DETERMINATION REPORT

GLOBAL CARBON BV

DETERMINATION OF THE "Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation"

REPORT NO. RUSSIA-DET/0081/2010
REVISION 02

BUREAU VERITAS CERTIFICATION

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Determination Report on JI project

"Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation"

Date of first issue:	Organizational unit:
07/09/2010	Bureau Veritas Certification Holding SAS
Client:	Client ref.:
Global Carbon BV	Mr. Lennard de Klerk

Summary:

Bureau Veritas Certification has been commissioned by Global Carbon BV to carry out, under JI Track 2 procedure, the determination of the JI project "Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation" 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 guidelines 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, monitoring plan and other relevant documents, and consists of the following three phases: i) desk review of the project design document and particularly 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, Table 5. Taking into account this output, the project proponent has revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project applies the appropriate JI specific approach regarding baseline setting and monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria. However, the project did not receive approvals from the Parties involved.

In the Determination Report rev.01, Bureau Veritas Certification recommended the project for approval by the Host Party. The approval was issued by the Ministry for Economic Development of the Russian Federation by Order No 112 dated 12 March 2012. The Project Participant issued on 16 March 2012 the PDD version 2 which refers in Section A.5 to the received project approval. Due to the above, CAR 01 in the Determination Report rev.01 which addressed the absence of the project approval is closed and hence all implications in the Determination Report and Appendix A related to CAR 01 have become irrelevant to the approved project.

Report No.:	Subject Group:	
RUSSIA-det/0081/2010	JI	
Project title: "Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation"		
Work carried out by: Vera Skitina – Team Leader, Lead verifier Andrey Rodionov - Verifier Daniil Ukhanov – Verifier		
Work verified by: Leonid Yaskin – Internal Technical Reviewer		
Work approved by: Flavio Gomes – Operational Manager		
Date of this revision: 19/03/2012	Rev. No.: 02	Number of pages: 79

Abbreviations

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification
CAR	Corrective Action Request
CCGT	Combined Cycle Gas Turbine
CHPP	Combined Heat and Power Plant
CL	Clarification Request
CO_2	Carbon Dioxide
DDR	Draft Determination Report
DR	Document Review
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
GHG	Greenhouse House Gas(es)
I	Interview
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MoV	Means of Verification
NPV	Net Present Value
PDD	Project Design Document
PP	Project Participant
RF	Russian Federation
tCO2e	Tonnes CO2 equivalent
UNFCCC	United Nations Framework Convention for Climate Change
UPG	United Power Grid

Table of Contents Page

1 INTRODUCTION 4
1.1 Objective 4
1.2 Scope 4
1.3 GHG Project Description 5
1.4 Determination team 7

2 METHODOLOGY 7
2.1 Review of Documents 9
2.2 Follow-up Interviews 10
2.3 Resolution of Clarification and Corrective Action Requests 11

3 DETERMINATION FINDINGS 11
3.1 Project Design 12
3.2 Baseline and Additionality 12
3.3 Monitoring Plan 13
3.4 Calculation of GHG Emissions 14
3.5 Environmental Impacts 14
3.6 Comments by Local Stakeholders 14

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS 14

5 DETERMINATION OPINION 15

6 REFERENCES 17

Appendix A: Determination Protocol

Appendix B: Determination Team's CV

1 Introduction

Global Carbon BV (hereafter referred as 'GC') has commissioned Bureau Veritas Certification (hereafter referred as 'BVC') to determine its JI project "Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation" (hereafter referred as 'the project') located in the city of Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation. GC being PDD developer coordinated the project and the determination process on behalf of the project participant JSC "Amurmetal".

