D.1.5, D.2, D.3 and Annex 2). This includes information on calibration and on how records on data and method validity and accuracy are kept and made



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available on request. Evidence of existing of requirement procedures for monitoring plan implementation was provided during on-site visit.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. The Manufacturing manager is responsible for implementation of the monitoring plan and checking annual monitoring report prepared by Environmental protection department. Chief Power engineer Department is responsible for data collection on electricity, fuel, oxygen, air, steam consumptions and preparing an appropriate report. Steelmaking shop is responsible for data collection on materials consumption and preparing an appropriate report. All data are transferred to the Environmental protection department for preparing reports on GHG emission reduction (refer to PDD, Section D.3).

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 Table 2 (refer to CAR 12, CAR 13 and CL 02).

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 baseline fuel consumptions (natural gas, coke) are bigger than in project scenario (refer to PDD, Section D.1.3.2).



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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 4,190,174 tons of CO₂eq;
- (b) Leakage (N/A);
- (c) Emissions for the baseline scenario (within the project boundary), which are 11,883,616 tons of CO₂eq;
- (d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are 7,693,442 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 plan influencing the project and baseline emissions were taken into account, as appropriate.

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 /1/.

4.10 Environmental impacts (48)

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



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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, if the analysis referred to above indicates that the environmental impacts are considered significant by the project participants or the host Party.

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.

In accordance with current legislation public hearings have been organized by head of Revda district (order N554 dated 27/05/03). LLC “Uralkomplectnauka” have been instructed to conduct a public-opinion poll and make an appropriate report /8/.

As a result of conducted the public-opinion poll most people (62,2 %) have positive opinion about project implementation /8/. Among people who has negative opinion (11,3 %), no one, who does not support the project in no circumstances /8/.

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.

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the “Construction of electric arc furnace shop with open heart furnace



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production decommissioning at OJSC “NSMMZ”, Revda, Russia” Project in Russian Federation. 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 the latest tool for demonstration of the additionality. 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 determination revealed one pending issue related to the current determination stage of the project: the issue of the written approval of the Parties involved. 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 1.4 dated 21/07/11 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (version 1.4) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

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



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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 “Construction of electric arc furnace shop with open heart furnace production decommissioning at OJSC “NSMMZ”, Revda, Russia”, Version 1.1, dated 26/04/11, file: 20110512_PDD_Revda_ver1.1

PDD “Construction of electric arc furnace shop with open heart furnace production decommissioning at OJSC “NSMMZ”, Revda, Russia”, Version 1.4, dated 21/07/11, file: 20110721_PDD_Revda_ver1.4

. Supporting documentation:

- a. 20110714_CF_Revda;
 - b. 20110722_ER_Revda
 - c. 20110722_SD2008_Revda.
- /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, 2001-2010
- /2/ Cost analysis, 2002
- /3/ Explanatory note 4T-87671 for project implementation, 2002
- /4/ Annually summary costs for project implementation 2003-2010
- /5/ Expertise of project implementation, Rosprirodnadzor N642, 2006
- /6/ Permission for emissions Rostekhnadzor N1246 P(C), 2010
- /7/ OVOS for project implementation, 2002
- /8/ Report of stakeholders consultation, 2003
- /9/ Plan of workers training, 2008
- /10/ Certificate of measuring tool “IT system for commercial electric power calculation”, 2007
- /11/ Evidence of calibration of “IT system for commercial electric power calculation”, 2008-2011



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/12/ Scheme of power grid OJSC NSMMZ, 2010



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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/ S.Ivanitsa– OJSC “NSMMZ” Technical director, Chief engineer
- /2/ D.Iakshuk– OJSC “NSMMZ” Head of engineering department
- /3/ O.Bogdanova- OJSC “NSMMZ” Lead engineer of engineering department
- /4/ V.Semavin- OJSC “NSMMZ” Head of environmental protection, Main ecologist
- /5/ A.Kovin- OJSC “NSMMZ” Head of standards laboratory
- /6/ V.Sidorov- OJSC “NSMMZ” Head of bureau energy saving
- /7/ A.Zuev - OJSC “NSMMZ” Head of management of automation
- /8/ I.Bulaeva- OJSC “NSMMZ” Head of group of capital efficiency
- /9/ P.Kuznetsov- OJSC “NSMMZ” Deputy director on economy and finances
- /10/ E.Chashkina - OJSC “NSMMZ” Head of planned-economic department
- /11/ E.Korneva - OJSC “NSMMZ” Chief accountant
- /12/ M. Butiakin – Global Carbon, PDD developer, Lead Specialist

