

Bureau Veritas Certification
Holding SAS



VERIFICATION REPORT

CARBON TRADE & FINANCE SICAR S.A.

VERIFICATION OF THE “IMPLEMENTATION OF ARC-FURNACE STEELMAKING AT MAGNITOGORSK IRON AND STEEL WORKS”

REPORT No. RUSSIA - VER/0111/2011

REVISION No. 03

BUREAU VERITAS CERTIFICATION



Verification Report

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Client: Carbon Trade & Finance SICAR S.A.	Client ref.: Mr. Ingo Ramming

Summary:

Bureau Veritas Certification has made the second periodic verification of the "Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works", project of OJSC "Magnitogorsk Iron and Steel Works" located in the city of Magnitogorsk, Chelyabinsk region, Russian Federation, applying the JI specific approach regarding baseline setting and additionality demonstration and assessment, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The verification scope is defined as a periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period, 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 verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the verification process is a list of six Corrective Actions Requests, one Clarification Request and one Forward Actions Request (CAR, CL and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the generated ERUs are 758,323 tons of CO₂e for the monitoring period.

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the approved project baseline and monitoring, and its associated documents.

Report No.: RUSSIA-ver/0111/2011	Subject Group: JI	
Project title: "Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works"		
Work carried out by: Vera Skitina – Team Leader, Lead verifier		
Work reviewed by: Leonid Yaskin – Internal Technical reviewer		
Work approved by: Flavio Gomes – Operational manager		
Date of this revision: 29/03/2011	Rev. No.: 03	Number of pages: 38

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Table of Contents		Page
1	INTRODUCTION	3
1.1	Objective	3
1.2	Scope	3
1.3	Verification Team	3
2	METHODOLOGY	4
2.1	Review of Documents	4
2.2	Follow-up Interviews	4
2.3	Resolution of Clarification, Corrective and Forward Action Requests	5
3	VERIFICATION CONCLUSIONS	6
3.1	Project approval by Parties involved (90-91)	6
3.2	Project implementation (92-93)	7
3.3	Compliance of the monitoring plan with the monitoring methodology (94-98)	8
3.4	Revision of monitoring plan (99-100) N/A	9
3.5	Data management (101)	10
3.6	Verification regarding programmes of activities (102-110) N/A	12
4	VERIFICATION OPINION	12
5	REFERENCES	14
	APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL	18



1 INTRODUCTION

Carbon Trade & Finance SICAR S.A. has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project “Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works” (hereafter referred ‘the project’) at the city of Magnitogorsk, Chelyabinsk region, Russian Federation

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

1.1 Objective

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

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

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

1.2 Scope

The verification scope is defined as an independent and objective review of the project design document, the project’s baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 Verification Team

The verification team consists of the following personnel:

Vera Skitina,

Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

This verification report was reviewed by:

Leonid Yaskin,

Bureau Veritas Certification, Internal Technical Reviewer



2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by CTF Consulting, LLC (subsidiary of Carbon Trade & Finance SICAR S.A.) and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol to be checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Reports version 1.0 dated 18.02.11, version 1.1 dated 03.03.11, 1.2 dated 17.03.11, 1.3 dated 28.03.11, 1,4 dated 29.03.11 and the project as described in the determined PDD Version 1.5 dated 31.01.2011.

2.2 Follow-up Interviews

On 19-20.01.2011 the AIE verifier V.Skitina conducted a visit to the project site (OJSC "Magnitogorsk Iron and Steel Works", hereafter referred 'MMK') and performed (on-site) interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of MMK and CTF Consulting, LLC were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
MMK	<ul style="list-style-type: none"> ➤ Status of project equipment ➤ Revisions of Monitoring plan ➤ Collected data ➤ Passports and evidence of calibration of measuring equipment ➤ Data logs (samples) ➤ Data reports (samples) ➤ QC and QA procedures ➤ Use of calculation tool ➤ Emission calculations ➤ QC and QA procedures ➤ Monitoring report ➤ Environmental impact
(LOCAL Stakeholder)	<ul style="list-style-type: none"> ➤ N/A
CTF Consulting, LLC, CONSULTANTS	<ul style="list-style-type: none"> ➤ Baseline methodology. ➤ Monitoring plan. ➤ Monitoring report. ➤ Deviations from PDD. ➤ Emission Reduction Calculation Model.

2.3 Resolution of Clarification, Corrective and Forward Action Requests

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

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

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

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



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

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 6 Corrective Action Requests, 1 Clarification Request and 1 Forward Action Request.

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

3.1 Project approval by Parties involved (90-91)

Written approval of the project by the Russian Government is issued by the decree of the Ministry of Economic Development N709 dated 30 December 2010. The project is listed under number 04 in the list of approved projects. The approval was provided to the AIE. The updated PDD Version 1.5 dated 31/01/2011 was provided to AIE on 31/01/2011. Following this, AIE issued the “deemed final” Determination Report Revision 2 dated 02/02/2011 with closed CAR 01 from the determination stage.

The Declaration of Approval from State of the Netherlands, acting through the Ministry of Economic Affairs, Agriculture and Innovation and its implementing agency “NL Agency”, being the Designated Focal Point for Joint Implantation (JI) in The Netherlands has been received for the project by 8th March 2011.

Thereby the project has been approved both by host Party and Party involved in the JI project, other than the host Party.



3.2 Project implementation (92-93)

The implementation status of the project is as in Appendix A paragraph 92, and the starting date of operation is 01/01/2008.

The progress of the proposed JI project achieved is steady. Work under the project implementation including building and commissioning stages has been completed.

The project continues generation of Emission Reduction Units since 01/01/2008 after reconstruction of the steelmaking operations at OJSC "Magnitogorsk Iron and Steel Works" as confirmed by measuring monitoring data in the Monitoring Reports version 1.0 dated 18.02.11, version 1.1 dated 03.03.11, 1.2 dated 17.03.11, 1.3 dated 28.03.11, 1,4 dated 29.03.11.

