DETERMINATION REPORT

CTF

CONSULTING LLC

(SUBSIDIARY OF CARBON TRADE & FINANCE SICAR S.A.)

DETERMINATION OF THE "IMPLEMENTATION OF MODERN TECHNOLOGIES OF SINTER PRODUCTION AND BLAST FURNACES CHARGING AT OJSC MMK"

REPORT NO. RUSSIA-DET/0084/2010

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Report No: RUSSIA-det/0084/2010

DETERMINATION REPORT

"IMPLEMENTATION OF MODERN TECHNOLOGIES OF SINTER PRODUCTION AND BLAST FURNACES CHARGING AT OJSC MMK"

Date of first issue: 06/10/2010	Organizational unit: Bureau Veritas Certification Holding SAS
Client: CTF Consulting LLC	Client ref.: Mr. E.Sokolov

Summary:

Bureau Veritas Certification has made the determination of the project "Implementation of modern technologies of sinter production and blast furnaces charging at OJSC MMK" of company CTF Consulting LLC (subsidiary of Carbon Trade & Finance SICAR S.A.) located in Moscow, Baltchug Street 7, Business-center "Baltchug Plaza", office 629 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.: RUSSIA-val/0084/2010	Subject Group: JI	
Project title: "Implementation of modern technologies of sinter production and blast furnaces charging at OJSC MMK"		
Work carried out by: Vera Skitina – Team Leader, Lead verifier Andrey Rodionov – Verifier Daniil Ukhanov – Verifier		
Work reviewed by: Leonid Yaskin – Internal Technical Reviewer		
Work approved by: Flavio Gomes – Operational Manager		
Date of this revision: 20/10/2010	Rev. No.: 02	Number of pages: 77

Indexing terms

☒ No distribution without permission from the Client or responsible organizational unit

☐ Limited distribution

☐ Unrestricted distribution

Abbreviations

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification
BFP	Blast-furnace plant
BPCP	By-product coke plant
BLT	Bell-less top charger
CAR	Corrective Action Request
CTF	Carbon Trade & Finance
CL	Clarification Request
CO_2	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)
I	Interview
IE	Independent Entity
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MoV	Means of Verification
MMK	Magnitogorsk iron and steel works
NG	Natural gas
NGO	Non Governmental Organization
PDD	Project Design Document
PP	Project Participant
RF	Russian Federation
SCaSU	Installation of sinter cooling and stabilization units
SP	Sintering plant
tCO_2e	Tonnes CO_2 equivalent
UNFCCC	United Nations Framework Convention for Climate Change

Table of Contents *Page*

1 INTRODUCTION 4
1.1 Objective 4
1.2 Scope 4
1.3 Determination team 4

2 METHODOLOGY 5
2.1 Review of Documents 5
2.2 Follow-up Interviews 6
2.3 Resolution of Clarification and Corrective Action Requests 7

3 DETERMINATION CONCLUSIONS 7
3.1 Project approvals by Parties involved (19-20) 8
3.2 Authorization of project participants by Parties involved (21) 8
3.3 Baseline setting (22-26) 8
3.4 Additionality (27-31) 9
3.5 Project boundary (32-33) 11
3.6 Crediting period (34) 12
3.7 Monitoring plan (35-39) 12
3.8 Leakage (40-41) 14
3.9 Estimation of emission reductions or enhancements of net removals (42-47) 14
3.10 Environmental impacts (48) 15
3.11 Stakeholder consultation (49) 15
3.12 Determination regarding small scale projects (50-57) (Not applicable) 15
3.13 Determination regarding land use, land-use change and forestry (LULUCF) projects (58-64) (Not applicable) 15
3.14 Determination regarding programmes of activities (65-73) (Not applicable) 16

4 SUMMARY AND REPORT OF HOW DUE ACCOUNT WAS TAKEN OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES 16

5 DETERMINATION OPINION 16

6 REFERENCES 18

APPENDIX A: COMPANY PROJECT DETERMINATION PROTOCOL 21

1 INTRODUCTION

CTF Consulting LLC (hereafter called "CTF Consulting") has commissioned Bureau Veritas Certification to determine its JI project "Implementation of modern technologies of sinter production and blast furnaces charging at OJSC MMK" (hereafter called "the project") located in the city Magnitogorsk, Chelyabinsk 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:

Vera Skitina
Bureau Veritas Certification Team Leader, Climate Change Verifier

Andrey Rodionov
Bureau Veritas Certification Climate Change Verifier
Daniil Ukhanov
Bureau Veritas Certification Climate Change 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 CTF Consulting 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.

The first deliverable of the document review was the Draft Determination Report (DDR) Version 1 dated 10/08/2010 which contained 14 CARs and 2

CLs. The last DDR Version 2 summarising Bureau Veritas Certification's findings of the desk document review was submitted to CTF on 01/09/2010 which contained 15 CARs and 2 CLs.

CTF issued iteratively two batches of responses to BVC requests which were altogether reported in the amended PDD Version 1.6 dated 19/10/2010.

The determination findings presented in this Determination Report Version 02 and Appendix A relate to the project as described in the PDD Version 1.1 (published) dated 19.07.10 and Version 1.6 (final) dated 19.10.10[1].

2.2 Follow-up Interviews

On 17-18/08/2010 Bureau Veritas Certification verifier A. Rodionov performed a visit to the project site. On-site interviews with the project participant OJSC "Magnitogorsk iron and steel works" (MMK) and the PDD Developer CTF Consulting were conducted to confirm the selected information and to clarify some issues identified in the document review. Representatives of OJSC "Magnitogorsk iron and steel works" (MMK) and the PDD Developer CTF Consulting were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
MMK CTF Consulting	➢ MMK current 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

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 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 15 Corrective Action Requests and 2 Clarification Requests.

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

3.1 Project approvals by Parties involved (19-20)

The project has no approvals by the Host Party, therefore CAR 01 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.

PDD does not indicate a Party B in Section A.3.

3.2 Authorization of project participants by Parties involved (21)

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

.

3.3 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 Alternative 1:

   Alternative 1: Continued production of hot non-stabilized agglomerate at sintering plants #2 and #3 and operation of blast furnaces #4,6,9,10,2 equipped with the double bell chargers;

Alternative 2: Use of pulverized coal as a coke substitute in blast furnace plant;

Alternative 3: Construction of sinter cooling and stabilization units at sintering plants #2 and #3 and sequential installation of bell-less top chargers at blast furnaces #4, 6, 9,10,2.

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.

Metallurgical sectroral policy "Strategy of metal industry development in Russia till 2020" issued by Ministry of Industry of the Russian Federation states the goals of development of steel industry: "to meet growing demand of the domestic, CIS (Commonwealth of Independent States) and international markets for steel products; to meet the requirements of metal-processing industries in terms of quality and quantity in the whole range of metal products; to accelerate innovative development and modernization of steel industry, to increase its economic efficiency, environmental safety, energy-savings and resource-savings, competitiveness, import substitution and raw material security". The main goals of MMK are: preservation of long-term competitiveness at international markets of rolled iron to meet consumer demands and expectations; increasing efficiency of production; and reduction of negative environmental impacts. These goals fully correspond with national policy in the area of industrial development. The project concerns reconstruction of individual production plants of MMK, where additional legislative requirements do not apply;

(b) Economic situation in Russian steel industry and predicted demand.

Installation of BLT on blast furnaces increases their output. Estimates of project emission reduction do not consider any increase in blast furnace output. Reduced consumption of coke and natural gas during pig iron smelting was calculated for the baseline scenario (Refer to PDD, Section D). The Project Participants assume that the volume of pig iron production did not depend upon implementation of this project. They assumed that this volume would not exceed its maximum projected value under the baseline scenario. Smelting of pig iron in the blast

furnaces, equipped with the double bell chargers, should meet the predicted demand for steel produced at MMK. This enterprise is the largest steel producer in the Russian Federation. Its share in total domestic sales of steel products is 20%;

(c) Technological aspects of pig iron smelting in blast furnaces with DBC and BLT.

Technological parameters of blast furnaces with BLT are described in PDD Section A.4.2. Emission estimates were based on all aspects of performance of these furnaces, including emissions from the consumption of pure nitrogen, which is used for cooling of BLT reduction gear. Nitrogen is not used by blast furnaces with the double bell chargers. The project does not result in new products appearance and does not improve the quality of pig iron, and does not present a strategic mission – this is a classic resource-saving measure leading among other to reduction of CO2 emission;

(d) Availability of capital to MMK (including investment barriers).

The baseline scenario didn't imply any investment outlay as it would be continuation of existed situation;

(e) Local availability of technology/techniques and equipment.