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Appendix A: company PROJECT Determination Protocol

Table 1

Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 02)

Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
Guidelines for JI PDD Form Users				
Section A General description of the project				
A.1. Title of the project				
A.1	<p>Is the title of the project presented?</p> <p>Is the sectoral scope to which project pertains presented?</p> <p>Is the current version number of the document presented?</p> <p>Is the date when the document was completed presented?</p>	<p>The title of the project is: “Construction of electric arc furnace shop with open heart furnace production decommissioning at OJSC “NSMMZ”, Revda, Russia”.</p> <p>The PDD version 1.1 was originally presented to Bureau Veritas Certification Russia and reviewed as a part of determination.</p> <p>PDD version 1.4 is dated 21/07/2011.</p>		OK
A.2 Description of the project				
A.2	<p>Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the:</p> <p>a) Situation existing prior to the starting date of the project;</p> <p>b) Baseline scenario; and</p>	<p>The Project’s purpose is to reduce impact of the steelmaking process on the climate by construction of mini-plants that would use electric furnaces steelmaking technology and produce section steel by the more energy efficient continuous casting machines.</p> <p>The situation existed prior the project start along with brief description of project and baseline scenario is represented in</p>		OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
	c) Project scenario (expected outcome, including a technical description). Is the history of the project (incl. its JI component) briefly summarized?	section A.2. The management of OJSC NSMMZ considers this project implementation as JI. It makes possible to improve economic indicators and minimize project realization risks. The evidence of project history and its JI component was provided during site-visit to OJSC “NSMMZ” (office memorandum N 1113 dated November 13, 2002).		
A.3 Project participants				
A.3	Are project participants and Party(ies) involved in the project listed? Is contact information provided in Annex 1 of the PDD?	Host Party is the Russian Federation (Party A). Party B is The Netherlands. Project participant for Party A is OJSC NSMMZ and for Party B is Global Carbon BV. The contact information is provided in PDD Annex 1.		OK
A.4 Technical description of the project				
A.4.1	Location of the project	Refer to A.4.1.1-A.4.1.4.		OK
A.4.1.1	Host Party(ies)	The Russian Federation.		OK
A.4.1.2	Region/State/Province etc.	Sverdlovsk region.		OK
A.4.1.3	City/Town/Community etc.	Revda.		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)	Sec. A 4.1.4. provides consistent information of the physical location and information of the unique identification of the project location. Revda, town, Sverdlovsk region, western Russia, in the mid-Urals,		OK

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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
		at the confluence of rivers Revda and Chusovaya.		
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?	Section A.4.2 PDD provides description of technology and measures to be implemented to gain proposed emission reductions. CAR 01. Please provide following key technical characteristics of implemented equipment in the project: – capacity of EAF and LF; – productivity of EAF, LF and CCM.	CAR 01	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				
A.4.3	Is it explained briefly how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page.)	It is briefly explained in PDD that the implementation of the project leads to anthropogenic GHG emission reduction due to the decreasing of pig iron and fossil fuel consumption for steel making process.		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 to be 60 months. Total as well as annual and average annual emission reductions in tonnes of CO2 equivalent are provided.		OK
A.5. Project approval by the Parties involved				
A.5	Are written project approvals by the Parties involved attached?	CAR 02. The project has no approval by Parties involved.	CAR 02	OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
		The project approval by the Host Party will be provided after the determination statement is issued by the AIE.		
19	Have the DFPs of all Parties listed as “Parties involved” in the PDD provided written project approvals?	No, pending a response to CAR 02.	Pending	Pending
19	Does the PDD identify at least the host Party as a “Party involved”?	It is indicated that the Russian Federation is the host Party.		OK
19	Has the DFP of the host Party issued a written project approval?	No, pending a response to CAR 02.	Pending	Pending
20	Are all the written project approvals by Parties involved unconditional?	Yes, the written project approvals by Parties involved are unconditional.		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 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?	Legal entity for Party A is OJSC NSMMZ and for Party B is Global Carbon BV. Project participants will be authorized with the issue of related project approvals. Pending a response to CAR 02.	Pending	Pending
Baseline setting				
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline?	PDD explicitly indicates that the JI specific approach is used for identifying the baseline.		OK