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

The monitoring occurred in accordance with the PDD regarding which the determination has been "deemed final" with revisions which were positively determined in course of the current verification.

For calculating the emission reductions, key factors, such as those listed in 23 (b) (i)-(vi) DVM, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account (refer to Appendix A para 95 (a)).

Other key factors which influence project emissions were taken into account such as listed in Appendix A, para 95 (c). There are 51 parameters to be monitored within the project boundary to get the project emission (refer to Section D.1.1.1). Monitoring points are indicated in the MR Section D.

Data sources used for calculating emission reductions, as provided in Appendix A para 95 (b), are clearly identified, reliable and transparent.

Emission factors, including default emission factors are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice:

- default CO₂ emissions factor for grid electricity purchased from Unified Energy System of Urals (EF grid) fixed ex-ante based on the "Report on GHG emission factors for Russian energy systems (2008)" (refer to PDD Section B.1);
- specific CO₂ emissions from metallurgical conversions for steel smelting in open-hearth furnace plant (OHFP) and production of profiled steel billet in blooming mill plant (BMP) are calculated by



- carbon balance method based on historical consumption of carbon-containing materials and fuels, historical output of production under baseline technology, and actual carbon content in BFG, COG and NG;
- CO2 emissions from consumption of electricity in the baseline are calculated on the basis of historical electricity consumption in OHFP and BMP (they produced only profiled steel), actual CO2 emission factors from electricity consumption and actual output of profiled steel billet in the project;
 - CO2 emissions during generation of air blast were calculated using actual specific consumption of air blast per ton of pig iron, CO2 emission factor from generation of air blast and demand for pig iron required for production of profiled steel billet in the baseline.

CO2 emissions from metallurgical conversion for production of profiled steel billet in the baseline in amount equal to the actual project one are calculated on the basis of historical specific consumption of pig iron and scrap metal per ton of profiled steel in OHFP-BMP process, actual specific consumption of metallurgical coke per ton of pig iron and actual output of profiled steel billet in the project.

Total CO2 emissions associated with production of profiled steel billet in the baseline are summarized.

The calculation of emission reductions is based on the most plausible scenario in a transparent manner as described in Appendix A paragraph 95 (d).

Outstanding issues related to Compliance of the monitoring plan with the monitoring methodology (94-98), PP's response and the AIE conclusion are summarized in Appendix A Table 2 (refer to CAR 01, CAR 02, CAR 03 and CL 01).

3.4 Revision of monitoring plan (99-100)

In the course of the second monitoring period (01/01/2010 – 31/12/2010) the original monitoring plan described in the PDD version 1.5 dated 31/01/2011, regarding which the determination has been “deemed final”, was modified by the project participants. The project participants provided an appropriate justification for the proposed revision which was caused by a set of reasons:

- the nitrogen compressors for production of nitrogen were switched to the other electricity feeders due to technical decision of MMK,
- values of specific electricity consumption for production of pure nitrogen and argon were not determined based on measured data but fixed ex-ante, because the technical ability for their instrumental measurements is absent. These values thereby remain unchanged over the several years including the period from January 1, 2008. The MR developers clarifies in the MR version 1.3 dated 28.03.11:” It should be furthermore noted that according to the



“Standard for applying the concept of materiality in verifications” adopted at twenty-second meeting of the JISC the materiality threshold (item B.4 (b)) is two percent with annual average emission reductions by sources amounting to 100.000 tones per year or more. Thus for considered project the threshold of materiality is 15.166 tones CO₂eq (which are 2% of emission reduction of 758.323 tones CO₂eq for 2010). To assess the impact of the issue to the ERUs amount the analysis has been made:

- Being increased 2 times the values of specific electricity consumption for production of pure nitrogen and argon give the change of ERUs of 672 tones CO₂eq.
 - Even increase of the mentioned values for 10 times (which is definitely unlikely) gives the change of ERUs of 5.864 tonnes CO₂eq or 0,77% of the total ERUs for 2010.
 - Therefore the impact of the values of specific electricity consumption for production of pure nitrogen and argon is not material in the context of the project and no additional confirmation of the correctness of the fixed value is required.” The AIE accept the clarifications for the revision as appropriate with regard to materiality;
- technological losses during transportation and distribution of grid electricity in Unified Energy System of Urals, (TDL, %) is determined as an average calculated value for 9 months of 2010 instead of yearly estimation. The value of TDL was applied as 7.24% (source: report of electricity distribution company “MRSK of Urals”, <http://www.mrsk-ural.ru/ru/440.news1434.html>);
 - One misprint was eliminated. Parameter OC air blast generation_PJ was applied instead of SC air blast generation_PJ. No additional actions for verification are required from MR developer.

The revisions introduced were sufficiently described in the Monitoring Report ver. 1.4 dated 29/03/2011 (refer to Section C. “Adjustments and deviations from the monitoring plan presented in PDD”).

The revisions that have been implemented do not affect conservativeness of the approach to the emission reductions calculations and procedures of the data collection and archiving.

The Management and Operational Systems are eligible for reliable project monitoring according to the MR. The verifier positively determined these deviations as appropriate to the project conditions



The proposed revision maintain the applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.

Outstanding issues related to Revision of monitoring plan (99-100), PP's response and the AIE conclusion are summarized in Appendix A Table 2 (refer to CAR 04).



3.5 Data management (101)

The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent.

QC and QA procedures are the part of the Integrated Quality and Environmental Management System (IMS) of MMK certified to ISO 9001-2008 and ISO 14001:2004) /1, 31/.

Corresponding standard operating procedures are in place and followed. The personnel responsible for the monitoring are trained in an appropriate manner.

Laboratory for Control of Air Quality of OJSC “MMK” performs environmental monitoring according to the monitoring schedule.

The Plant is equipped with appropriate metering systems. The function of the monitoring equipment, including its calibration status, is in order. Verification of meters is provided by Centers of standardization and metrology.