Construction of additional sinter cooling and stabilization units at operating sintering plants implemented at MMK is a unique project in Russian Federation. Bell-less top charger along with other modern equipment are installed only at newly constructed or fundamentally renovated blast furnaces. Modernization of blast furnaces and sinter production was implemented by Voest-Alpine AG and Paul Wurth. They have been working in Russian market since 1999 and 2000, respectively. They are reliable business partners with excellent credentials;

(f) Price and availability of fuel.

The project doesn't envisage expansion plans for the energy sector. Both baseline and project scenarios envisage that coke may be partly substituted by natural gas due to economic considerations as natural gas is cheaper than coke. Detailed information is given in the PDD, Section D1.

After screening, two alternative scenarios left as viable, namely:

Alternative 1: Continued production of hot non-stabilized agglomerate at sintering plants #2 and #3 and operation of blast furnaces #4,6,9,10,2 equipped with the double bell chargers;

Alternative 3: Construction of sinter cooling and stabilization units at sintering plants #2 and #3 and sequential installation of bell-less top chargers at blast furnaces #4, 6, 9,10,2.

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

(a) Required quantity and quality of pig iron will be produced for basic oxygen furnace plant and electric furnace plant without a costly and large-scale (the performed Type I capital repair and use of new, more resistant refractory materials: high-aluminous bricks and carbide blocks, improving the preparation of raw materials, timely preventive screening of equipment and interim repairs would guarantee accident-free operation of blast furnace and production of required quantity and quality of pig iron);

(b) This option does not require production of cooled and stabilized agglomerate;

c) It does not require additional investments.

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.

3.4 Additionality (27-31)

JI specific approach

Traceable and transparent information showing that 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 reductions of anthropogenic emissions by sources of GHGs was provided In PDD Section B.2

The PDD developer provides a justification of the applicability of the approach with a clear and transparent description, as per item 3.3 above. PDD developer described and scrutinized all plausible alternative scenarios and selected the two which are most likely:

Alternative 1: The continued production of hot non-stabilized agglomerate at sintering plants #2 and #3 and operation of blast furnaces ## 4, 6, 9, 10, 2 equipped with the double bell chargers.

Alternative 3: Construction of sinter cooling and stabilization units at sintering plants #2 and #3 and sequential installation of bell-less top chargers at blast furnaces #4, 6, 9,10,2.

Justification of additionality has been done in several steps, based on consideration of economic attractiveness of alternative technological options of commercial pig iron production, namely:
- identification of alternatives to the project activity,
- barrier analysis,
- investment analysis,
- common practice analysis.

The key additionality proofs were the results of significant barriers to project implementation, the benchmark and sensitivity analyses. The spreadsheet with the investment 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 second alternative was proven by the PDD developer to be not financially and economically feasible. This follows from the analysis of barriers and investment carried out in the frame of the additionality proof. Thus, the first alternative was reasonably taken as the baseline scenario as the most realistic and credible.

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

3.5 Project boundary (32-33)

JI specific approach

The project boundary defined in the PDD, Section B.3, diagrams B.3.1 and B 3.2 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:

- Carbon-containing material and fuels (furnace charge, blast furnace gas, coke oven gas, natural gas) are consumed during production of coke for BF ## 4, 6, 9, 10, 2;

- Carbon-containing material and fuel (metallurgical coke and natural gas) are used for production of pig iron in BF ## 4, 6, 9, 10, 2;

- Electricity generation requires burning of blast furnace gas, coke oven gas, natural gas, and power plant coal (only at CHPP) at own generation capacities of OJSC «MMK". This electricity is consumed by SCaSU and used for production of pure nitrogen for bell-less chargers at BF ## 4, 6, 9, 10, 2. As a conservative assumption, this project does not consider imports of electricity from Unified Energy Systems of Urals power grid.

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

Utilization of coke breeze fraction 10-25 mm (coke nut) which reduces the consumption of skip metallurgical coke is excluded from sources of greenhouse gases for following reasons:

- Magnitogorsk metallurgical works is a full cycle metal production complex "from ore to rolled metal" with own coke production facilities included into the project boundary. MMK produces metallurgical coke (fraction more than 25 mm) only for consumption in own blast furnaces, there is no sale of metallurgical coke outside which eliminates potential leakages related to metallurgical coke;

- Percentage of formation of coke nut and coke breeze (fraction 0-10 mm) during screening of gross coke in BPCP and metallurgical coke in BFP depends on the quality of raw materials for coke production and in this connection with quality of produced coke. In this respect project implementation cannot impact. Besides the screening of gross coke and metallurgical coke is performed in the project the same way as in the baseline nor additional equipment has been installed;

- In the baseline the consumption of skip metallurgical coke is higher than in the project and accordingly the total baseline formation of coke nut shall be more than in the project. Therefore the CO2 emissions from utilization of coke nut in the baseline are higher than in the project.

- There is a direct connection between demand of skip metallurgical coke for blast furnaces of MMK and consumption of coking coal for production of metallurgical coke at BPCP. The reduction of consumption of skip metallurgical coke due to its partial replacement by own coke nut would result in reduction of coking coal purchase

and prevent associated CO2 emissions related to the metallurgical coke production;

- Use of relatively small amounts of coke nut in the blast furnaces in comparison with total formation of coke nut and coke breeze at MMK does not impact to the fuel balance of sintering plant because it uses coke nut as a periodical addition to the main fuel (coke breeze fraction 0-10 mm) and as a rule there is an excess of fraction 10-25 mm at MMK which is sold. Sintering plant of MMK does not use imported coke breeze or metallurgical coke that eliminates potential leakages.

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.

3.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation of the project began, and the starting date is 27/08/2004. In August of 2004 OJSC "MMK" signed a contract with Paul Wurth, a world leading company in production of bell-less top chargers. This date is indicated as a staring date of the project.

The PDD states the expected operational lifetime of the project in years and months, which is 16 years (192 months).

The PDD states the length of the crediting period in years and months, which is 4 years (48 months), and its starting date as 01/01/2009, which is on the date the first emission reductions are generated by the project.

The PDD states that the crediting period for the issuance of ERUs does not extend beyond the operational lifetime of 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 C.1., C.2.,C.3, page 45.

3.7 Monitoring plan (35-39)

JI specific approach

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

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 specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values) such as listed in the PDD, Section D.1, Table D.1.1, D.1.5-1.7 and Annex 2 (comprehensive historical data for parameters of BMP processes for operations of BFs #4,6,9,2 at MMK (2004-2006), used for the calculation of the baseline, are provided in PDD Annex 2).

The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC such as listed in the PDD, Section D.1 and Section B.1.

The monitoring plan explicitly and clearly distinguishes:

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 listed in the PDD, Section D.1 Tables D.1.1, 1.5-1.7, Annex 2 , Annex 4 and Annex 5.

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 listed in the PDD, Section D.1 Table D.1.2 and Annex 2.

Data and parameters that are monitored throughout the crediting period, such as listed in the PDD, Section D.1.1.1 and Section D.1.1.3 for the project and baseline scenario accordingly. The parameters monitored throughout the crediting period include: project and baseline emissions from consumption of dry skip metallurgical coke in BF #4, #6, #9, #2, #10 reduced, production of this metallurgical coke in BPCP, consumption of NG in BF #4, #6, #9, #2, #10 reduced; CO2 project emissions from electricity consumption by sinter cooling and stabilization units (SCaSU) at sintering plants #2 and #3; CO2 emissions from electricity consumption for production of pure nitrogen used for BLT gears cooling at BF #4, #6,

#9, #2, #10; total project CO2 emissions from electricity consumption; total project and baseline emissions.

Step-by-step application of the used approach for monitoring is described in PDD Section D and Annex 3 including monitoring procedures, formulae, parameters, data sources etc.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording, refers to PDD, Section D.1.

The monitoring plan presents the quality assurance and control procedures for the monitoring process with identified responsibilities and the authority regarding the monitoring activities. Refer to PDD, Section D.2, Diagram D.3.1 and Table D.3.1.

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 data for Carbon content in crude benzol, in coal tar (dry) and in energy coal are refered in Annex 4 and 5) but not including data that are calculated with equations.

Monitoring related quality control and quality assurance procedures are backed up by the existing MMK reporting system under the ISO 9001 certified Quality Management System. To ensure the proper monitoring and reporting process for the JI project OJSC "MMK" will additionally establish the special internal procedure as a part of its certified quality management system.

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.

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.

3.8 Leakage (40-41)

JI specific approach

The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains which sources of leakage are to

be calculated, and which can be neglected. The proposed project may have technological leakage effects in the result of:
- Transportation of raw materials and products in the result of project implementation;
- Transportation of natural gas and electricity;
- Operations of decommissioned equipment beyond the project boundaries.

The volume of production of pig iron in the result of project implementation has increased, and specific coke consumption has decreased. Therefore, the transported quantities of raw materials and energy resources decreased relatively to the baseline. Fugitive emissions during transportation of electricity are insignificant and not included, because the generating capacities (owned by MMK) and consuming capacities (i.e. SCaSU) are located close enough to each other at the project implementation site. This project does not involve any equipment, which could be considered the source of emission leakages. The PDD developers reasonable conclude that the project does not require estimation of emission leakages in the monitoring plan and thus can be neglected.