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 purpose of the determination is to provide an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan, 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 emission reduction 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 (PDD), the project's baseline study (BLS) and monitoring plan (MP) and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements for Joint Implementation (JI) projects, JI guidelines, in particular the verification procedure under the JI Supervisory Committee, JISC Guidance on criteria for baseline setting and monitoring, Guidelines for users of JI PDD Form, and associated interpretations. Bureau Veritas Certification has, based on the recommendations in the Validation and Verification Manual (IETA/PCF), employed a risk based approach in the determination process, focusing on the identification of significant risks for project implementation and generation of ERUs.

The determination is not meant to provide any consulting towards the client. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

1.3 GHG Project Description (quoted by PDD v.1.8 Section A.2)

Enterprise description

JSC Amurmetal is the only producer of steel, such as long products and sheet products, in the Russian Far East. Amurmetal steelmaking capacity is about 2.1 million tonnes of steel per year. Enterprise specialization is the production of reinforcing steel, angle bars, round steel bars, wire rods, wires, hot-rolled plates, rolled sheet materials, formed sections, road fences, electric-welded pipes, pipes for gas and water conveyance, billet and slab. Scrap metal is used for steel production at Amurmetal.
The plant consists of a scrap shop, electric furnace shops, and two rolling-mill shops (production of long and sheet products).

Project purpose

The goal of the proposed Joint Implementation (JI) project is to reduce impact of the steelmaking process on the climate through modernization of the existing production process by application of a more energy efficient technology. Emissions of GHG will be reduced significantly as a result of the project implementation. In order to achieve the goal of the project, Amurmetal will construct a new EAF #2 and upgrade existing EAF #1.

Before project

There was EAF#1 (in electric arc shop #2) with annual capacity of about 600 thousand tonnes of steel. It was fully renovated in 2001. Also there was electric arc shop #1 with annual capacity of about 200 thousand tonnes of steel. This shop was seriously outdated and could not continue operating without modernization. Open hearth shop was mothballed in 1996.

Current status

There are a scrap shop, electric furnace shop, and two rolling-mill shops at Amurmetal. Electric furnace shop produces continuous cast square billets and blooms for production of long and sheet products in the rolling-mill shops.
Electric furnace shop includes two DSP-125 (EAF) (made by Sibelectroterm, Novosibirsk and Concast, Switzerland), two ladle furnaces for shaping-up and depuration of steel and two continuous casting machines (CCM). EAF design capacities are 1 and 1.15million tonnes of steel respectively.
Total production of CCMs is approximately 2.1 million tonnes of slabs and blooms.

Project scenario

The project consists of two subprojects:

1. Construction of new EAF #2;

2. Modernisation EAF #1.

Capacity of EAF#1 is increased by approximately 400 thousand tonnes of steel per year. Also its electricity, coke and other carbon content substances consumption is reduced. Expected annual capacity of modernised EAF #1 is about 1 million tonnes of steel.
Annual capacity of new EAF#2 is approximately 1.15 million tonnes of steel. Accordingly, the modernized EAF#1 and the new EAF#2 will work together but EAF#2 will have priority in case of a drop of the overall production. Total annual steel production is estimated based on assumption that both of EAF will be loaded continuously. So, annual capacity of the workshop is 2.1 million tonnes of steel.

Baseline scenario

In the baseline scenario it is assumed that the level of steel production will be equal to the project scenario level. However there is a limitation on the existing steelmaking production of the EAF#1 and, depending on its expected capacity, third party steel producer would have produced the incremental part.
Baseline and project capacity are presented in the Figure A.2.1. EAF#1 expected capacity[*] is about 0.6 million tonnes of steel per year. In case of the project absence and increased market steel demand, other steel producer can produce incremental part of requested steel by increasing the number of run-days, decreasing duration of stops or new capacities installation. The incremental capacity emissions are determined in line with the methodological approach as described in Annex 2. The detailed baseline scenario is presented in Section B1. Incremental part of baseline can reach 1.5 million tonnes of steel per year but total baseline production corresponds to the project production.