The measurements used for emission monitoring are carried out by metering equipment calibrated in accordance with the Federal Law №102 “About Unity of Measurements”. During the audit, the status of calibration of all used measuring devices was checked and found proper. Responsibility for maintenance of metering equipment is established, documented and communicated as a part of routine operational process at MMK.

The evidence and records used for the monitoring are maintained in a traceable manner. Records of calibration of measuring devices were checked and the status of calibration was positively verified during the site visit / Category 2 Documents, 4, 15, 16/.

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

Implementation of the quality control (QC) and quality assurance (QA) procedures is the responsibility of each involved department of MMK within QMS system. Additionally to guaranty the proper functioning of the monitoring specific for JI project and presentation of its results it was elaborated a Standard (internal procedure) PD MMK 3-SSGO-01-2010 “Regulation on monitoring of GHG emissions reduction”, created as a result of the realization of the project: “Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works”, approved by Executive director on 03.03.2010 / Category 2 Documents, 1/.



Departments responsible for monitoring of each parameter of the JI project carry a responsibility for the treatment of primary reporting documents, processing, preparation, verification and transfer to the Department for relations with state authorities and markets protection (JI project implementation coordinator) of the reporting documents containing the information about monitored parameters. In each department of OJSC “MMK” involved in monitoring under the JI project the head of the department assigns a person responsible for provision of the reporting documents and tracking of the parameters change (refer to Standard PD MMK 3-SSGO-01-2010 Cl.5.2 and MR Section B.3)..

The departments of MMK participated in monitoring of GHGs emission reductions are presented in MR Picture B.3.1. “Management structure of monitoring process”.

Department for relations with state authorities and markets protection controls the completeness of the data and the term of data transfer. Every quarter all the relevant data are transferred to CTF Consulting, LLC. (Consultant for the project) by e-mail. Similarly the information matrix of parameters, which were changed and other important information is sent to CTF Consulting, LLC in order that relevant definitions are made during a preparation of the monitoring report.

Within 10 working days after receipt of the complete set of reporting forms the specialists of CTF Consulting, LLC calculate CO2 emission reduction achieved by JI project for each quarter. The results of calculation are reported to the Department for relations with state authorities and markets protection.

CTF Consulting, LLC develops for OJSC “MMK” the annual monitoring report on CO2 emission reduction based on quarterly reporting upon receipt of the reporting for 4th quarter. The monitoring report is sent then to Department for relations with state authorities and markets protection, which submits it for consideration of relevant departments. Department of Economics of MMK has to compare the figures contained in the monitoring report on consumption of raw materials and manufacture of products with Calculation of prime costs and confirm their compliance.

The used monitoring methodology formalized in terms of the electronic tool was properly documented in MR and closely followed. The tool was made available to the verifier at the determination and first periodic verification stages, so it was easy to check the calculations reported in MR.

Reporting procedures fully reflect the monitoring methodology content.



Storage of all records on monitoring for JI project (describing the period from January 1, 2008 to December 31, 2012) in electronic form is provided until January 1, 2015 by Department for relations with state authorities and markets protection.

Annual monitoring report is approved by Executive Director of MMK. The Monitoring Report ver.2.0 provides sufficient information on the assigning roles, responsibilities and authorities for implementation and maintenance of monitoring procedures including control of data. The verifier confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.

Outstanding issues related to Data management (101), PP's response and the AIE conclusion are summarized in Appendix A Table 2 (refer to CAR 05, CAR 06 and FAR 01).

3.6 Verification regarding programmes of activities

N/A

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 2nd periodic verification for the period from 01 January 2010 to 31 December 2010 of the "Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works" Project, which applies the JI specific approach. The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of OJSC "Magnitogorsk Iron and Steel Works" is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD Version 1.5 dated 31.01.2011. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Reports version 1.0 dated 18.02.11, version 1.1 dated 03.03.11, 1.2 dated 17.03.11, 1.3 dated 28.03.11, 1.4 dated 29.03.11 for the reporting period



as indicated below. Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

The Declaration of Approval from State of the Netherlands, acting through the Ministry of Economic Affairs, Agriculture and Innovation and its implementing agency “NL Agency”, being the Designated Focal Point for Joint Implantation (JI) in The Netherlands has been received for the project by 8th March 20.2011.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project’s GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:

Reporting period: From 01/01/2010 to 31/12/2010
 Baseline emissions : 1,846,487 tCO₂e
 Project emissions : 1,086,593 tCO₂e
 Leakeges : 1,572 tCO₂e
 Emission Reductions (Year 2010) : 758,323 tCO₂e

5 REFERENCES

Category 1 Documents:

Documents provided by OJSC “Magnitogorsk Iron and Steel Works that relate directly to the GHG components of the project.

- /1/ Monitoring Report Version 1.0 dated 18/02/2011 “Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works”. Monitoring period 01.01.2010 – 31.12.2010. Monitoring Report Version 1.1 Date: 03.03.2011, Monitoring Report Version 1.2 Date: 17.03.2011, Monitoring Report Version 1.3 Date: 28.03.2011 and Monitoring Report Version 1.4 Date: 29.03.2011.
Supporting documentation: Excel spreadsheet with estimation of emission reduction.
- /2/ PDD “Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works”, version 1.4 dated on 15.01.2010, version 1.5 dated on 31.01.2011.
- /3/ Determination Reports “Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works”, version 03 dated on 05.05.2010 No. Russia/ 0043-2/2009, v.2 dated 02.02.11.
- /4/ Letter of Approval by the Russian Federation on the JI project



“Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works” in form of the Order #709 of Ministry for Economic Development of the RF dated on 30.12.2010..

- /5/ Letter of Approval by the NL Agency (DFP of the Netherlands), the State of the Netherlands Ministry of Economic Affairs, Agriculture and Innovation on the JI project “Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works”. Issue dated 08.03.11.