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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
	<ul style="list-style-type: none"> - JI specific approach - Approved CDM methodology approach 			
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	<p>A detailed theoretical description in a complete and transparent manner is provided for the applied JI specific approach. It includes the following steps:</p> <ul style="list-style-type: none"> - Identification and listing of plausible baseline scenarios; - Identification of the most plausible scenario; - Identification and listing key factors for baseline setting. 		OK
23	<p>Does the PDD provide justification that the baseline is established:</p> <p>(a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one?</p> <p>(b) Taking into account relevant national and/or sectoral policies and circumstance?</p> <ul style="list-style-type: none"> - Are key factors that affect a baseline taken into account? <p>(c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors?</p> <p>(d) Taking into account of uncertainties and using conservative assumptions?</p>	<p>(a) Three alternative scenarios are listed in PDD Section B.1.</p> <ol style="list-style-type: none"> 1. Continuation of a situation existing prior to the project (the existing open hearth plants continue their operation); 2. Construction of new arc-furnace plant with old OHPs dismantling (Project activity not implemented as JI); 3. Construction of a new Basic Oxygen Furnace and a Blast Furnace. <p>Scenario 1 was selected as the most plausible scenario thus representing the baseline.</p> <p>CAR 03. The description and name of scenario 1 in Section B.1 does not correspond with information about baseline scenario in Section A.2 and Annex 2. Please correct.</p> <p>(b) PDD takes into account Strategy of the Russian metallurgical industry development until 2020 in baseline establishing.</p>	<p>CAR 03</p> <p>CAR 04</p> <p>CAR 05</p> <p>CAR 06</p>	<p>OK</p> <p>OK</p> <p>OK</p> <p>OK</p>

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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
	<p>(e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure?</p> <p>(f) By drawing on the list of standard variables contained in appendix B to “Guidance on criteria for baseline setting and monitoring”, as appropriate?</p>	<p>PDD takes into account key factors that affect a baseline in accordance with “Guidance on criteria for baseline setting and monitoring”.</p> <p>(c) The baseline is established generally in a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors.</p> <p>CAR 04. Please add to Section B.1 and Annex 2 all key parameters (elements) of the baseline scenario.</p> <p>CAR 05. Time of monitoring for the key parameter BEF_y^{incr} is not correctly identified.</p> <p>(d) Uncertainties for key baseline parameters were identified and used conservative assumptions (refer to PDD Section B.1). Basic assumptions of the baseline methodology presented in Section D.1.1.4 and Annex 2 are as follows:</p> <ul style="list-style-type: none"> - Baseline emissions are calculated on the basis of production emissions by OHP of OJSC NSMMZ and other metallurgical plants of Russian Federation (the further is referred as the incremental part). The output of baseline scenario equals the project production. - Emission factor due to incremental production of steel is calculated with the use of the approach resembling the “Tool to calculate the emission factor for an electricity system” (version 02). The approach envisages the calculation of Operating Margin 		



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
		<p>(emission factor for the all plants) and Build Margin (emission factor for the new ones). These two factors are used to calculate Combined Margin factor. In PDD Build Margin is reasonably taken into account for five most recent capacity built within the last 10 years.</p> <p>CAR 06. Please provide initial data and calculation (spreadsheet) for the baseline incremental part production.</p> <p>(e) The baseline is established in such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure.</p> <p>(f) The baseline is established by drawing on the list of standard variables contained in appendix B to “Guidance on criteria for baseline setting and monitoring” such as baseline emissions, project missions, emission factor for coke, limestone, natural gas consumption, etc.</p>		
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		OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	N/A		OK
Approved CDM methodology approach only Paragraphs 26(a) – 26(d) Not applicable				