Project background and description

Initially the plant had two EAFs with combined capacity of 560.000 tonnes per year. Those EAFs were constructed at the end of 1985. EAF#1 was fully renovated in 2001. After the modernization its productivity became approximately 600.000 tonnes per year. EAF#2 was dismantled in 2001 because it became ineffective compared to EAF#1.

A plan of technical and economic development was introduced in 2004. Its primary task was to create a modern electrometallurgical plant with capacity not less than two million tonnes of melted steel in the Russian Far East.
Amurmetal decided to begin modernization of its production in two stages in 2006. Contract for project design development was signed in March 2006. The project design document is developed taking into account GHGs reduction and additional revenues earning due to project implementation as JI. It makes possible economic indicators improving and minimizes project realization risks. The first stage includes construction of the new EAF#2. The second stage includes modernisation of the existing EAF #1. Glavgosexpertiza of

[*] Average steel production during full last three years (2004-2006)

Russian Federation approved the design documents in December 2007. The new EAF#2 was commissioned in October 2007 but warranty test was finished in December 2007. Its annual capacity is 1.150.000 tonnes. EAF #1 was stopped for modernisation in November 2007. Amurmetal has contacted with Global Carbon for PDD development in 2008. The modernisation was finished in January 2010 but EAF#1 was not operating at the moment due to low market demand. Annual expected productivity of modernised EAF#1 is approximately 1.0 million tonnes of steel. Only new EAF#2 is operating at the moment.

1.4 Determination team

The determination team consists of the following personnel:

Vera Skitina
Bureau Veritas Certification – Team Leader, Lead verifier

Andrey Rodionov
Bureau Veritas Certification – Verifier

Daniil Ukhanov
Bureau Veritas Certification – Verifier
-
The determination outputs were reviewd by
Leonid Yaskin
Bureau Veritas Certification – Internal Technical Reviewer

2. Methodology

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

The determination consisted of the following three phases:

i) desk review of the project design document and the baseline and monitoring plan;
ii) on-site interviews with project participant and on-line interactions with PDD developer throughout the determination process;
iii) resolution of outstanding issues (ref. to Appendix A Table 5 with CAR's and CL's) and the issuance of the final determination report and opinion.

In order to ensure transparency, a determination protocol was customized for the project, according to the Determination and Verification Manual (IETA/PCF).

The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating 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 independent entity will document how a particular requirement has been validated and the result of the determination.

The original determination protocol consists of five tables. The different columns in these tables are described in Figure 1.

The completed determination protocol is enclosed in Appendix A to this report. It consists of four tables. Table 3 for "Baseline and Monitoring Methodologies" is omitted because the project participants established a JI specific approach regarding baseline setting and monitoring that is in accordance with appendix B of the JI Guidelines and because the questions regarding the used approach are presented in Table 2 of Appendix A.

Determination Protocol Table 1: Mandatory Requirements			
Requirement	**Reference**	**Conclusion**	**Cross reference**
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (**OK**)**,** a **Corrective Action Request (CAR)** or a **Clarification Request (CL)** of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Determination Report.	Used to refer to the relevant protocol questions in Tables 2, 3 and 4 to show how the specific requirement is validated. This is to ensure a transparent determination process.

Determination Protocol Table 2: Requirements checklist				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**)**,** or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 3: Baseline and Monitoring Methodologies				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements of baseline and monitoring methodologies should be met. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**)**,** or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 4: Legal requirements				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The national legal requirements the project must meet.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**)**,** or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report corrective action and clarifications requests	**Ref. to checklist question in tables 1/2/3/4**	**Summary of project owner response**	**Determination conclusion**
If the conclusions from the Determination are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 1-4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the determination team should be summarized in this section.	This section should summarize the determination team's responses and final conclusions. The conclusions should also be included in Tables 1-4 under "Final Conclusion".