Category 2 Documents:

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

Documents obtained in the course of 2nd verification

- /1/ Corporate Standard PD MMK 3-SSGO-01-2010 “Regulation on monitoring of GHG emissions reduction”, approved by the Executive director valid for the audit date.
- /2/ State Statistic Forms 2-tp of OJSC “MMK” (water consumption, waste generation) for 2010
- /3/ State statistic environmental form 2-tp (air) of “MMK” in 2010
- /4/ Environmental Action Plan “MMK”, actual till 2015
- /5/ Environmental permissions and limits issued for “MMK” by Interregional Department of Rostekhnadzor for Ural Federal Okrug. All valid on the date of the site visit.
- /6/ Technical Guidance on the planned maintenance of the machinery in the iron and steel industry in Russian Federation.
- /7/ Monthly Technical Reports of EAFP, BFP, CEST, TD of “MMK”, 2010.
- /8/ Technical Data for carbon contents in production & technological gases used at MMK
- /9/ A technological flow diagram of EAFP, OHP. All valid on the date of the site visit.
- /10/ Arrangement #GI-5 dated 14.01.11 “About adjustment and implementation of Technological Instructions inventory with Annex 1 and 2”
- /11/ Annex to GI-5
- /12/ Technological Instruction TI 101-CN-EAFP – 64 – 2007 with changes ##1-7
- /13/ A timetable for capital maintenance overhaul of the metallurgical aggregates of MMK in 2010
- /14/ Measuring appliances records of BFP, EAFP (2010)
- /15/ A timetables for the obligatory testing of the measuring instrument (calibration) under service conditions of BFP, EAFP (2010)
- /16/ Accreditation attestation issued by State Federal Agency for Technical Regulation and Metrology (GOST R) # ROSS



- RU.0001.512269 valid till 25.09.2012
- /17/ Document & Records Management Procedure applied to the project monitoring report issuing, ver.01 dated 11/12/09
 - /18/ Environmental licenses of MMK valid on the date of the site visit.
 - /19/ State formal note to follow Russian Environmental state regulations by “MMK” dated 16/01/2009
 - /20/ Control of documents and records procedure for GHG monitoring reports drawing up of the accounts. CTF Consulting, LLC. Ver.01 dated 11.12.09
 - /21/ STO SMK 2-6.2-07-2009 «QMS. Personnel. Organization of the training of managers, specialists and clerks of OJSC “MMK” and persons not being the employees of OJSC “MMK”
 - /22/ Order # BP – 27 dated 22.01.10 “About adjustment and implementation of Revision #1 to STO SMK 2-6.2-08-2009
 - /23/ Annex to BP – 27 dated 22.01.10
 - /24/ Order # BP – 66 dated 11.02.10 “About adjustment and implementation of Revision #1 to STO SMK 2-6.2-07-2009
 - /25/ STO SMK 2-6.2-08-2009 «QMS. Personnel. Organization of the training (professional retraining, retraining (getting of the second profession) of the workers of OJSC “MMK”)
 - /26/ MMK 3-TU-05-2008 “Regulation on metrological service of OJSC MMK”
 - /27/ Arrangement #ID-177 dated 03.03.10 “About adjustment and implementation of Revision #1 to PD MMK 3-TU-05-2008”
 - /28/ STO MMK 2-7.6-01.2008 “Quality Management System. Management of measurements and monitoring equipment. Main requirements and procedures”
 - /29/ Arrangement #ID-174 dated 03.03.10 “About adjustment and implementation of Revision #1 to STO MMK 2-7.6-01.2008”
 - /30/ Measuring equipment calibration and testing records for total 41 measuring points as per monitoring plan. All valid for the verification date.
 - /31/ ISO 14001:2004 Certificate #04.104.022041
 - /32/ A timetables for the obligatory testing of the measuring instrument calibration) under service conditions of BFP, OHFP, EAFP
 - /33/ The letter # KC-1079-06 of 05.08.2010 sent by Oxygen shop to CEST “ :to revise an order of electricity consumption accounting for nitrogen”.

Documents obtained in the course of determination

- /34/ “Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works”, PDD Version 1.1 dated 10/11/2009. Received on 10/11/2009. Published on UNFCCC site 25/11/2009. PDD Version 1.5 dated 31/01/2011. Received on 31/01/2011.
- /35/ 2006 IPCC Guidelines on National Greenhouse Gas Inventories. Volume 3 Chapter 4.



- /36/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.
- /37/ JISC Guidance on criteria for baseline setting and monitoring. Version 02.

Persons interviewed:

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

1. O.Fedonin – Vice President of the MMK managing company
2. Y.Bodyaev – Executive Director of MMK
3. O. Mel'nikova – Chief of Department for relations with state authorities and markets protection (JI project implementation coordinator)
4. A. Mitchin – Manager of Department for relations with state authorities and markets protection
5. E.Kandourov – Lead Marketing Strategy planning Specialist
6. S. Sidel'nikov – Chief of Centre of Energy Saving Technologies (CEST)
7. L. Koptsev – Chief of Central Laboratory of Control in structure of Scientific and Technological Center
8. I. Kutcherova – Manager of Technological department
9. A. Bakhol'skiy – Lead Economist
10. A. Maslennikov – Senior Manager of Metallurgical Economics Group
11. S. Komarov – Lead Engineer of Technological department
12. V. Borisenko – Lead Engineer of Technological department
13. Y. Dolgorukov – Technological Deputy shop manager of the EAFP
14. A. Ovsyannikov – Economist of Metallurgical Economics Group
15. A. Saphin - Electric of the EAFP
16. A.Dolgorukov - power engineer of the EAFP
17. S.Pekhtereov – acting as EAFP works manager
18. A.Buzin - supervising foreman of the EAFP
19. E. Kravchenko - Metrologist of the EAFP
20. V. Begilyuk - Technologist of the BFP
21. M. Kontsov – Lead IT Specialist of the BFP
22. O. Drobniy – Head of Environmental Protection Laboratory
23. V. Kozyulin – Deputy of Head of Environmental Protection Laboratory
24. E. Ptitsyn –Head of Air Protection Structure of Head of Environmental Protection Laboratory
25. V. Panin – Chief Metrologist
26. L. Ivanova – Lead Metrologic Engineer
27. V. Chebotov – Acting as CEST