3.9 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 50,185,007 tons of CO2eq;

(b) Leakage (N/A);

(c) Emissions for the baseline scenario (within the project boundary), which are 51,520,515 tons of CO2eq;

(d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are 1,335,508 tons of CO2eq.

Reporting period: From 01/01/2009 to 31/12/2012.

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

3.10 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 Article 32 of the Federal Law on environmental protection # 7-FZ provides that: "Environmental impact assessment is conducted for economic and other projects, which may directly or indirectly influence the state of the environment, irrespective of ownership type of the subjects of economic and other activities."

In the PDD, Section F 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.

3.11 Stakeholder consultation (49)

The PDD lists and attaches documentation which concern stakeholder consultation and comments, such as Federal Law on environmental protection #7-FZ defines the procedure of participation of citizens and public organizations in the public environmental expertise.

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

A central city newspaper "Magnitogorski Rabochi" published the announcements about the Projects «OJSC MMK. Mining-and-processing works. Sintering plants #2 and #3. Sinter stabilization» and «OJSC MMK. Blast furnace plant. Installation of BLT. Blast furnaces 1,2,4,6,7,9,10» correspondingly in issues 49 of 23.03.2005 and 122 of 08.07.2005.

No comments from the public were received within the deadlines indicated in these publications. Public hearings have not been organized, because the project site lies within the MMK territory and public did not express any interest in the planned activities.

3.12 Determination regarding small scale projects (50-57)

Not applicable.

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

Not applicable.

3.14 Determination regarding programmes of activities (65-73)

Not applicable.

4 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.

5 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the project "Implementation of modern technologies of sinter production and blast furnaces charging at OJSC MMK" 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 participant/s used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides barrier analysis, 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 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, PDD Version 1.6 dated 19/10/2010 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation 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.

6 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 "Implementation of modern technologies of sinter production and blast furnaces charging at OJSC MMK", Version 1.1, July 19, 2010.

PDD "Implementation of modern technologies of sinter production and blast furnaces charging at OJSC MMK", Version 1.6, October 19, 2010.

Supporting documentation:

a. Invesment analysis UC and S of agglomerate with ERUs_19.07.10;
b. MMK_BLT_calculation model ERUs_ver. 1.4_29.09.10;
c. MMK_BLT_calculation model ERU_ver 1.4_29.09.10
d. Investment analysis BLT_19.07.10.

/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 report of blast furnace shop for 1988.

/2/ Technical reports of blast furnace shop for 2004-2010.

/3/ List of workers who trained for working on sinter stabilization equipment, 18.08.2010

/4/ Certificate of Mr Nazarov who successfully passed an examination for working on sinter stabilization equipment, 01.12.2006

/5/ Table "Quality of sinter" for 2010

/6/ Plan of training for Metrological service, 19.04.2010

/7/ Planed cost breakdown for steelmaking pig iron in August 2004

/8/ Planed cost breakdown for steelmaking pig iron in December 2004

/9/ Planed costs for implementation of sinter stabilization equipment for 2004

/10/ Initial conditions for estimate of ERUs for JI projects, 2008

/11/ PD MMK 3-CCGO-01-2010, State of Monitor ERUs for 2010

/12/ Schedule of calibration measurement equipment for 2010

/13/ Schedule of checking up measurement equipment for 2010

/14/ Passports of scales ##251-253, 018, 020 of December 9, 2004

/15/ Passport of scale #320 of June 14, 2007

/16/ Passport of bunker scale #4-VK3 of February 22, 2005

/17/ List of scales of BF shop as of January 15, 2010

/18/ List of counter which is used for calculation of electric energy consumption, 01.05.2010

/19/ List of Measurement instrumentation of BF shop as of January 19, 2010

/20/ Power rates for 2004

/21/ PD MMK 3-TY-05-2008, State of Metrological service in OJSC MMK for 2008

/22/ Permission of "Rostehnadzor" #1855 for harmful substances emission from January 01 2009 to January 01, 2010

/23/ Permission of "Rostehnadzor" #CH-2123 for harmful substances emission from January 01 2010 to January 01, 2011

/24/ Permission of "Rostehnadzor" #116 for harmful substances emission from January 01 2005 to January 01, 2006

/25/ Conclusion of "Rostehnadzor" #167 for implementation of sinter stabilization equipment in shop 2 and 3, 04.09.2006

/26/ Conclusion of "Rostehnadzor" #226 for implementation of BLT charger, 04.09.2006

/27/ Order #529 about validation of "Rostehnadzor" conclusion #226, 05.09.2006

/28/ Explanatory note at form 2-TP air for 2008

/29/ Explanatory note at form 2-TP air for 2009

/30/ Explanatory note about estimation of maximum permissible emission for implementation of BLT charger, volume 8, 2006

/31/ Schedule of laboratory control to observe regulations of maximum permissible emission, 2010

/32/ Acceptance certificate #43-07 for implementation of BLT charger in BF#4, 2007

/33/ Acceptance certificate #6-07 for implementation of BLT charger in BF#6, 2007

/34/ Acceptance certificate #30-07 for implementation of sinter stabilization equipment in agglofactory #2, 2007

/35/ Acceptance certificate #23-08 for implementation of sinter stabilization equipment in agglofactory #3, 2007

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/ I. Sviridov – OJSC MMK, Acting Head of Energy Department of shop

/2/ O. Maevskii – OJSC MMK, Key Specialist of Automation Department

/3/ P. Dovjenco – OJSC MMK, Lead Engineer of UPT

/4/ N. Konsov – OJSC MMK-Informservice, Key Specialist

/5/ V. Juravlev - OJSC MMK, Key Specialist of blast-furnace production

/6/ K. Myachin - CTF Consulting, Carbon Project Manager

/7/ A. Mitchin – OJSC MMK, Project Manager

/8/ M. Gainutdinova – OJSC MMK, Lead Economist

/9/ O. Zudilin – OJSC MMK, Head of Agglofactory

/10/ A. Rubakov – OJSC MMK, Deputy Head of Agglofactory

/11/ O. Barbul – OJSC MMK, Deputy Head of Agglofactory of Technology Department

/12/ V. Kozulin – OJSC MMK, Acting Head of Environmental Protection Laboratory

/13/ E. Ptisin – OJSC MMK, Lead Engineer of Environmental Protection Laboratory

/14/ S. Gryazeva – CTF Consulting, LLC, PDD developer, Lead Specialist

APPENDIX A: COMPANY JI PROJECT DETERMINATION PROTOCOL

Table 1 Mandatory Requirements for Joint Implementation (JI) Project Activities

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
1. The project shall have the approval of the Parties involved.	Kyoto Protocol Article 6.1 (a)	CAR 01. The project has no approval of the Host Party. Verifiers' Note: JISC Glossary of JI terms/Version 01 defines the following: a) At least the written project approval(s) by the host Party(ies) should be provided to the AIE and made available to the secretariat by the AIE when submitting the determination report regarding the PDD for publication in accordance	Table 2, Section A.5.

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		with paragraph 34 of the JI guidelines; (b) At least one written project approval by a Party involved in the JI project, other than the host Party(ies), 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, at the latest.	
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur.	Kyoto Protocol Article 6.1 (b)	OK	Table 2, Section B.2
3. The sponsor Party shall not acquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7.	Kyoto Protocol Article 6.1 (c)	OK	N/A
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3.	Kyoto Protocol Article 6.1 (d)	OK	N/A

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects.	Marrakech Accords, JI Modalities, §20	OK	The Russian national focal point is the Ministry of Economic Development. The Russian national guidelines and procedures are established by the "Regulation of realization of Article 6 of Kyoto Protocol to United Nation Framework Convention on Climate Change". Approved by the RF Government Decree # 843 of 28/10/2009 "About measures on realization of Article 6 of Kyoto Protocol to United Nation Framework

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
			Convention on Climate Change". The national focal point of Luxembourg is Ministere de l'Environnement.
6. The host Party shall be a Party to the Kyoto Protocol.	Marrakech Accords, JI Modalities, §21(a)/24	OK	Russia has ratified the Kyoto Protocol by Federal Law N 128-FZ dated 04/11/04.
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts.	Marrakech Accords, JI Modalities, §21(b)/24	OK	The Russian Federation's assigned amount has been calculated and recorded In the 5th National Communication dated 12/02/10.
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4.	Marrakech Accords, JI Modalities,	OK	Russian Federation has established the GHG Registry by the RF Government

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
	§21(d)/24		Decree N 215-p dated 20/02/06.
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination.	Marrakech Accords, JI Modalities, §31	OK	"CTF Consulting" LLC (PDD developer) has submitted a PDD Version 1.1 dated July 19, 2010 to Bureau Veritas Certification, which contains all information needed for determination.
10. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments.	Marrakech Accords, JI Modalities, §32	OK	The PDD was made publicly available for comments on UNFCCC JI site from 23 July 2010 till 21 August 2010.
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are	Marrakech Accords, JI Modalities, §33(d)	OK	Table 2, Section F

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
considered significant by the project participants or the host Party, an environmental impact assessment in accordance with procedures as required by the host Party shall be carried out.			
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.1
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure.	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B.2
15. The project shall have an appropriate monitoring plan.	Marrakech Accords, JI Modalities, §33(c)	OK	Table 2, Section D
16. A project participant may be: (a) A Party involved in the JI project; or (b) A legal entity authorized by a Party involved	JISC "Modalities of communication of	The Russian project participant will be	Table 2, Section A

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
to participate in the JI project.	Project Participants with the JISC" Version 01, Clause A.3	authorised by the Host Party through the issuance of the approval for the project. Conclusion is pending a response to CAR 01. Refer to Verifiers' Note in 1 above.	