Figure 1 Determination protocol tables

2.1 Review of Documents

Bureau Veritas Certification (BVC) signed the contract with GC on 07/06/2010 and received the Project Design Document (PDD) Version 1.6 dated 08/06/2010 with supporting

documentation including spreadsheets with investment analysis and calculation of GHG emission. The PDD was made publicly available for comments on UNFCCC website from 10 June 2010 till 09 July 2010.

The PDD and supporting documentation as well as additional background documents related to the project design, baseline, and monitoring plan, such as Kyoto Protocol, host Country laws and regulations, JI guidelines, JISC Guidance on criteria for baseline setting and monitoring, and Guidelines for users of the JI PDD Form were reviewed.

The first deliverable of the document review was the Draft Determination Report (DDR) Version 1 dated 10/06/2010 which was followed by Version 2 dated 22/06/2010 and by Version 3 dated 27/06/2010, the latter contained 27 CARs and 3 CLs.

GC issued iteratively three batches of responses to BVC requests which were altogether reported in the amended PDD Version 1.8 dated 09/08/2010.

The determination findings presented in this Determination Report Version 1 and Appendix A relate to the project as described in the PDD Version 1.6 (published) and Version 1.8 (final).

2.2 Follow-up Interviews

Bureau Veritas Certification verifier A. Rodionov conducted on June 16-17, 2010 a visit to the JSC "Amurmetal" where interviews with the project participant JSC Amurmetal and PDD developer GC were held to confirm selected information and to clarify some issues identified in the document review. The interview topics are listed in Table 6. The interviewees are listed in Section 6 References.

Table 6 Interview topics

Date / Interviewed organization	Interview topics
June 16-17,2010 JSC "Amurmetal" Global Carbon BV	➢ History of the project; starting date; assessment of JI investments in 2006. ➢ Status of the projects as on today; implementation schedules; starting date of the crediting period. ➢ Check of project information and data, presented in PDD, on correspondence to Business plan, Technical projects, Research Reports, etc. ➢ Technical Report, Feasibility Study Report. ➢ Certifications/passports for the main equipment. ➢ Verification of production data, fuel and electricity data in PDD. ➢ Verification of GHGs by sources indicated in PDD. ➢ Competency and training programs for the staff. ➢ Additionality of the project (why it is not a baseline). ➢ Investments efficiency according to Technical project and PDD. ➢ Monitoring system of the project. Metrology (devices, procedures). ➢ EIA of the project and other environmental permissions. ➢ Comments from Local Stakeholders (if there exist).

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 followed on by the project participants for Bureau Veritas Certification positive conclusion on the project design.

Corrective Actions Requests (CAR) are issued, where:

i) there is a clear deviation concerning the implementation of the project as defined the PDD;
ii) requirements set by the Methodological Procedure or qualifications in a verification opinion have not been met; or
iii) there is a risk that the project would not be able to deliver high quality ERUs.

Clarification Requests (CL) are issued where

iv) additional information is needed to fully clarify an issue.

DDR Version 3 summarising Bureau Veritas Certification's findings of the desk document review was submitted to GC on 09/07/2010. The BVC findings identified have been 27 Corrective Action Requests and 3 Clarification Requests.

The amendments made by GC to the PDD and reported in PDD version 1.8 dated 09/08/2010 satisfactorily addressed the BVC responses. As a result, the Determination Report Version 1 was issued on 08/09/2010 and sent, together with the final PDD Version 1.8, to BVC Internal Technical Reviewer (ITR) for review.

To guarantee the transparency of the determination process, the CAR's and CL's raised are summarized in Appendix A, Table 5.

3 Determination Findings

In the following sections, the findings of the determination are presented for each determination subject as follows:

i) the findings from the desk review of the original project design document and the findings from interviews during the site visit are summarized. A more detailed record of these findings can be found in the Appendix A Determination Protocol.
ii) where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the determination protocol criteria or the project objectives, a Clarification or Corrective Action Request, respectively, has been issued. The Clarification and Corrective Action Requests are stated in the in Appendix A Determination Protocol.
iii) where Clarification and Corrective Action Requests have been issued, the response by the project participants to resolve these requests is summarized in Appendix A Table 5.
iv) the conclusions of the determination are presented consecutively.