-
28. N. Korolev – Head of Automatization Department
 29. A. San'ko – Deputy Manager of Economic Department
 30. I. Bondyaev – Deputy Chief of Department for relations with state authorities and markets protection
 31. K. Myachin – PDD developer, Carbon Projects Manager, CTF Consulting, LLC
 32. S. Gryazeva– PDD developer, Lead specialist, CTF Consulting, LLC



Verification Report

VERIFICATION PROTOCOL

TABLE 1
CHECK LIST FOR VERIFICATION, ACCORDING TO THE JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION
MANUAL (VERSION 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	<p>JI Project "Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works" was approved by the Ministry of Economic Development of the Russian Federation on 30/12/2010. Monitoring Report Version 1.0 dated 18/02/2011 /1/ (thereafter referred MR) refers to the Letters of Approvals (LoA) that have been issued by the designated focal points.</p> <p>The letter was provided to AIE which does not question its authenticity.</p> <p>CAR 01 was closed in this Determination Report Version 2 based on the received PDD Version 1.5 dated 31/01/2010 and copy of the project approval by the RF Ministry for Economic Developments #709 dated 30/12/2010.</p> <p>CAR 01. A written project approval from a Party involved different from the Host Party was not issued.</p>	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	<p>Yes, all the written project approvals by Parties involved are unconditional.</p> <p>Please refer to CAR 01 in paragraph 90.</p>	OK	OK
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final	The project has been implemented in accordance with the PDD /5/ which was positively determined by BVC	OK	OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	and is so listed on the UNFCCC JI website?	<p>/6/. Determination of the project is deemed final.</p> <p>The project intends to undergo a multi-stage reconstruction of the existing Open-Hearth Furnace Plant (OHFP) followed by transition to production of profiled steel in the electric arc furnaces (EAF) and its teeming in the continuous casting machines (CCM) instead of production of the same steel and profiled billet in the open-hearth plant (OHP) and blooming mill plant with some temporary steel output reduction.</p> <p>On the day of audit, all the equipments, i.e., two high-capacity electric arc furnaces (EAF-180) manufactured by Austrian company "Voest-Alpine AG" with output capacity of 2 million tons of liquid steel per year each, out-of-furnace steel processing aggregates, one slabbing mill and two continuous casting machines manufactured by Austrian company "VAI" for production profiled billet were installed and one Double-Bath Steelmaking Units (DBSU) was left to operate under partial load.</p> <p>During the monitoring period, no changes were made to the operational equipment.</p> <p>The project started generation of Emission Reduction Units on 01/01/2008..</p>		
93	What is the status of operation of the project during the monitoring period?	The project was operated in the design mode.		OK
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on	The Monitoring System is in place and operational. Monitoring of GHG emission reductions occurred basically in accordance with the determined Monitoring Plan with some adjustments and deviations from the	OK	OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the UNFCCC JI website?	monitoring plan presented in section D of PDD, version 1.5 of January 31, 2011, included in the PDD regarding which the determination has not been deemed final as the AIE did not make its determination publicly available through the secretariat as per Paragraph 34 of JI Guidelines.		
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	<p>AIE confirms that for calculating the emission reductions, key factors, those listed in 23 (b) (i)-(vi) DVM, influencing the baseline emissions and the activity level of the project as well as risks associated with the project were taken into account as follows (refer to PDD Section B.1, Section B.2, and Annex 1):</p> <ul style="list-style-type: none"> - Metallurgical sector reform policies and legislation (the Strategy of development of the metallurgical industry of Russia until 2020 approved by Order of Ministry of Industry and Trade of Russia by March 18, 2009 № 150); - Economic situation in the metallurgical sector of Russia as well as resulting predicted demand; - Technical specifics of the steel melting and casting for EAF and OHF/BMP technology; - Availability of capital (including investment barriers) specific for OJSC "MMK"; - Local availability of technologies/techniques; - Fuel prices and availability. 	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and	The data sources used for calculating emission reductions are clearly identified, reliable and transparent with the following reservations:	CAR 02 CL 01	OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	transparent?	<p>CAR 02. The sources of the data “Carbon content of raw materials, fuels and produced substances fixed ex ante for the project and baseline are not identified” and “Historical averages of parameters, which characterize OHFP-BMP process” (refer to Tables B.2.1, B.2.2). Please provide measuring production data sheets for:</p> <ul style="list-style-type: none"> - analysis of chemical composition of crude benzol; - Carbon content in coal tar, % by mass; - Carbon content in steel, % by mass <p>to ensure the conclusion, made by the MR developer, to fix the Data as ex-ante based on measuring results of the site’s Laboratories is appropriate.</p> <p>CL 01. Please clarify and justify the applied approach as follows “Carbon content in scrap metal, % by mass = 0.18%. As a conservative assumption, carbon content of steel is applied”.</p> <p>Relevant monitoring points are explicitly defined in MR Section D.</p> <p>There are the following types of external data in the monitoring plan:</p> <ul style="list-style-type: none"> - the default value from IPCC Guidelines (2006) for carbon content in power station coal; - default CO2 emissions factor for grid electricity purchased from Unified Energy System of Urals (EF grid) fixed ex-ante based on the “Report on GHG emission factors for Russian energy systems (2008)” (refer to PDD Section 		