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of the project					
1. A.1 Title of the project					
A.1.1. Is the title of the project presented?	1, 2	DR	The title of the project is: "Implementation of modern technologies of sinter production and blast furnaces charging at OJSC MMK".		OK
A.1.2. Is the current version number of the document presented?	1, 2	DR	The PDD Version 1.1 was presented. PDD Version 1.6 dated October 19, 2010.		OK
A.1.3. Is the date when the document was completed presented?	1, 2	DR	PDD Version 1.1 dated July 19, 2010. PDD Version 1.6 dated October 19, 2010.		OK

A.2. Description of the project					
A.2.1. Is the purpose of the project included?	1, 2	DR	The goal of the proposed Joint Implementation (JI) project is to reduce impact of the iron making process on climate through reduction of coke consumption at MMK. This coke is produced from coking coal and used in the blast furnace process as a fuel and a chemical reducing agent. In order to achieve the goal of the project, MMK commissioned the sinter cooling and stabilization unit at sintering plant 3 in 2006 and at sintering plant 2 in 2007. Also, blast furnaces 4 and 6 (BF4 and BF6) were equipped with Bell-Less Top (BLT) charger instead of Double Bell Chargers (DBC) in 2006 and 2007 respectively For this purpose top-management of MMK established a JI project implementation working group, which was meeting on monthly basis, identifying potential project scenarios and estimating the expected emission reductions. This working group communicated with governmental authorities: Ministry of Economic Development of the Russian Federation (MED), Ministry of Natural		OK

			Resources (MNR) and State Duma. The history of the project and the situation existing prior to the starting date of the project, baseline scenario, project scenario and also history of the project (including its JI component) are summarized in Section A.2.		
A.2.2. Is it explained how the proposed project reduces greenhouse gas emissions?	1, 2	DR	Explanation of how the proposed project reduces greenhouse gas emissions is provided in Section A.4.3.1 of the PDD.		OK
A.3. Project participants					
A.3.1. Are project participants and Party(ies) involved in the project listed?	1, 2	DR	Party A is the Russian Federation. Project participant for the Party A is JSC MMK. Party B will be determined at the later stage. Project participant from the Party B is Carbon Trade & Finance SICAR S.A. **CAR 02.** Title of the project participant for the Party A in Section A.3 and in Annex 1 should coincide. Please correct.	CAR 02	OK
A.3.2. The data of the project participants are presented in tabular format?	1, 2	DR	The data is presented in the tabular format as per [2].		OK
A.3.3. Is contact information provided in Annex 1 of the	1, 2	DR	The contact information about the project		OK

PDD?			participants is provided in PDD Annex 1.		
A.3.4. Is it indicated, if it is the case, if the Party involved is a host Party?	1, 2	DR	It is indicated that the Russian Federation is the host Party.		OK
A.4. Technical description of the project					
A.4.1. Location of the project activity					
A.4.1.1. Host Party(ies)	1, 2	DR	The Russian Federation is indicated as the host Party in PDD Section A.4.1.1.		OK
A.4.1.2. Region/State/Province etc.	1, 2	DR	Chelyabinsk Region is located in the south of Urals. The region is highly urbanized; the proportion of urban population reaches 81.4%. Population of the region is about 3.5 million people on the land area of 88,500 square kilometres.		OK
A.4.1.3. City/Town/Community etc.	1, 2	DR	Magnitogorsk city is located in the south-west part of Chelyabinsk Region, near the border with Bashkiria Republic (Latitude: 53°27'33.55"N. Longitude: 59° 4'57.29"E.). The distance between Magnitogorsk and Chelyabinsk is 417 km by rail, and 303 km by the road via Verkhneuralsk. The distance between Magnitogorsk and Moscow is 1,916 km by rail, and 2,020 km by highway. The population of Magnitogorsk is 409,400 inhabitants (2009).	CAR 03	OK

			CAR 03. Please provide the source of information about coordinates presented in PDD.		
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)	1, 2	DR	MMK is located on the left bank of river Ural, and occupies a large plot of land. Legal address of the company is: Chelyabinsk Region, Magnitogorsk, Kirova Street, 93.		OK
A.4.2. Technology(ies) to be employed, or measures, operations or actions to be implemented by the project					
A.4.2.1. Does the project design engineering reflect current good practices?	1, 2	DR	The project design engineering reflects current good practices. Installation of a sinter cooling and stabilization unit improves an efficiency of the blast furnace process because fine fraction of the agglomerated cake is screened out and does not come to the blast furnaces. Sinter cooling and stabilization unit saves iron and coke consumed in the blast furnace. It also reduces quantity of waste. A BLT charger makes charging process more manageable, so that any desired profiles of furnace charge material layers can be obtained. A blast furnace with BLT charger		OK

			may use fine fractions of coke and iron ore, which is hardly possible to achieve with a bell charger. Blast furnace with BLT uses less coke, and generates less dust and slug.		
A.4.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1, 2	DR	Yes, the project is state-of-the art.		OK
A.4.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1, 2	DR	The project technology is unlikely to be substituted by other or more efficient technologies within the project period.		OK
A.4.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1, 2	DR	The project requires extensive initial training and maintenance efforts in order to work as presumed during the project period.		OK
A.4.2.5. Does the project make provisions for meeting training and maintenance needs?	1, 2	DR	The personnel and experts working in the blast furnace plant and in sintering plants were trained to operate new equipment. Voest-Alpine AG and Paul Wurth administered a training courses to meet requirements of contracts with MMK to supply due qualification of personnel working with their equipments.		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.4.3.1.	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	1, 2	DR	It is stated that anthropogenic GHG emission reductions are to be achieved by reduction of coke consumption per ton of pig iron. This reduction is explained by reduction of fine fraction of agglomerate in the furnace charge and by the improvements in the charging process (improved gas dynamics of the furnace).		OK
A.4.3.2.	Is it provided the estimation of emission reductions over the crediting period?	1, 2	DR	The estimated GHG emission reduction is 1,098,986 tCO2e over the crediting period 2009 - 2012. Refer to PDD Section A.4.3.1.		OK
A.4.3.3.	Is it provided the estimated annual reduction for the chosen credit period in tCO2e?	1, 2	DR	The estimated annual emission reduction is 274,746 tCO2e. Refer to PDD Section A.4.3.1.		OK
A.4.3.4.	Are the data from questions A.4.3.2 and A.4.3.3 above presented in tabular format?	1, 2	DR	The data is presented in the required tabular format. Refer to the Table in PDD Section A.4.3.1.		OK
A.5.	Project approval by the Parties involved					
A.5.1.	Are written project approvals by the Parties involved attached?	1, 2	DR	Conclusion is pending a response to CAR 01.	Pending	