3.1 Project Design

The project envisages the construction of a new electric arc furnace #2 (EAF#2) and upgrade of existing electric arc furnace #1 (EAF#1) on JSC "Amurmetal" in Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation.

The project design engineering reflects current good practices. The proposed project aims at modernisation of steelmaking process and increase of steel production up to 2.1 million tonnes per year using modern energy-efficient technology. New EAF#2 made by Concast (Switzerland) was constructed. EAF#1 was modernised towards steel capacity increasing. EAF#1 and EAF#2 are electric arc furnaces with the similar technologies.

The main benefit of this process is that EAF allows to use 100 % metal scrap during steel production and also allows to control the composition of fluid metal inside the Ladle furnace (more energy efficient) and permits to exclude iron from steel production (iron production is connected with significant CO_2 emission).

The Amurmetal production site is located in the north-west outskirts of Komsomolsk-on-Amur. The project site coordinates are: 135^{o} 59'5''E longitude, 50^{o}33'50''N latitude (the source – program Google Earth). Now modernisation and construction are completed. EAF#2 is in operation, but EAF#1 is stopped due to low metal market demand (it is planned to work since the beginning of 2011).

The project is expected to generate GHG emissions reduction of 3,339,629 tCO2e over the crediting period 2008-2012.

The identified areas of concern as to Project Design, PP's response and BV Certification's conclusion are summarised in Appendix A Table 5 (refer to CAR 01 – CAR 05, CL 01).

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

3.2 Baseline and Additionality

A JI specific approach regarding baseline setting has been developed in accordance with Appendix B of the JI Guidelines and with the JISC Guidance on criteria for baseline setting and monitoring (Version 02).

The baseline was identified through listing and screening of several alternatives including the project activity without JI registration. The alternative "Using of the existing EAF#1 and other steel plants will produce the remaining steel demand" was qualified as the most plausible scenario thus representing the baseline. Grid emission factor for the "East" UPG was used according to the Study "Development of grid GHG emission factors for power systems of Russia" commissioned by "Carbon Trade and Finance SICAR S.A." in 2008.

To justify the additionality "Tool for the demonstration and assessment of additionality" version 05.2 was used. Benchmark analysis and sensitivity analysis clearly demonstrated that the project activity without JI registration is not financially attractive. The IRR benchmark of 18.58% was justified in spreadsheet financial model "20100802_CF_Amurmetal". Common practice analysis reasonably concluded that the proposed project activity is not the common practice in the Russian steel production sector. There exist only three plants from 18 electric furnace steelmakers in Russia which consume less iron than Amurmetal, but they can be disregarded for reasonable considerations.

The identified areas of concern as to Baseline and Additionality, PP's responses and BV Certification's conclusions are summarised in Appendix A Table 5 (refer to CAR 06 – CAR 17, CL 02).

No areas of concern as to Duration of the project/Crediting period were identified.

3.3 Monitoring Plan

A JI specific approach regarding monitoring has been developed in accordance with Appendix B of the JI Guidelines and with the JISC Guidance on criteria for baseline setting and monitoring (Version 02).

All categories of data to be collected in order to monitor GHG emissions from the project and determine the baseline of GHG emissions are described in required details. The parameters which are measured throughout the crediting period include:

- project emissions that consist of EAF1 and EAF2 emissions; emissions from electricity, fuel and charge materials consumption; emissions associated with charge materials production;
- emission factors for charge materials' production; emission factor for fuel and electricity consumption;
- net calorific value of fuel;
- specific energy consumption for oxygen and air production.
- baseline emission that consist of emission from on-site production (EAF1) and from incremental production;
- total steel production in the project scenario; steel production of EAF1; incremental steel production in the baseline;
- baseline emission factor for incremental steel production.