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>B.1);</p> <ul style="list-style-type: none"> - value of technological losses during transportation and distribution (TDL) of grid electricity in Unified Energy System of Urals (7,24% for 2010 - with reference *http://www.mrsk-ural.ru/ru/440.news1434.html). <p>Calculation of emission reduction was carried out on the excel spreadsheet "ERUs calculation MMK EAFP 2010 ver.1.0 18.02.11.xls" and "ERUs calculation MMK EAFP 2010 ver.1.1 03.03.11.xls" which was made available to AIE. The results of calculation of emission reduction are presented in MR Section D.</p>		
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	<p>The verifier confirms that the emission factors, default emission factor which are used for calculating the emission reductions are selected by carefully balancing accuracy and reasonableness, and the choice is appropriately justified by MR developer.</p> <p>The default CO2 emissions factor for grid electricity purchased from Unified Energy System of Urals (EF grid) fixed ex-ante based on the "Report on GHG emission factors for Russian energy systems (2008)" (refer to PDD Section B.1).</p> <p>CAR 03. The emission factors which are used for calculating the emission reductions in the excel spreadsheet "ERUs calculation MMK EAFP 2010 ver.1.0 18.02.11.xls" which was made available to AIE are calculated with reference to "='D:\My Documents\KYOTO\Carbon Trade &</p>	CAR 03	OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>Finance\MMK_EAF_Verification 2010\Verification 2010\MR\MMK\Замена мартена на ЭСПЦ\PDD Rus\[MMK_ECB_расчетная модель_вер.2_28.01.10.xls]Выбросы CO2!\\$O\$105".</p> <p>The mentioned version of the calculation model version 2.0 dated 28.01.10 was not provided to AIE.</p>		
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	<p>Carbon content of raw materials, fuels and produced substances fixed ex ante for the project and baseline based on conservative assumptions.</p> <p>Since July 2010 the value of specific electricity consumption for production of nitrogen is not defined as per MR in PDD but fixed as 150 kWh/1000 m³ due to accepted by AIE explanation in Section C of the MR: "The value of parameter had been monitored until July 2010. The average value for January-June 2010 is 141 kWh/1000 m³. Therefore the fixed ex-ante value of specific electricity consumption for production of nitrogen as 150 kWh/1000 m³ can be considered as conservative".</p> <p>Also pending a response to CL 01.</p> <p>Continuation of production of profiled steel in open-hearth plant with two DBSUs, installation of two LFAs, ingots teeming and blooming in BMP is convincingly justified in PDD as the most plausible scenario.</p> <p>Calculations are carried out on the following excel spreadsheets, all made available to AIE:</p> <ul style="list-style-type: none"> - "ERUs calculation MMK EAFP 2010 ver.1.0 18.02.11.xls"; - "ERUs calculation MMK EAFP 2010 ver.1.1 	OK	OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		03.03.11.xls"; - "Carbon content calculation in Coke Oven Gas, Blast-Furnace Gas, Natural Gas 2010. xls".		
Applicable to JI SSC projects only_Paragraph 96_not applicable				
Applicable to bundled JI SSC projects only_Paragraphs 97-98_No applicable				
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	Monitoring of GHG emission reductions is complete, effective and reliable. It was carried out as per the revised Monitoring Plan presented in Section C. "Adjustments and deviations from the monitoring plan presented in PDD". The revised monitoring plan contains some adjustments and deviations from the monitoring plan presented in PDD, Section D version 1.5 dated January	CAR 04	OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>31, 2011. The revisions concern four issues. They were positively determined by AIE. These are:</p> <ul style="list-style-type: none"> a) ID P-33(SEC_{N2_PJ} Specific electricity consumption for nitrogen production at MMK) is monthly calculated as per PDD (refer to Section D.1.1.1). Since July 2010 the value of specific electricity consumption for production of nitrogen is not defined and fixed as 150 kWh/1000 m3. To ensure conservative results to estimate the most conservative or lowest emission reduction, the fixed ex-ante value of specific electricity consumption for production of nitrogen as 150 kWh/1000 m3 was applied taking into account that the average measured value for January-June 2010 was 141 kWh/1000 m3. b) ID P-35 (SEC_{pure_N2} Specific electricity consumption for production of pure nitrogen at MMK) is monthly calculated as per PDD (refer to Section D.1.1.1). It was found out during the site visit that since 2008 the parameter was not defined but fixed as 826 kWh/1000 m3. <i>Refer to CAR 04 for the response.</i> c) ID P-33 (SEC_{Ar} Specific electricity consumption for production of argon at MMK) is monthly calculated as per PDD (refer to Section D.1.1.1). It was found out during the site visit that since 2008 the parameter was not defined but fixed as 55 kWh/1000 m3. <i>Refer to</i> 		



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p><i>CAR 04 for the response.</i></p> <p>d) ID P-27 (TDL – Technological losses during transportation and distribution of grid electricity in Unified Energy System of Urals, %) is annually assessed as per PDD (refer to Section D.1.1.1). The value of TDL as 7. 24% was applied taking into account that 7. 24% was the average calculated value for 9 months of 2010 (http://www.mrsk-ural.ru/ru/440.news1434.html).</p> <p>e) One misprint was eliminated. Parameter OC <small>air blast generation_PJ</small> was applied instead of SC <small>air blast generation_PJ</small>. No additional actions for verification are required from MR developer.</p> <p>CAR 04. Please provide in MR appropriate justifications that the applied fixed ex-ante values for “Specific electricity consumption for production of pure nitrogen at MMK” (826 kWh/1000 m3) and for “Specific electricity consumption for production of argon at MMK” (55 kWh/1000 m3) ensure conservative results to estimate the most conservative or lowest emission reduction.</p> <p>Other monitoring parameters and calculation formulae are in compliance with the MP of PDD.</p>		
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing	As follows from the initial findings in 99(a) above the proposed revisions (a-d) improve accuracy and applicability of the information collected compared to the original monitoring plan without changing	OK	OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	conformity with the relevant rules and regulations for the establishment of monitoring plans?	<p>conformity with the relevant rules and regulations for the establishment of monitoring plans.</p> <p>The revision (e) does not affect the accuracy and/or availability of information collected.</p> <p>Conclusion in pending a response to CAR 03.</p>		
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	<p>CAR 05. No response is provided in the MR to FAR 01-06 issued by AIE in the Initial and First Monitoring Report No. Russia - ver /0048/2010 concerning GHG Data Management.</p> <p>CAR 06. In was found out by the verifier during the site visit on 19-20.01.11 that the master copy of the First Monitoring Report has technical misprinting inside (the applied type font was broken). Safety storage of it was not demonstrated.</p> <p>An information/process flow diagram, describing the entire process from raw data to reported totals is developed at the stage of PDD determination and is fulfilled without changes. Refer to MR Picture B.3.1. "Management structure of monitoring process".</p> <p>The implementation of data collection procedures is in accordance with the revised monitoring plan and is an integral part of the operational routine at MMK.</p> <p>According to the Guiding Monitoring Procedure / Category 2 Documents, 1/ issued by MMK "Regulation on monitoring of GHG emissions reduction. PD MMK 3-SSGO-01-2010" in 2008 and updated in 2010 as a manual for the persons concerned, the responsibility for the control and assurance of data quality is</p>	CAR 05 CAR 06	OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>described in Table B.3.1. "Responsibility of departments for monitoring parameters".</p> <p>CTF Consulting, LLC develops for OJSC "MMK" the annual monitoring report on CO2 emission reduction based on quarterly reporting upon receipt of the reporting for 4th quarter. Department for relations with state authorities and markets protection (JI project implementation coordinator) controls the completeness of the data and the term of data transfer. Annual monitoring report is approved by Executive Director of MMK.</p> <p>Also, QC and QA procedures are the integral part of the certified to ISO 14001 Environmental Management System (EMS).</p>		
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	<p>MMK has relevant plans, procedures and schedules for calibration of monitoring equipment. Measuring devices have records of calibration /Category 2 Documents, 4, 15, 16/ and are periodically exposed to due maintenance procedures. Records of calibration of all measuring devises were checked and the status of calibration was verified as proper. All measuring equipment complies with national law and regulations.</p> <p>Request for information: Please provide to AIE evidence of calibration of all measuring devises to present evidence of conformance.</p>	FAR 01	Pending