B. Baseline					
B.1. Description and justification of the baseline chosen					
B.1.1. Is the chosen baseline described?	1, 2	DR	The baseline is identified as "Continued application of the existing technology of production of agglomerate, without installation of SCaSU and continued utilization of the double bell chargers". Section B.1 provides the key information and data used to establish the baseline in tabular form as per [2]. Annex 2 (baseline information) contains a summary of the key elements in tabular form as per [2].		OK
B.1.2. Is it justified the choice of the applicable baseline for the project category?	1, 2	DR	It is explicitly indicated that a JI specific approach regarding baseline setting is applied. This is based on the requirements of Paragraph 9(a) of JI "Guidance on criteria for baseline setting and monitoring", version 02. A baseline was identified by listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one. Project developer selected the year 2004 as the base year during consideration of feasible	CAR 04	OK

			alternatives of reconstruction of sintering plants and blast furnaces at MMK. Three feasible alternatives for baseline scenario were identified, described, and assessed: 1. Continued operation of BF4 and BF6 equipped with the DBL chargers, which consume hot non-stabilized agglomerate; 2. Use of pulverized coal as a coke substitute in BF4 and BF6. 3. Production of cooled and stabilized agglomerate at sintering plants 2 and 3. Installation of BLT at BF4 and BF6. Russian legislation doesn't contain any barriers, which would preclude realization of any of these alternatives. After the assessment of the alternatives, scenario 2 was excluded as not feasible and scenario 3 was excluded as financially not attractive based on the investment analysis made in PDD Section B.2. As a result, it was concluded that the alternative 1 is realistic and credible and therefore it was selected as the most plausible scenario thus representing the baseline. **CAR 04.** Please determine the remaining		

			lifetime of baseline equipment and availability of using the equipments within the whole crediting period.		
B.1.3. Is it described how the methodology is applied in the context of the project?	1, 2	DR	The methodology description of the baseline is provided in PDD Section B.1.		OK
B.1.4. Are the basic assumptions of the baseline methodology in the context of the project activity presented (See Annex 2)?	1, 2, 3	DR	Basic assumptions of the baseline methodology presented in Section B.1., D.1.1.4. and Annex 2. 2. The average historical data for 2004-2006 is used to calculate consumption of dry skip coke and natural gas by blast furnaces 4 and 6; and production of pig iron by these furnaces. 3. On the basis of actual pig iron production which is limited for the baseline by maximal output of BF4 (in 1988) and BF6 (in 1990) equipped with double bell charges. 4. The specific CO2 emission factor per ton of metallurgical coke is calculated by carbon balance method for BPCP, as described in PDD for JI-0201 "Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works". This PDD passed independent expertise (determination) by	CAR 05 CAR 06	OK OK

			Bureau Veritas. 5. Annex 4 describes calculation methods. **CAR 05.** Please justify that pig iron production which is limited for the baseline by maximal output in 1988 and 1990 (for BF4 - 1,217,400 t, for BF6 - 1,100,700 t) doesn't exceed legal nameplate capacity for baseline equipments (BF4 and BF6). **CAR 06.** Please justify the correctness and conservatism of estimating baseline emission based on data for maximum pig iron production in 1988 and 1990 and average data in 2004-2006 for consumption of dry skip coke and natural gas.		
B.1.5. Is all literature and sources clearly referenced?	1,2	DR	Generally references to sources of information and data are presented.		OK
B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the JI project					
B.2.1. Is the proposed project activity additional?	1,2,3	DR	To prove the project additionality JI Guidance on criteria for baseline setting and monitoring, version 02, Annex 1, 2 (b) was used. PDD developer described and scrutinized all	CAR 07 CAR 08 CL 01	OK OK OK

			plausible alternative scenarios and selected the two which are most likely: - Alternative 1 (the proposed baseline scenario). Continued operation of BF4 and BF6 equipped with the DBL chargers, which consume hot non-stabilized agglomerate; - Alternative 2 (the proposed project scenario). Production of cooled and stabilized agglomerate at sintering plants 2 and 3. Installation of BLT at BF4 and BF6. A barrier for project implementation was considered: coke consumption in BF is affected by numerous technological and economic factors, which are closely related to each other. Thus, there is a considerable probability that projected installation of SCaSU and BLT may not bring about the expected reductions in coke consumption. Additionality was assessed by the use of investment analysis together with sensitivity analysis and common practice analysis. Input data for the investment and sensitivity analyses is provided. It is shown that the project activity is not economically and		

			financially attractive. **CL 01.** Benchmark of 8% was used in investment analysis at annual inflation rate 10% (refer to Table B.2.3). Please clarify why the benchmark is less than the inflation rate. **CAR 07.** Please provide the sources of the input data for the costs and tariffs used in investment analysis. **CAR 08.** Sensitivity analysis shows that the proposed project might be attractive (IRR>8%) under certain conditions so the additionality of the project activity is not demonstrated. In common practice analysis, PDD developer considers several Russian steel works, which have implemented similar technological modernization projects; thereafter the following conclusion was made: Implementation of both SCaSU and BLT equipments in MMK was the first of its kind and still unique for Russian steel making industry. BVC observes this proof reasonable. With the unresolved CAR 08 the additionality of the project is not demonstrated.		

B.2.2. Is the baseline scenario described?	1,2	DR	The baseline scenario is described in PDD Sections A.2 and B.1.		OK
B.2.3. Is the project scenario described?	1,2	DR	The project scenario is described in PDD Sections A.4.2 and A.4.3.		OK
B.2.4. Is an analysis showing why the emissions in the baseline scenario would likely exceed the emissions in the project scenario included?	1,2	DR	It is showed why the emissions in the baseline scenario would likely exceed the emissions in the project scenario included.		OK
B.2.5. Is it demonstrated that the project activity itself is not a likely baseline scenario?	1,2	DR	Conclusion is pending a response to CAR 08.	Pending	OK
B.2.6. Are national policies and circumstances relevant to the baseline of the proposed project activity summarized?	1,2	DR	National policies and circumstances relevant to the baseline of the proposed project activity were summarized. Project developer described baseline is in accordance with "Strategy of metal industry development in Russia till 2020"		OK
B.3. Description of how the definition of the project boundary is applied to the project activity					
B.3.1. Are the project's spatial (geographical) boundaries clearly defined?	1,2,6	DR	Project boundaries are clearly defined on the Figure B.3.1. Also in B.3 is provided explanation of which gases and from what sources were taken into consideration (Table B.3.1). **CAR 15.** The delineation of the baseline and	CAR 15 CL 02	OK OK

			project scenario do not include the BF 2, 9 and 10, where the similar BLT chargers were installed and operated under modernization program in frame of contract with contract between MMK and Paul Wurth in 2004. This information was proved at the site visit and discussed with operational management of the plant. Exclusions of these sources related both to the baseline and project scenario shall be justified as per Guidance on criteria for baseline setting and monitoring, Version 02, paragraph 16. An assessment of the potential leakages of the project is not provided (refer to Guidance on criteria for baseline setting and monitoring, Version 02, paragraph 18). **CL 02.** According to source: http://ec.europa.eu/environment/ippc/brefs/isp_d1_0208.pdf for production of cooled and stabilized sinter a compressed air is needed. Consumption of compressed air is exemplary 24.7 m3/t sinter. Please clarify why compressor station in emission sources was not considered (table B.3.1) and PDD developer doesn't take into account consumption of compressed air.		

B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline					
B.4.1. Is the date of the baseline setting presented (in DD/MM/YYYY)?	1,2	DR	Baseline setting date: 15/06/2010.		OK
B.4.2. Is the contact information provided?	1,2	DR	Contact person: Konstantin Myachin, Carbon Project Manager "CTF Consulting", LLC Ph: +7 495 984 59 51 Fax: +7 495 984 59 52 e-mail: konstantin.myachin@carbontradefinance.com		OK
B.4.3. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	It is indicated that "CTF Consulting", LLC is not a project participant.		OK
C. Duration of the project and crediting period					
C.1. Starting date of the project					
C.1.1. Is the project's starting date clearly defined?	1,2	DR	In PDD project start date is given as December 2006. **CAR 09.** Please provide exact date of project start.	CAR 09	OK
C.2. Expected operational lifetime of the project					
C.2.1. Is the project's operational lifetime clearly	1,2	DR	The operation lifetime of the project is 16		OK

defined in years and months?			years/ 192 months between 2006 and 2020.		
C.3. Length of the crediting period					
C.3.1. Is the length of the crediting period specified in years and months?	1,2	DR	Length of crediting period is 4 years / 48 months from 01.01.2009 to 31.12.2012.		OK
D. Monitoring Plan					
D.1. Description of monitoring plan chosen					
D.1.1. Is the monitoring plan defined?	1,2	DR	It is explicitly indicated that a JI specific approach regarding monitoring is applied. This is based on the requirements of Paragraph 9(a) of JI "Guidance on criteria for baseline setting and monitoring", version 02.		OK
D.1.2. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario.	1,2	DR	Option 1 is chosen.		OK
D.1.3. Data to be collected in order to monitor emissions from the project, and how these data will be archived.	1,2,3	DR	Data to be collected in order to monitor emissions from the project is defined in PDD Section D.1.1.1. Data will be achieved in paper and electronic forms. Data to be collected with following assumption: coke breeze did not consider under baseline and project scenarios. **CAR 10.** The approach not to consider coke	CAR 10	OK

			breeze in baseline and project scenario is observed by BVC as questionable. Coke breeze is a by-product of production of metallurgical coke. Consumption of coke breeze in blast furnace is variable value and influences on consumption of metallurgical coke in blast furnace. Excluding coke breeze from baseline and project scenarios is observed as not conservative and inaccurate approach in calculation of reduction of GHG emission.		
D.1.4. Description of the Formulae used to estimate project emissions (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2,3	DR	Description of the Formulae used to estimate project emissions presented in PDD Section D.1.1.2. **CAR 11**. Please correct Formulae where % of carbon content weren't converted into mass concentration. The same point of concern pertains to Formulae for baseline scenario.	CAR 11	OK
D.1.5. Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be collected and archived.	1,2,3	DR	Data to be collected in order to monitor baseline emissions are defined in PDD Section D.1.1.3. Conclusion is pending a response to CAR 10, CL 02.	Pending	OK
D.1.6. Description of the Formulae used to estimate	1,2,3	DR	Description of the Formulae used to estimate	Pending	OK