Formulae for estimation of GHG emissions are clearly described.

Information on the collection and archiving of information on the environmental impacts of the project is provided with reference to the main relevant Russian Federation environmental regulations. According to national requirements, emissions connected with the plant operation have to be measured once a year or once in three years. It is described in the Volume of Maximum Allowable Emissions approved by Rostekhnadzor RF and Rospotrebnadzor. Amurmetal will systematically collect pollution data that may have negative impact on the local environment. Monitoring, data collection and archiving is done by Amurmetal laboratory. Allocation of responsibilities for monitoring plan implementation and monitoring report preparation and an operational and management structure that JSC Amurmetal will implement to monitor emission reduction are clearly described in the PDD. Monitoring related quality control and quality assurance procedures are described subject to checking at the verification phase.

The identified areas of concern as to Monitoring Plan, PP's response and BV Certification's conclusion are summarized in Appendix A Table 5 (refer to CAR 20 – CAR 24 and CL 03).

3.4 Calculation of GHG Emissions

Formulae used for calculation of project are presented in PDD Sections D. Input data for calculations and the calculations per se are presented on the spreadsheet made available

to the verifier by GC [1]. The verifier observes the final calculations as accurate. Calculation of GHG emissions by sources is summarised in Section E.

The calculated amount of project emission reduction over the crediting period 2008 - 2012 is 3,339,629 tCO2e. The annual average emission reduction is 667,926 tCO2e.

No areas of concern as to Calculation of GHG Emissions were identified.

3.5 Environmental Impacts

The project received a Positive Conclusion [31] by Glavgosexpertisa of the RF (in verifier' possession). So, the project impact on environment is considered permissible.

The identified area of concern as to Environmental Impacts, PP's response and BV Certification's conclusion are summarized in Appendix A Table 5 (refer to CAR 25).

3.6 Comments by Local Stakeholders

Komsomolsk-on-Amur town government approved the proposed project.

The identified area of concern as to Comments by Local Stakeholders, PP's response and BV Certification's conclusion are summarized in Appendix A Table 5 (refer to CAR 26).

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

In line with the Section E "Verification procedure under the Article 6 Supervisory Committee" of the JI guidelines, the PDD Version 1.6 was published on UNFCCC website on 10/06/2010 and invited comments within 09/07/2010 by interested parties. 1 comment was received from Mr. Johan Moss, Vice-President of Tricorona AB.

The identified area of concern as to Comments by Parties, Stakeholders and NGOS, PP's response and BV Certification's conclusion are summarized in Appendix A Table 5 (refer to CAR 27).

5 DETERMINATION OPINION

Bureau Veritas Certification has been engaged by Global Carbon BV to perform a determination of the JI project "Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation". The determination was performed on the basis of UNFCCC criteria for JI projects, in particular the verification procedures under the JI Supervisory Committee, as well as host country criteria and the criteria given to provide for consistent project operations, monitoring and reporting.

The determination is based on the information made available to us and on the engagement conditions detailed in this report. The determination has been performed using a risk-based approach as described above. The only purpose of the report is its use for the formal approval of the project under JI mechanism. Hence, Bureau Veritas Certification can-

not be held liable by any party for decisions made or not made based on the determination opinion, which will go beyond that purpose.

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 site-visit on the project site with the project participants and PDD developer; iii) the issuance of the determination report and opinion.

The review of the project design documentation, the subsequent follow-up interviews, and the resolution of the Corrective Action Requests have provided Bureau Veritas Certification with the sufficient evidences to determine the fulfilment of the above stated criteria and to demonstrate that the project is additional.