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
Additionality				
JI specific approach only				
28	Does the PDD indicate which of the following approaches for demonstrating 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 CDM Executive Board”.	PDD explicitly indicates that the CDM “Tool for the demonstration and assessment of additionality” (Version 05.2) was used.		OK
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		OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
		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.		
29 (b)	Are additionality proofs provided?	<p>Step-by-step application of the used approach to proof additionality described in PDD Section B.2. including identification of alternatives, investment analysis and common practice analysis.</p> <p>The following alternatives to the proposed project were identified (alternative “Construction of a new Basic Oxygen Furnace and a Blast Furnace” is not considered as realistic and credible alternative due to the fact that it was neglected in Section B.1 by relevant reasons):</p> <ul style="list-style-type: none"> – Alternative 1: Continuation of a situation existing prior to the project (the existing open hearth plants continue their operation and incremental steel volume would be produced by the other steel plants; – Alternative 2: Construction of new arc-furnace plant with old OHPs dismantling (the proposed project activity undertaken without being registered as a JI project activity). <p>Justification of the investment analysis is provided in file 20110512_CF_Revda”. The investment analysis reflects the application of comparison analysis. Performed investment analysis shows that value of NPV in deference between scenario 2 (project) and scenario 1 (baseline) is -63,926 is less than zero and so the project cannot be considered as a financially attractive.</p>	CAR 07 CAR 08 CAR 09 CAR 10	OK OK OK OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
		<p>CAR 07. In the rate of risk in Table 11.1 of approved methodology RF 21.06.1999 N BK 477 has already included systematic market risk and country risk. Please refer to paragraph 11.2 of this methodology.</p> <p>CAR 08. The value of Country risk Russia in accordance with provided source is 4 % instead of using 6 % in PDD and spreadsheet. Please correct.</p> <p>CAR 09. Replacement capacity and incremental capacity are used for investment analysis. Please provide justification of such approach in PDD.</p> <p>CAR 10. Please provide evidence of initial data used for proof additionality.</p> <p>The sensitivity analysis proves that conclusion regarding the financial/economic attractiveness is robust to reasonable variations in the critical assumptions.</p> <p>In line with the Additionality Tool no barrier analysis is needed when investment analysis is applied.</p> <p>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.</p> <p>All in all, a conclusion is made in PDD that the project activity is additional.</p>		



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
29 (c)	Is the additionality demonstrated appropriately as a result?	With CARs 07-10 the additionality is not demonstrated	Pending	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	Refer to 29 (c)	Pending	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 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. These are: – Emission from the raw materials (iron, coke, electrodes, limestone) during the steelmaking process; – Fuel (gas) combustion; – Emission from the raw material production (iron, lime); – GHG emissions from the Russian electricity grid. CAR 11. Please indicate what name of regional power system (in accordance with Annex 2) of the Russian electricity grid included to list of emission sources.	CAR 11	OK
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 analysis (not always quantitative) of emission sources.		OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
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?	The delineation of the project boundary and the gases and sources are included appropriately described and justified in the PDD by using a Figure B.3.1.		OK
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	All gases and sources are included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified in Section B1, Table B.3.1. Pending a response to CAR 04.	Pending	OK
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 defined as January 23, 2003 when the implementation of project was begun. Please provide evidence of the starting date of the project.	Pending	OK
34 (a)	Is the starting date after the beginning of 2000?	Yes, it is.		OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	Operational life time is defined as 20 years or 180 months. CL 01. Please clarify why operational life time is defined as 20 years.	CL 01	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 or 60 months.		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 day is 01/01/2008 which is the date of the first emission reductions generated by the project.		OK
34 (d)	Does the PDD state that the crediting period for	The crediting period is defined as from 01/01/2008 till 31/12/2012.		OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
	issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?			
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		OK
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? - JI specific approach; - Approved CDM methodology approach.	The PDD explicitly indicates that the JI specific approach is used.		OK
Jl specific approach only				
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 such as energy consumption during steel production or oxygen consumption (refer to Section D.1.1.1 of PDD for project activity); - the period in which they will be monitored annually; - all decisive factors (refer to PDD Sections D.1.1.1, D.1.1.3 and Annex 2) for the control and reporting of project performance: quality control (QC) and quality assurance (QA) procedures; the operational and management structure that will be applied in implementing the monitoring plan (refer to PDD Sections B.1, D.2,	CAR 12	OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
		D.3, D.4 and Annex 2). CAR 12. Figure D.3.1 of PDD does not include all monitored data. Please provide it.		
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 (refer to PDD Sections B.1, D and Annex 2). For constants please refer to the next paragraph.		OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
36 (b)	<p>If default values are used:</p> <ul style="list-style-type: none"> - Are accuracy and reasonableness carefully balanced in their selection? - 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? 	<p>Default value is used on the basis of 2006 IPCC and fixed ex-ante based on historical production data. The source is recognized and supported with statistical data. These data are selected based on balance of accuracy and reasonableness. The default values are presented in a transparent manner. The default values are following (refer to PDD Sections D.1 and Annex 2):</p> <ul style="list-style-type: none"> - 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); - 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); <p>Default emission factor for electricity production is selected based on standardized electricity grid emission factor commissioned by “Carbon Trade and Finance SICAR S.A.” for Regional Power System “Urals” (refer to PDD Annex 2).</p> <p>CL 02. Please clarify why default values of CO2 emission factor for sinter production and charge carbon consumption do not indicate in PDD.</p>	CL 02	OK
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan	PDD clearly indicates how the values are to be selected and justified during on-site visit to OJSC “NSMMZ” (refer to PDD		OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
	clearly indicate how the values are to be selected and justified?	Sections D.1.5).		
36 (b) (ii)	For other values, – Does the monitoring plan clearly indicate the precise references from which these values are taken? – Is the conservativeness of the values provided justified?	The monitoring plan clearly indicates the references from which these values are taken. CAR 13. Please provide evidence of all initial data used to calculate GHG emission reduction.	CAR 13	OK
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.		OK
36 (b) (iv)	Are International System Unit (SI units) used?	International System Units (SI units) are used.		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?	PDD in Sections B.1, D.1.1.3 and Annex 2 notes parameters, coefficients and variables to calculate baseline emissions.		OK
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.		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 is constructed based on the list of standard variables contained in appendix B of “Guidance on criteria for baseline setting and monitoring”.		OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish:	Description of the monitoring plan in Section D.1 explicitly and clearly distinguishes:		OK