baseline emissions (for each gas, source etc, emissions in units of CO2 equivalent).			baseline emissions presented in PDD Section D.1.1.4. Conclusion is pending a response to CAR 11.		
D.1.7. Option 2 – Direct monitoring of emissions reductions from the project (values should be consistent with those in section E)	1,2,3	DR	Not applicable.		OK
D.1.8. Data to be collected in order to monitor emission reductions from the project, and how these data will be archived.	1,2,3	DR	Not applicable.		OK
D.1.9. Description of the Formulae used to calculate emission reductions from the project (for each gas, source etc; emissions/emission reductions in units of CO2 equivalent).	1,2,3	DR	Not applicable.		OK
D.1.10. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project.	1,2,3	DR	Not applicable.		OK
D.1.11.Description of the Formulae used to estimate leakage (for each gas, source etc,; emissions in units of CO2 equivalent).	1,2,3	DR	This project does not involve any equipment which could be considered the source of emission leakages. This project does not require estimation of emission leakages in the monitoring plan.		OK
D.1.12. Description of the Formulae used to estimate emission reductions for the project (for each gas,	1,2,3	DR	This is the Formula (D1.4.-1): $ER_y = BE_y – PE_y$.		OK

source etc.; emissions in units of CO2 equivalent).			Refer to PDD Section D.1.4.		
D.1.13. Is information on the collection and archiving of information on the environmental impacts of the project provided?	1,2,3	DR	Information on the collection of information on the environmental impacts of the project is provided in PDD Section D.1.5.		OK
D.1.14. Is reference to the relevant host Party regulation(s) provided?	1,2,3	DR	Reference to relevant Russian regulations is provided. This is Russian environmental law (Federal Law №7-FZ of 10.01.2002 "On Environmental Protection").		OK
D.1.15. If not applicable, is it stated so?	1,2,3	DR	The regulations are referenced.		OK
D.2. Qualitative control (QC) and quality assurance (QA) procedures undertaken for data monitored					
D.2.1. Are there quality control and quality assurance procedures to be used in the monitoring of the measured data established?	1,2,3	DR	QC and QA procedures are described in PDD Section D.2.		OK

D.3. Please describe of the operational and management structure that the project operator will apply in implementing the monitoring plan					
D.3.1. Is it described briefly the operational and management structure that the project participants(s) will implement in order to monitor emission reduction and any leakage effects generated by the project	1,2,3	DR	The operational and management structure in implementing the monitoring plan and the allocation of responsibilities for monitoring plan implementation and monitoring report preparation is presented in PDD Section D.3 Figure D.3.1.		OK

D.4. Name of person(s)/entity(ies) establishing the monitoring plan					
D.4.1. Is the contact information provided?	1,2,3	DR	The developer of monitoring plan: "CTF Consulting", LLC Moscow, Baltchug street 7, Business-center "Baltchug Plaza", office 629; Contact person: Konstantin Myachin, Carbon Project Manager Ph: +7 495 984 59 51 Fax: +7 495 984 59 52 e-mail: konstantin.myachin@carbontradefinance.com		OK
D.4.2. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2,3	DR	It is indicated that "CTF Consulting", LLC is not a project participant.		OK
E. Estimation of greenhouse gases emission reductions					
E.1. Estimated project emissions					
E.1.1. Are described the formulae used to estimate anthropogenic emissions by source of GHGs due to the project?	1,2	DR	The description of formulae used to estimate project emissions is presented in PDD Section D.1.1.2.		OK
E.1.2. Is there a description of calculation of GHG	1,2	DR	The estimated project emissions for each	CAR 12	OK

project emissions in accordance with the Formula specified in for the applicable project category?			source of emissions are presented in PDD Section E.1. **CAR 12.** Please provide estimates of anthropogenic emissions of greenhouse gases by sources (coke, natural gas and electricity consumption separately).		
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1,2	DR	Conclusion is pending a response to CAR 10, CL 02.	Pending	OK
E.2. Estimated leakage					
E.2.1. Are described the Formulae used to estimate leakage due to the project activity where required?	1,2	DR	Not applicable. Refer to E.2.		OK
E.2.2. Is there a description of calculation of leakage in accordance with the Formula specified in for the applicable project category?	1,2	DR	Not applicable.		OK
E.2.3. Have conservative assumptions been used to calculate leakage?	1,2	DR	Not applicable.		OK
E.3. The sum of E.1 and E.2.					
E.3.1. Does the sum of E.1. and E.2. represent the project activity emissions?	1,2	DR	As no leakage is expected, E1+E2=E1. The results are presented in Table E.3.1.		OK

E.4. Estimated baseline emissions					
E.4.1. Are described the Formulae used to estimate the anthropogenic emissions by source of GHGs in the baseline using the baseline methodology for the applicable project category?	1,2	DR	The description of formulae used to estimate the anthropogenic emissions by source of GHGs in the baseline is presented in PDD Section D.1.1.4.		OK
E.4.2. Is there a description of calculation of GHG baseline emissions in accordance with the Formula specified for the applicable project category?	1,2	DR	The estimated baseline emissions for each source of emissions are not presented in PDD Section E.4 Table E.4.1. Conclusion is pending a response to CAR 12.	Pending	OK
E.4.3. Have conservative assumptions been used to calculate baseline GHG emissions?	1,2	DR	Conclusion is pending a response to CAR 10, CL 02.	Pending	OK
E.5. Difference between E.4. and E.3. representing the emission reductions of the project					
E.5.1. Does the difference between E.4. and E.3. represent the emission reductions due to the project during a given period?	1,2	DR	Yes, it does. Refer to Formula (D1.4.-1) $ER_y = BE_y – PE_y$ in PDD. Refer to Section E.5		OK
E.6. Table providing values obtained when applying Formulae above					
E.6.1. Is there a table providing values of total CO2 abated?	1,2	DR	PDD Section E.6 Table E.6-1 provides the total values of project emissions, leakage, baseline emissions, and emission reductions.		OK

F. Environmental Impacts					
F.1. Documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party					
F.1.1. Has an analysis of the environmental impacts of the project been sufficiently described?	1,2	DR	Analysis of the environmental impacts of the project is presented in PDD Section F.1 with reference to Section "Environment protection" of the Design Document. **CAR 13.** List of relevant documentation with titles, dates etc. is not provided.	CAR 13	OK
F.1.2. Are there any host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1,2	DR	The issue will be checked during the site visit.	Pending	OK
F.1.3. Are the requirements of the National Focal Point being met?	1,2	DR	The National Focal Point (MED) issued an Order dated 23/11/2009 # 485 which requires the inclusion in the submitted project documentation (not PDD) a short description of the EIA carried out in accordance with the established order.		OK
F.1.4. Will the project create any adverse environmental effects?	1,2	DR	Section "Environment Protection" of the Design Document specifies contribution to air pollution. The project does not have significant		OK

			environmental impact.		
F.1.5. Are transboundary environmental impacts considered in the analysis?	1,2	DR	**CAR 14.** Please provide analysis of transboundary environmental impacts (will be checked during a site visit).	CAR 14	OK
F.1.6. Have identified environmental impacts been addressed in the project design?	1,2	DR	The identified environmental impacts have been addressed in the project design.		OK
G. Stakeholders' comments					
G.1. Information on stakeholders' comments on the project, as appropriate					
G.1.1. Is there a list of stakeholders from whom comments on the project have been received?	1,2	DR	Public has been informed about the planned economic 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.		OK
G.1.2. The nature of comments is provided?	1,2	DR	No comments from the public were received.		OK
G.1.3. Has due account been taken of any stakeholder comments received?	1,2	DR	No comments from the public were received.		OK

Table 3 Legal requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Legal requirements					
1.1. Is the project activity environmentally licensed by the competent authority?	1,2	DR	Please refer to F.1.2.	Pending	OK
1.2. Are there conditions of the environmental permit? In case of yes, are they already being met?	1,2	DR	Refer to 1.1 above.	Pending	OK
1.3. Is the project in line with relevant legislation and plans in the host country?	1,2	DR	Refer to 1.1 above.	Pending	OK