The investment analysis and common practice analysis demonstrate that the proposed project activity is not a likely 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 it is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The determination revealed one pending issue related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party (Russian Federation). If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 1.8 dated 09/08/2010 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

Bureau Veritas Certification thus recommends this project "Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation" for the formal approval by the RF Ministry for Economic Development as the JI project in accordance with the RF Government Decree # 843 dated 28/10/2009 and the Order of the Ministry for Economic Development # 485 dated 23/11/2009.

Bureau Veritas Certification Holding SAS
08 September 2010

Flavio Gomes – BVC Operational Manager Vera Skitina - Team Leader, Lead Verifier

6 REFERENCES

Reviewed document or Type of Information referred to in Appendix A

1	PDD "Production modernization at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation", Version 1.6, June 08, 2010. Supporting documentation: a. 20100607_CF_Amurmetal b. 20100607_ER_Amurmetal c. 20100607_SD2007_Amurmetal
2	Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.
3	"Tool for the demonstration and assessment of additionally" (Version 05.2), CDM – Executive Board.
4	Guidance on criteria for baseline setting and monitoring (Version 02).
5	"Strategy of metal industry development in Russia till 2020" http://www.minprom.gov.ru/activity/metal/strateg/2.

Reviewed documents made available from the interviews with project owner

6	The newspaper "Za stal" #12 (3112) 8-th April, 2010.
7	Report of Management of architecture and city construction of Komsomolsk-on-Amur city administration concerning the construction of objects.
8	Technical report of EAF#2 for 2007.
9	Technical report of EAF#2 for 2008.
10	Technical report of EAF#2 for 2009.
11	Resources consumption for EAF#2 in 2007.
12	Table "Consumption of raw materials in 2007".
13	Clarification note for planning and economy department of EAF#2 for 2007.
14	Scheme of electricity supply in Amurmetal 01/04/2009.
15	Letter to Antony Haskelis from Belsky V.V. - Technical Director of JSC "Amur-metal" concerning JI history of the project.
16	Protocol #1 of Summit on JI mechanisms implementation in JSC "Amurmetal".
17	Technical project "Reconstruction and investments' justification for EAF#2, construction of DSP-125 and slab CC-machine" made by OJSC "Ural-gipromez".
18	Agreement # 0460803/332-06 for the work performing between JSC "Amur-metal" and OJSC "Uralgipromez".
19	Scheme of metering tools on JSC "Amurmetal".
20	Technical report of EAF#2 for 2006 (correction).

21	List of verification protocols for metering tools.
22	Resources consumption for EAF#2 in 2006.
23	Table "Consumption of raw materials in 2006".
24	List of tariffs for energy sources and materials for 2005 and 2006.
25	An analysis of melted steel self-price for EAF#2 in 2006 –correction.
26	An analysis of slab sample self-price CC-machine of EAF#2 in 2006 – correction.
27	Order #1 on "Approval of preliminary technical development plan on OJSC "Amurmetal" from 28/01/2010.
28	Program of technical development for the production investment plan completing 2 mln. tones per annum.
29	Limit on waste storage given by ROSTECHNADZOR from 19/02/2007.
30	Permission #66-08/2009 on pollutants emission given by the order of Far East department of ROSTECHNADZOR from 20.11.2009.
31	Positive conclusion #309-07/HE-0309/18 by GLAVGOREXPERTIZA (Khabarovsk branch) from 21/12/2007.
32	Calculation of real sell of products for 2005 in comparison with 2005.
33	Dynamics of prices and production self-price of sorted block.
34	20100809_SD_Blooming_2007.
35	20100802_SD_EAF2_Amurmetal.
36	20100802_SD_EAF1_Amurmetal.
37	20100701_SD_Risk_Amurmetal.

Persons interviewed:

1	S. Antonov – JSC "Amurmetal", Head of Energy Department.
2	T. Belkina – JSC "Amurmetal", Deputy head of Energy Department for enrgy resource acconting.
3	M. Zubarev - JSC "Amurmetal", Head of Technical Department.
4	P. Kosolapov - JSC "Amurmetal", Head of OOOS.
5	A. Tikhonov – JSC "Amurmetal", Deputy head of OOOS for air and water protection laboratory.
6	P. Dorosh - JSC "Amurmetal", Head of Technical Development Bureau.
7	I. Kravtsov - JSC "Amurmetal", Leading engineer of BTR.
8	V. Kazmina - JSC "Amurmetal", Head of Economic Department.