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	<p>(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?</p> <p>(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?</p> <p>(iii) Data and parameters that are monitored throughout the crediting period?</p>	<p>(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 PDD, Sections B.1, D.1.1.1, D.1.1.3 and Annex 2).</p> <p>(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.</p> <p>(iii) Data and parameters that are to be monitored throughout the crediting period. Refer to lime, iron consumption, electricity consumption, annual steel production at EAFs, CO2 emission factor of iron production (refer to PDD Section D.1.1.1 and Annex 2).</p>		
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	Yes, the methods used and data collection frequency and recording are clearly defined in the monitoring plan.		OK
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?	The monitoring plan elaborated all algorithms and formulae used for the estimation of baseline and project emissions		OK
36 (f) (i)	Is the underlying rationale for the	The underlying rationale for the formulae is explained as		OK

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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
	algorithms/formulae explained?	appropriate.		
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Consistent variables, equation formats, subscripts are used.		OK
36 (f) (iii)	Are all equations numbered?	There are numbers of formulae.		OK
36 (f) (iv)	Are all variables, with units indicated defined?	Yes.		OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	Conservative values of parameters were used. Refer to information above.		OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	N/A		N/A
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.	Pending	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	There are no parts of the algorithms or formulae that are not self-evident in PDD.		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.		OK
36 (f) (vii)	Are references provided as necessary?	Yes, all references are provided.		OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Yes.		OK
36 (f) (vii)	Is it clearly stated which assumptions and	N/A		OK



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	procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?			
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?	N/A		N/A
36 (g)	Does the monitoring plan identify a national or 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?	PDD Section D.1.5 provides the explicit identification of main relevant Russian Federation environmental regulations.		OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	N/A		OK
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.		OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the	The operational and management structure for GHG monitoring is described in PDD Section D.3, Fig. D.3.		OK



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	monitoring activities?			
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 the good practice guidance developed by IPCC applied?	Monitoring techniques are in line with current operation routines at OJSC NSMZ.		OK
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?	These data are provided in the PDD, Sections D.1.1.1, D.1.1.3 and Annex 2.		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?	Yes, it is indicated.		OK
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	N/A		OK
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				

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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
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?	In the baseline scenario energy consumptions (natural gas, coke) is bigger than in project scenario. Estimated leakage is neglected by applying conservative method of ER calculation.		OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	No. Refer to paragraph 40 (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 baseline scenario and in the project scenario (b) Direct assessment of emission reductions	Assessment of emissions in the baseline scenario and in the project scenario is chosen.		OK
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) Leakage (Section E.2); (c) Emissions for the baseline scenario (Section E.4); (d) Emission reductions adjusted by leakage (Section E.6).		OK
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of:	N/A		OK



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	(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? (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?	<ul style="list-style-type: none"> - 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 basically clearly identified, reliable and transparent. - Emission factors (including default emission factors) are basically selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice. Additionally pending a response to CL 02. - Estimation in 43 is based on conservative assumptions and the most plausible scenario in a transparent manner. - Estimates in 43 are consistent throughout the PDD. <p>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.</p>	Pending	OK