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	<p>The evidence and records can be traced to origins. The monitoring and metering systems are installed and were inspected on site. They are in compliance with national law and power industry regulations. OJSC "MMK" had monitored all parameters used in the revised monitoring plan.</p> <p>Monitoring report is subject for verification. Information about each parameter is presented in the approved form by certified QMS of OJSC "MMK". The data relating to the monitoring of the project is posted on a dedicated server of OJSC "MMK".</p> <p>Departments responsible for monitoring of each parameter in the JI project carry a responsibility for the treatment of primary reporting documents, processing, preparation, verification and transfer to the Department for relations with state authorities and markets protection (JI project implementation coordinator) of the reporting documents containing the information about monitored parameters. In each department of OJSC "MMK" involved in monitoring under the JI project the head of the department assigns a person responsible for provision of the reporting documents and tracking of the parameters change (refer to MR, Fig.B.3.1, Table B.3.1 and Table B.3.2.)</p> <p>Storage of all records on monitoring for JI project (the crediting period from January 1, 2008 to December 31, 2012) in electronic form is provided until January 1, 2015 by Department for relations with state authorities and markets protection.</p> <p>FAR 01. Please consider the amendments in the</p>		OK



Verification Report

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>Guiding Monitoring Procedure /Category 2 Documents,/ issued by MMK “Regulation on monitoring of GHG emissions reduction. PD MMK 3-SSGO-01-2010” to specify the protection and storage of master copies of handwritten and electronic records, spreadsheets, and reports and the required number of its master copies.</p> <p>Conclusion is also pending a response to CAR 05 and CAR 06.</p>		
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	<p>The data collection and management system for the project is developed at the stage of PDD determination and is maintained in accordance with the revised monitoring plan.</p> <p>Conclusion is pending a response to CAR 05, CAR 06 and FAR 01.</p>	Pending	Pending
<p>Verification regarding programs of activities (additional elements for assessment) Paragraphs 102-105 Not applicable</p>				
<p>Applicable to sample-based approach only Paragraphs 106-110 Not applicable</p>				



 Verification Report

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR 01. A written project approval from a Party involved different from the Host Party was not issued.	90	Response 1: The Declaration of Approval from State of the Netherlands, acting through the Ministry of Economic Affairs, Agriculture and Innovation and its implementing agency "NL Agency", being the Designated Focal Point for Joint Implantation (JI) in The Netherlands has been received for the project by 8 th March 2011.	Conclusion on Response 1: CAR 01 is closed due to the evidence provided by the MR developers.



Verification Report

<p>CAR 02. The sources of the data “Carbon content of raw materials, fuels and produced substances fixed ex ante for the project and baseline are not identified” and “Historical averages of parameters, which characterize OHFP-BMP process” (refer to Tables B.2.1, B.2.2). Please provide measuring production data sheets for:</p> <ul style="list-style-type: none"> - analysis of chemical composition of crude benzol; - Carbon content in coal tar, % by mass; - Carbon content in steel, % by mass <p>to ensure the conclusion, made by the MR developer, to fix the Data as ex-ante based on measuring results of the site’s Laboratories is appropriate.</p>	<p>95 (b)</p>	<p>Response 1: The applied values of the carbon content of raw materials, fuels and produced substances fixed ex ante for the project and baseline (Table B.2.1.) has been fixed ex-ante in the PDD, version 1.5 of January, 31 2011 and no deviation from that was made in the Monitoring report of 2010. However to conduce the clarity the additional explanation has been provided in Table B.2.1 of Monitoring report version 1.1 of 3 March, 3 2011, see page 11. The data confirming the appropriateness of value of these parameters are available at OJSC “MMK” by request. The data sheets for: Analysis of chemical composition of crude benzol; Carbon content in coal tar, % by mass; Carbon content in steel, % by mass were presented to the verifier in an e-mail of March 3, 2011.</p>	<p>Conclusion on Response 1: The amendments made are accepted. CAR closed.</p>
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Verification Report