Table 5 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
CAR 01. The project has no approval of the Host Party.	1 Table1	Not received.	Pending
CAR 02. Title of the project participant for the Party A in Section A.3 and Annex 1 should coincide. Please correct.	A 3.1	Response 1 dated 24/08/2010 The name of the project participant has been fixed in the PDD, version 1.2. from 24th August 2010, Table 3.1: OJSC "Magnitogorsk Iron and Steel Works".	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 03. Please provide the source of information about coordinates presented in PDD.	A 4.1.3	Response 1 dated 24/08/2010 The exact coordinates of MMK might be found through Google Maps. There the industrial site of the iron works can be easily identified after "Magnitogorsk" city name search. Since the site is big the precise coordinates have been removed from PDD, version 1.2.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
CAR 04. Please determine the remaining lifetime of baseline equipment and availability of using the equipments within the whole crediting period.	B.1.2	<u>Response 1 dated 24/08/2010</u> In 2005 the blast furnace #4 underwent Type I capital repair and reconstruction, which included replacement of main blast-furnace spouts. New spouts were made from heat-resistant concrete. For the first time, agglomerate was transported inside BFP by a belt transporter, instead of plate transporter. There were some changes in construction of blast furnace hearth and well, including construction of so-called "ceramic well" which protects carbonaceous walls of blast furnace hearth and well from incoming moisture and oxygen. Besides following information have been specified in the PDD, version 1.2, page 13: A time since blast furnace blowing after Type I capital repair until the next one is up to 15 years (normally 10-12 years). The duration of the campaign of blast furnace increases in case of use of new, more	<u>Conclusion on Response 1</u> CAR is closed based on due correction made to PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		resistant refractory materials: high-aluminous bricks and carbide blocks, improving the preparation of raw materials, timely preventive screening of equipment and interim repairs. These measures would guarantee accident-free operation of blast furnace and production of required quantity and quality of pig iron. Thus the preventative maintenance would allow the blast furnaces #4 and #6 equipped with double bell charges to operate during the whole crediting period.	
CAR 05. Please justify that pig iron production which is limited for the baseline by maximal output in 1988 and 1990 (for BF4 - 1,217,400 t, for BF6 - 1,100,700 t) doesn't exceed legal nameplate capacity for baseline equipments (BF4 and BF6).	B.1.4	Response 1 dated 24/08/2010 The justification in the PDD, version 1.2., section B.1. has been revised on the pages 20-21. In particular for BF #4 the information is following: Pig iron production by BF #4 during the years of baseline definition (2004-2006) was significantly below than now and below the historical maximum, which is limited by working volume and construction of a blast furnace (for blast furnaces #4 the volume is 1370 m^3). It is explained in particular by the lowest technical and economic performance of the BF #4 (together with BF	Conclusion on Response 1 CAR is closed based on due correction made to PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		#6) in comparison with other blast furnaces of MMK at that moment of time. Therefore the blast furnace plant production target had been solved at the expense of more efficient blast furnaces. In contrary nowadays the more efficient BF #4 is loaded in one of the first. Because Russian steel industry had experienced a downturn since 1991 and production had been increasing gradually since 1997 until year 2008, to define a real baseline capacity we used a historic maximum output of BF #4 with DBC reached in 1988, when MMK yet worked in the conditions of planned economy. This assumption is considered to be conservative for the baseline definition due to the following reasons: 1 Considering a blast furnace with the double bell charger, the goal of production increase could only be reached by intensification of blast furnace process therefore in the baseline conditions the increase of pig iron output would lead to further growth of coke consumption; 2 The working volume of BF #4 had not changed	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		since 1988; 3 Performance of other blast furnaces should vary in comparison with BF #4, it cannot be stable because blast furnace process is a complex system, therefore the loading of BF #4 should have increased; There is a tendency of deterioration of coke quality in years 2009-2010 in comparison with years 2004-2006. It takes place due to absence of enough number mining enterprises under control of MMK group. The worsen quality lead to increase of the coke consumption therefore in the baseline conditions the coke consumption at BF #4 would be higher than now (natural gas can replace coke only within limited range because of the difference in the firing temperature and reducing ability). However the methodology applied in the project context does not consider this "non-material" difference and operates with actual monitored coke consumption in comparison with the historic average value of 2004-2006 to keep the conservativeness. In Soviet time the quality of coke was rather better than now because the distribution of	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		coke had been centralized and there was no market competition for coking coal. The information on BF #6 is rather same.	
CAR 06. Please justify the correctness and conservatism of estimating baseline emission based on data for maximum pig iron production in 1988 and 1990 and average data in 2004-2006 for consumption of dry skip coke and natural gas.	B.1.4	Response 1 dated 24/08/2010 See previous response for CAR 05.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 07. Please provide the sources of the input data for the costs and tariffs used in investment analysis.	B.2.1	Response 1 dated 24/08/2010 The input data have been taken by MMK economists from own sources during preparation of the investment analysis model for internal project consideration. During site visit to MMK the adequacy of input data was confirmed.	Conclusion on Response 1 CAR is closed based on reliable data which were received during site visit.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
CAR 08. Sensitivity analysis shows that the proposed project might be attractive (IRR>8%) under certain conditions so the additionality of the project activity is not demonstrated.	B.2.1	Response 1 dated 24/08/2010 The sensitivity analysis part of Section B.2. of the PDD in version 1.2 has been revised based on site visit information. Following comment has been given upon its results: According to OJSC "MMK" practice the attractive project shall: 4 Have pay-back period of 3-5 years, and/or 5 As a result of its implementation lead in new kind of products or improve quality of existing ones, or 6 Realize a strategic aim of the company's development. The considered project does not result in new products appearance and does not improve the quality of pig iron, and does not present a strategic mission –	Conclusion on Response 1 CAR is closed based on due correction made to PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		this is a classic resource-saving measure leading among other to reduction of CO_2 emission. The sensitivity analysis demonstrates that indicators of economic efficiency of the project vary not significantly during changes of key parameters (coke consumption/economy and capital costs). This confirms that project is not considered to be financially attractive within the reasonable range of parameters variation (plus/minus 10%). With increase of coke saving for 10% the IRR of SCaSU at sintering plants #2 and #3 project is 9.0% but the discounted pack-back period is 11.9 years. With increase of coke saving for 10% the IRR of BLT project is 9.3% but the discounted pack-back period is more than 15 years, i.e. project does not cover the expenditure . Reduction of capital costs for 10% would increase IRR for SCaSU project up to 10.0 % and for BLT project up to 9.5%, but the discounted pack-back period for the projects is 11.5 and more than 15 years	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		respectively. The other variants of comparison leave both IRR and pay-back period indicator out of the admissible range. As mentioned it should be noted than attractiveness of the project is defined as collection of multiple parameters and only IRR indicator cannot be the only basis for positive consideration. Besides to reach the significant reduction of coke from two measures (SCaSU and BLT) simultaneously is not likely as well as to reduce capital costs on 10%. In any case the pay-back period limitation will predominate.	
CAR 09. Please provide exact date of project start.	C.1.1	Response 1 dated 24/08/2010 The exact data of the project start is August 27, 2004. This is added in the PDD, version 1.2, page 37.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 10. The approach not to consider coke breeze in project scenario is observed by BVC as questionable. Coke breeze is a by-	D.1.3	Response 1 dated 24/08/2010 and additional response 2 dated 29/09/2010	Conclusion on Response 1 CAR is not closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
product of production of metallurgical coke. Consumption of coke breeze in blast furnace is variable value and influences on consumption of metallurgical coke in blast furnace. Excluding coke breeze from baseline and project scenarios is observed as not conservative and inaccurate approach in calculation of reduction of GHG emission.		Response 1 dated 24/08/2010 The justification regarding use of coke breeze has been revised in the PDD, version 1.2, see page 41-43: Magnitogorsk metallurgical works is a full cycle metal production complex "from ore to rolled metal" with own coke production facilities included into the project boundary. MMK produces metallurgical coke (fraction more than 25 mm) only for consumption in own blast furnaces, there is no sale of metallurgical coke outside. A raw material for coke production is a coking coal. Coke batteries produce gross coke. After coke quenching, fine fractions are screened out and metallurgical coke is transported to the blast furnace plant. Besides the coke breeze is additionally screened there before charging to blast furnaces. Fine fraction of 0-10 mm is fully consumed at the sintering plant as a fuel for agglomeration machines. The sintering plant also sometimes consume coke breeze of fraction 10-25 mm, but the additional milling is	In accordance with technical report for 2009 consumption of coke breeze in BF4 was 7.4 kg per ton of pig iron. The share of coke breeze was about 1.5 % of dry skip coke and coke breeze together consumption. This quantity of coke breeze consumption cannot be considered as negligibly small what doesn't allow excluding it from list of emission sources, the more so this parameter can achieve 15 kg per ton of pig iron as observed at other blast furnaces of the plant (the finding of the site visit).