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	<p>(d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent?</p> <p>(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?</p> <p>(f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner?</p> <p>(g) Are the estimates in 43 or 44 consistent throughout the PDD?</p> <p>(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?</p>			
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 is made on the spreadsheet.		OK
Approved CDM methodology approach only_Paragraphs 47(a) – 47(b)_Not applicable				
Environmental impacts				
48 (a)	Does the PDD list and attach documentation on	PDD Section E.1 lists and attaches documentation on the analysis		OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
	the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	of the environmental impacts of the project (N/A for transboundary impacts), in accordance with procedures as determined by the host Party.		
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?	The project has approved on 14th November 2002 by the regional office of Glavgosexpertiza, in Sverdlovsk region. The project does not have any significant negative impacts on the environment. Furthermore, the project leads to a decrease of energy consumption and to a reduction of GHG emissions. The project does not have any transboundary environmental impacts.		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, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	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. In accordance with current legislation public hearings have been organized by head of Revda district (order N554 dated 27/05/03). LLC “Uralkomplectnauka” have been instructed to conduct a public-opinion poll and make an appropriate report. As a result of conducted the public-opinion poll most people (62,2 %) have positive opinion about project implementation. Among people who has negative opinion (11,3 %), no one, who does not		OK



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Section A Paragraph or DVM Paragraph	Check Item	Initial finding	Draft Concl.	Final Concl.
		support the project in no circumstances.		
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				



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Table 2 Resolution of Corrective Action and Clarification Requests

CAR/CL	Ref. to checklist question in Table 1	Summary of project owner response	Determination team conclusion
CAR 01. Please provide following key technical characteristics of implemented equipment in the project: – capacity of EAF and LF; – productivity of EAF, LF and CCM.	A.4.2	<u>Response 1</u> They were added in Table A.4.2.1 and Table A.4.2.2.	<u>Conclusion on Response 1</u> CAR is closed based on due amendments made to the revised PDD.
CAR 02. The project has no approval by Parties involved.	A.5	<u>Response 1</u> The letter of approval was issued by host country on 12/03/2012.	<u>Conclusion on Response 1</u> CAR is closed
CAR 03. The description and name of scenario 1 in Section B.1 does not correspond with information about baseline scenario in Section A.2 and Annex 2. Please correct.	23	<u>Response 1</u> Name of scenario 1 was corrected.	<u>Conclusion on Response 1</u> CAR is closed based on due amendments made to the revised PDD.
CAR 04. Please add to Section B.1 and Annex 2 all key parameters (elements) of the baseline scenario.	23	<u>Response 1</u> The key parameters were added in Section B.1 and Annex 2. <u>Response 2</u> The key parameters were separated.	<u>Conclusion on Response 1</u> CAR is not closed. Please separate key parameters (elements) in Section B.1 and Annex 2. <u>Conclusion on Response 2</u> CAR is closed based on due amendments made to the revised PDD.



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CAR/CL	Ref. to checklist question in Table 1	Summary of project owner response	Determination team conclusion
CAR 05. Time of monitoring for the key parameter BEF_y^{incr} is not correctly identified.	23	<p><u>Response 1</u> It was corrected.</p> <p><u>Response 2</u> It was corrected in section B and Annex 2.</p>	<p><u>Conclusion on Response 1</u> CAR is not closed. Please give accurate time of monitoring for the key parameter BEF_y^{incr} in Section B.1 and Annex 2.</p> <p><u>Conclusion on Response 2</u> CAR is closed based on due amendments made to the revised PDD.</p>
CAR 06. Please provide initial data and calculation (spreadsheet) for the baseline incremental part production.	23	<p><u>Response 1</u> The documents were provided.</p> <p><u>Response 2</u> Additional documents were provided.</p>	<p><u>Conclusion on Response 1</u> CAR is not closed. Please provide initial data for the calculation of emission factor for incremental part steel production of baseline and transparent calculation of baseline emission in spreadsheet.</p> <p><u>Conclusion on Response 2</u> CAR is closed. Required documents were provided.</p>
CAR 07. In the rate of risk in Table 11.1 of approved methodology RF 21.06.1999 N BK 477 has already included systematic market risk and country risk. Please refer to paragraph 11.2 of this methodology.	29(b)	<p><u>Response 1</u> For conservatives reasons the project specific risk was deleted from calculation IRR benchmark.</p>	<p><u>Conclusion on Response 1</u> CAR is closed based on due amendments made to the revised PDD.</p>
CAR 08. The value of Country risk Russia in accordance with provided source is 4 % instead of using 6 % in PDD and spreadsheet. Please correct.	29(b)	<p><u>Response 1</u> The reference was changed.</p>	<p><u>Conclusion on Response 1</u> CAR is closed based on due amendments made</p>