<p>CAR 03. The emission factors which are used for calculating the emission reductions in the excel spreadsheet “ERUs calculation MMK EAFP 2010 ver.1.0 18.02.11.xls” which was made available to AIE are calculated with reference to “=’D:\My Documents\KYOTO\Carbon Trade & Finance\MMK_EAF_Verification 2010\Verification 2010\MR\MMK\Замена мартена на ЭСПЦ\PDD Rus\[MMK_ECB_расчетная модель_вер.2_28.01.10.xls]Выбросы CO2!\\$O\$105”. The mentioned version of the calculation model version 2.0 dated 28.01.10 was not provided to AIE.</p>	<p>95 (c)</p>	<p>Response 1: A correction has been made in the monitoring report version 1.1 of March,3 2011. The input data for the mentioned cells were manually typed as per PDD, version 1.5 of January, 31 2011 since these cells contain fixed ex-ante values (The mentioned reference was originally made directly to the Excel spreadsheet for the calculations for Section E of the PDD and remained since that time). Due to more correct input of the data the baseline emissions have changed and ERUs for the period of 1st January 2011 to 31st December 2011 is 758 323 tonnes CO2eq.</p>	<p>Conclusion on Response 1: The corrections made are accepted. CAR closed.</p>
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Verification Report

<p>CAR 04. Please provide in MR appropriate justifications that the applied fixed ex-ante values for “Specific electricity consumption for production of pure nitrogen at MMK” (826 kWh/1000 m3) and for “Specific electricity consumption for production of argon at MMK” (55 kWh/1000 m3) ensure conservative results to estimate the most conservative or lowest emission reduction.</p>	<p>99(a)</p>	<p>Response 1:</p> <p>There was a misprinting in the version 1.0 of the monitoring report as values of parameters “Specific electricity consumption for production of pure nitrogen at MMK” and “Specific electricity consumption for production of argon at MMK” in reality are not measured but determined only once by the Technological department of MMK because the technical ability for their instrumental measurements currently is absent. However no decision to fix the values of for the future (ex-ante) has been made by the Monitoring report developer and values are still subject of monitoring and reporting at MMK.</p> <p>The appropriate confirmation by the Technological department of MMK is provided in the e-mail from the Head of Section of regulation and analysis of fuel and energy resources consumption, date 17/03/2011 mrs. Irina Kucherova: “The consumption rates were determined in 1994, consumption of electricity for nitrogen production was calculated through the known value of consumption of electricity for oxygen production in the ratio of the melting points of nitrogen and oxygen (at an estimated energy). The consumption of electricity for argon production – by consumption of electricity for purification and compressing of the crude argon (as the crude argon is a by-product during oxygen production) – for that the additional equipment had been installed”.</p> <p>A correction has been made in the Monitoring report version 1.1 of March 3, 2011.</p>	<p>Conclusion on Response 1:</p> <p>The corrections made are accepted. CAR closed. The proposed revision maintain the applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.</p>
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Verification Report

<p>CAR 05. No response is provided in the MR to FAR 01-06 issued by AIE in the Initial and First Monitoring Report No. Russia - ver /0048/2010 concerning GHG Data Management.</p>	101(a)	<p>Response 1: The respective response for each FAR has been given in Appendix 3 to the Monitoring report of 2010, version 1.1 of March 3, 2011.</p>	<p>Conclusion on Response 1: The amendments made are accepted. CAR closed.</p>
<p>CAR 06. It was found out by the verifier during the site visit on 19-20.01.11 that the master copy of the First Monitoring Report has technical misprinting inside (the applied type font was broken). Safety storage of it was not demonstrated.</p>	101(a)	<p>Response 1: Current procedures of OJSC "MMK" indeed have missed the topic on identification and storage of the master copy of the monitoring report for JI project. The decision is to up-date them accordingly. A Monitoring report for 2008-2009, version 1.3 (final) was approved by the Executive Director of OJSC "MMK" and its master copy has been demonstrated to the verifier by presenting of the scanned original through e-mail.</p>	<p>Conclusion on Response 1: The corrections made are accepted. CAR closed.</p>



Verification Report

<p>CL 01. Please clarify and justify the applied approach as follows “Carbon content in scrap metal, % by mass = 0.18%. As a conservative assumption, carbon content of steel is applied”.</p>	<p>95(b)</p>	<p>Response 1: The applied value of carbon content in scrap metal, % by mass = 0.18% has been fixed ex-ante in the PDD, version 1.5 of January, 31 2011 and no deviation from that was made in the Monitoring report of 2010. However to conduce the clarity the additional explanation has been provided in Table B.2.1 of Monitoring report version 1.1 of 3 March, 3 2011: “Electric Arc Furnaces consume scrap metal during steel smelting. The supplied scrap metal is a subject for incoming control by MMK. The carbon content in the scrap metal varies depending on its origin but does not exceed 0,2% by measurements, however usually is less (information from specialists of EAFP). As an assumption for simplicity the carbon content of steel produced at EAFP of MMK (i.e. 0,18%) was applied for scrap metal and fixed ex-ante.” The data confirming the value of this parameter as a ground for its fixing ex-ante has been provided during determination of the PDD and available at OJSC “MMK” by request. The conservativeness of the assumption is in fact that in case of carbon content in scrap would be less than in steel the project might generate ERUs due to that.</p>	<p>Conclusion on Response 1: The explanations given are accepted. CL closed.</p>
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Verification Report

<p>FAR 01. Please consider the amendments in the Guiding Monitoring Procedure / Category 2 Documents, 1/ issued by MMK “Regulation on monitoring of GHG emissions reduction. PD MMK 3-SSGO-01-2010” to specify the protection and storage of master copies of handwritten and electronic records, spreadsheets, and reports and the required number of its master copies.</p>	<p>101 (c)</p>	<p>Response 1: According to the current order described in the initial version of PD MMK 3-SSGO-01-2010 the master copies of the reporting forms used for calculation in the monitoring reports are in electronic format and stored in a protected server disk space. However the topics on storing the paper and electronic forms of monitoring report itself and spreadsheet for that indeed is missed and will be covered in the second version of the procedure.</p>	<p>Pending as a task for the third verification on site.</p>
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