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		required. The excess coke breeze of fraction 10-25 mm is sold to other industries, e.g., metallurgical plants, where it is used as a high-carbon fuel or as a component for production of carbon-bearing powder. The implementation of the sinter cooling and stabilization units project at sintering plants #2 and #3 resulted in reduction of fine fraction of agglomerate and therefore improved the gas flow inside the blast furnace. This measure allowed to use some coke breeze of fraction 10-25 mm together with coke, which earlier was impossible and coke breeze had not been specially added into the blast furnaces (in the baseline). Nowadays this is done from time to time. The addition of the coke breeze reduces the consumption of the skip metallurgical coke (replacement coefficient is 1 kg of coke breeze for 0.68 kg of skip metallurgical coke). Since the MMK is a full cycle production complex the utilization of the coke breeze of fraction 10-25 mm in the blast furnace is not considered as the emission source for production of the iron because of the following	Conclusion on Response 2 CAR is closed based on justification regarding use of coke breeze which was made by PDD developer.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		reasons: 7 There is a direct connection between demand of metallurgical coke for blast furnaces of MMK and consumption of coking coal for its production. As MMK does not sale the metallurgical coke the reduction of demand in metallurgical coke due to its partial replacement by own coke breeze fraction 10-25 mm would result in reduction of coking coal purchase and prevent associated CO_2 emissions related to the metallurgical coke production; 8 Ways of use of coke breeze outside MMK would result in its complete burning and CO_2 emissions, there is no carbon sinks for that; Use of relatively small amounts of coke breeze fraction 10-25 mm does not impact to the fuel balance of sintering plant because it uses this fraction also as a periodical addition to the main fuel (fraction 0-10 mm) and as a rule there is an excess of fraction 10-25	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		mm at MMK which is sold. Sintering plant of MMK does not use imported coke breeze or metallurgical coke. <u>Response 2 dated 29/09/2010</u> The justification regarding use of coke breeze has been revised in the PDD, version 1.4, see page 51-52: A raw material for coke production is a coking coal. Coke batteries produce gross coke. After coke quenching fine fractions (coke nut and coke breeze) are screened out and metallurgical coke is transported to the blast furnace plant. There the metallurgical coke is additionally screened and coke nut/coke breeze are again separated. Coke breeze (fraction of 0-10 mm) is fully consumed at the sintering plant as a fuel for agglomeration machines. The sintering plant also sometimes consume coke nut (fraction 10-25 mm), but the additional milling is required. The excess of coke nut is sold to other industries, e.g., metallurgical plants, where it is used as a high-carbon fuel or as a component for production of carbon-bearing powder.	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		Therefore it turns into CO_2 emissions during its utilization either at the sintering plant or outside and there is no carbon sink related to formation and further use of coke nut. See furthermore Diagram D.1.1.1 and Diagram D.1.1.2. The implementation of the sinter cooling and stabilization units project at sintering plants #2 and #3 resulted in reduction of formation of fine fraction of agglomerate and therefore improved the gas flow inside the blast furnace. This measure allowed to use some coke nut in the charging of blast furnaces together with coke, which earlier was impossible and coke nut had not been specially added into the blast furnaces (in the baseline). The addition of the coke nut thereby reduces consumption of the skip metallurgical coke (replacement coefficient is 1 kg of coke breeze for 0.68 kg of skip metallurgical coke). To simplify the monitoring and being in line with conservativeness principles the utilization of the coke nut in the blast furnace is not considered as the	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		project emission source for production of the iron because of the following reasons: - Magnitogorsk metallurgical works is a full cycle metal production complex "from ore to rolled metal" with own coke production facilities included into the project boundary. MMK produces metallurgical coke (fraction more than 25 mm) only for consumption in own blast furnaces, there is no sale of metallurgical coke outside which eliminates potential leakages related to metallurgical coke; - Percentage of formation of coke nut and coke breeze during screening of gross coke in BPCP and metallurgical coke in BFP depends on the quality of raw materials for coke production and in this connection with quality of produced coke. In this respect project implementation cannot impact. Besides the screening of gross coke and	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		metallurgical coke is performed in the project the same way as in the baseline nor additional equipment has been installed; - In the baseline the consumption of skip metallurgical coke is higher than in the project and accordingly the total baseline formation of coke nut shall be more than in the project. Therefore the CO2 emissions from utilization of coke nut in the baseline are higher than in the project. - There is a direct connection between demand of skip metallurgical coke for blast furnaces of MMK and consumption of coking coal for production of metallurgical coke at BPCP. The reduction of consumption of skip metallurgical coke due to its partial replacement by own coke nut would result in reduction of coking coal purchase and prevent associated CO2 emissions related to the metallurgical coke production;	

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		- Use of relatively small amounts of coke nut in the blast furnaces in comparison with total formation of coke nut and coke breeze at MMK does not impact to the fuel balance of sintering plant because it uses coke nut as a periodical addition to the main fuel (coke breeze fraction 0-10 mm) and as a rule there is an excess of fraction 10-25 mm at MMK which is sold. Sintering plant of MMK does not use imported coke breeze or metallurgical coke that eliminates potential leakages. Thereby it is demonstrated that exclusion of coke nut as project emission source during its consumption in blast furnaces reduces baseline emissions and therefore it is conservative.	
CAR 11. Please correct Formulae where % of carbon content weren't converted into mass concentration. The same point of concern pertains to Formulae for baseline	D.1.4	Response 1 dated 24/08/2010 The formulae D.1.1.2-1, D.1.1.2-5, D.1.1.4-1, D.1.1.4-5 have been fixed in the PDD.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
scenario.			
CAR 12. Please provide estimates of anthropogenic emissions of greenhouse gases by sources (coke, natural gas and electricity consumption separately).	E.1.2	Response 1 dated 24/08/2010 The appropriate change has been made in the PDD, Table E.3.1 and Table E.4.3. Response 2 dated 29/09/2010 The estimation of anthropogenic emissions of greenhouse gases by sources (production in BPCP of the skip metallurgical coke consumed in BFP, consumption of skip metallurgical coke in BFP, consumption of NG in BFP and electricity consumption) has been provided in Table E.1.5. of the PDD, version 1.4.	Conclusion on Response 1 CAR is not closed. Please provide estimates of anthropogenic emissions of greenhouse gases by coke and natural gas separately in Table E.1.5. Conclusion on Response 2 CAR is closed based on due correction made to PDD.
CAR 13. List of relevant documentation with titles, dates etc. is not provided	F.1.1	Response 1 dated 24/08/2010 The list of mentioned documentation is provided in Section F.2.	Conclusion on Response 1 CAR is closed based on explanation which was made by PDD developer.
CAR 14. Please provide analysis of transboundary environmental impacts.	F.1.5	Response 1 dated 24/08/2010 No transboundary effects are identified; moreover as a	Conclusion on Response 1 CAR is closed based on

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
		result of implementation of the project overall air pollution by OJSC "MMK" is reduced due to less coke demand. This information has been added in the PDD, version 1.2, page 74.	due correction made to PDD.
CAR 15. The delineation of the baseline and project scenario do not include the BF 2, 9 and 10, where the similar BLT chargers were installed and operated under modernization program in frame of contract with contract between MMK and Paul Wurth in 2004. This information was proved at the site visit and discussed with operational management of the plant. Exclusions of these sources related both to the baseline and project scenario shall be justified as per Guidance on criteria for baseline setting and monitoring, Version 02, paragraph 16. An assessment of the potential leakages of the project is not provided (refer to Guidance on criteria for baseline setting and monitoring, Version 02,	B.3	Response 1 dated 29/09/2010 The delineation of the baseline and project scenario has included BF #4, 6, 9, 10, 2. Thereby the project boundaries include all blast furnaces equipped similar BLT chargers which were installed and operated under modernization program in frame of the contract between MMK and Paul Wurth in 2004. This information has been added in the PDD, version 1.4.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2, 3	Summary of project owner response	Determination team conclusion
paragraph 18).			
CL 01. Benchmark of 8% was used in investment analysis at annual inflation rate 10% (refer to Table B.2.3). Please clarify why the benchmark is less than the inflation rate.	B.2.1	Response 1 dated 24/08/2010 The investment analysis does not consider inflation factor at all. The inflation rate was provided only for information now it is excluded from input data in PDD, version 1.2, page 27-28 to avoid misunderstanding.	Conclusion on Response 1 CL is closed based on reliable data and explanations which were received during site visit.
CL 02. According to source: http://ec.europa.eu/environment/ippc/brefs/isp_d1_0208.pdf for production of cooled and stabilized sinter a compressed air is needed. Consumption of compressed air is exemplary 24.7 m3/t sinter. Please clarify why compressor station in emission sources was not considered (table B.3.1) and PDD developer doesn't take into account consumption of compressed air.	B.3.1	Response 1 dated 24/08/2010 The compressed air is not designed to use the SCaSU at sintering plants #2 and #3. The cooling of the agglomerate is performed by open air flow blown by ventilator and naturally during its rolling on the plates. This was confirmed during site visit.	Conclusion on Response 1 CL is closed based on reliable data and explanations which were received during site visit.