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CAR/CL	Ref. to checklist question in Table 1	Summary of project owner response	Determination team conclusion
			to the revised PDD.
CAR 09. Replacement capacity and incremental capacity are used for investment analysis. Please provide justification of such approach in PDD.	29(b)	<p><u>Response 1</u> Calculation IRR is based on economy from replacement capacity (compare with OHP) and revenues from incremental capacity. Before project NSMMZ had following parameters: Bloom production – 0t; Long products production – 270,000t; Metalware production – 234,000t; Also there was a lack of bloom due to NSMMZ has been buying bloom (95,000t). Thus the project has economy due to bloom purchase refusal.</p> <p><u>Response 2</u> Investment analysis was corrected. Investment comparison analysis was used. Section B.2 (Sub-step 1a and Sub-step 1b) was corrected.</p>	<p><u>Conclusion on Response 1</u> CAR is not closed for the following rezones: 1) Option II is chosen for the investment analysis in Sub-step 2a then Sub-step 2b is titled “Apply benchmark analysis”. Please correct; 2) The outcome of Step 1 a: “We have identified realistic and credible alternative scenarios...” contradicts the outcome of Step 1b: “Alternative 3 is neglected due... absence of additional ironmaking and oxygen capacities... not free place... and etc.” The outcome of Step 1b in PDD does not correspond with requirement for outcome of Step 1b of the Tool for additionality proof. Please correct.</p> <p><u>Conclusion on Response 2</u> CAR is closed based on due amendments made to the revised PDD.</p>
CAR10. Please provide evidence of initial data used for proof additionality.	29(b)	<p><u>Response 1</u> The documents were provided.</p>	<p><u>Conclusion on Response 1</u> CAR is not closed. Please provide evidence of</p>



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CAR/CL	Ref. to checklist question in Table 1	Summary of project owner response	Determination team conclusion
		<u>Response 2</u> Additional documents were provided.	the investment used for the investment analysis in PDD. <u>Conclusion on Response 2</u> CAR is closed. Required documents were provided. PDD developer introduced appropriate amendments to Section B.2 and its justification and also provided to verifier required evidence of initial data used for investment analysis.
CAR 11. Please indicate what name of regional power system (in accordance with Annex 2) of the Russian electricity grid included to list of emission sources.	32(a)	<u>Response 1</u> Mistake was changed in the Table D.1.1.1 (Energy system “Urals”).	<u>Conclusion on Response 1</u> CAR is closed based on due amendments made to the revised PDD.
CAR 12. Figure D.3.1 of PDD does not include all monitored data. Please provide it.	36(a)	<u>Response 1</u> It was corrected.	<u>Conclusion on Response 1</u> CAR is closed based on due amendments made to the revised PDD.
CAR 13. Please provide evidence of all initial data used to calculate GHG emission reduction.	36(b)	<u>Response 1</u> The documents were provided.	<u>Conclusion on Response 1</u> CAR is closed based on due amendments made to the revised PDD.
CL 01. Please clarify why operational life time is defined as 20 years.	34(b)	<u>Response 1</u> Government of the Russian Federation’s enactment #1 from 01.01.2002, Classification of fixed capital and amortization groups,	<u>Conclusion on Response 1</u> CL is closed based on due explanations made to the revised PDD.



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CAR/CL	Ref. to checklist question in Table 1	Summary of project owner response	Determination team conclusion
		http://base.consultant.ru/cons/cgi/online.cgi?req=doc;base=LAW;n=64119	
CL 02. Please clarify why default values of CO2 emission factor for sinter production and charge carbon consumption do not indicate in PDD.	36(b)	<u>Response 1</u> Descriptions of these parameters were added in formulas # 13, 17 of Annex 2.	<u>Conclusion on Response 1</u> CL is closed based on due amendments made to the revised PDD.