9	V. Baranovskaya - JSC “Amurmetal”, Leading economist of EAF#2 shop.
10	M. Butyaykin – Global Carbon BV, JI Consultant.

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 with paragraph 34 of the JI guidelines; (b) At least one written pro-	Table 2, Section A.5.

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		ject 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
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 nation-

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
			al 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 Convention on Climate Change”. The national focal point of the Netherlands is Ministry of economic affairs SenterNovem.

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
			National guidelines and procedures for approving JI projects: Netherlands National Guidelines and Procedures for Approving Article 6 Projects, Including the Considerations of Stakeholders.
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

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
	§21(d)/24		RF Government 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	Global Carbon BV (PDD developer) has submitted a PDD Version 1.6 dated June 08, 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 10 June 2010 till 09 July 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 considered significant by the project participants or the host Party, an environmental impact assessment in accordance	Marrakech Accords, JI Modalities, §33(d)	OK	Table 2, Section F

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
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 to participate in the JI project.	JISC "Modalities of communication of Project Participants with the JISC" Version 01, Clause A.3	The Russian project participant will be authorised by the Host Party through the issuance of the approval for the project.	Table 2, Section A

1. REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		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					
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: "Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation". **CAR 02** The indicated sectoral scope (4) Manufacturing industries is incorrect, please change it to sectoral scope (9) Metal production.	CAR 02	OK
A.1.2. Is the current version number of the document presented?	1,2	DR	The PDD Version 1.6 was made publicly available for comments on UNFCCC JI site from 10 June 2010 till 09 July 2010.		OK
A.1.3. Is the date when the document was completed presented?	1,2	DR	PDD Version 1.6 dated June 08, 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 steelmaking process on the climate through modernization of the existing production process by application of a more energy efficient technology. Emissions of GHG will be reduced significantly as a result of the project implementation. In order to achieve the goal of the project, Amurmetal will construct a new EAF #2 and upgrade existing EAF #1. In the baseline scenario it is assumed that the level of steel production will be equal to the project scenario level. However, there is a limitation on the existing steelmaking production of the EAF#1 and, depending on its expected capacity, third party steel producer would have produced the incremental part. 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.		OK
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		OK

			in Section A.4.3.1 of the PDD.		
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 Amurmetal. Party B is the Netherland. Project participant from the Party B is Global Carbon BV.		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 PDD?	1,2	DR	The contact information about the project participants is provided in PDD Annex 1.		OK
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	Khabarovsk Krai is located in the centre of Russian Far East (Far East Federal District). Administrative centre of the krai is Khabarovsk. Population of the krai is about 1,402,000 (2009) on the land area of 788,600 sq. kms.		OK

A.4.1.3. City/Town/Community etc.	1,2	DR	Komsomolsk-on-Amur is located in 270 km to the North-East from Khabarovsk. Komsomolsk-on-Amur population was 270.9 thousand in 2009.		OK
A.4.1.4. Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	1,2	DR	The Amurmetal production site is located at the north-west outskirts of Komsomolsk-on-Amur (see Figure A.4.1.4.1). The site coordinates are: 137° 00' E longitude, 50° 33' N latitude. **CAR 03.** Please provide the source of coordinates presented in PDD. Are these coordinates of the plant or the city Komsomolsk-on-Amur?	CAR 03	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. Proposed JI project aims at modernisation of steelmaking process and increase of steel production up to 2.1 million tonnes per year using modern energy-efficient technology. New EAF#2 made by Concast (Switzerland) was constructed. EAF#1 was modernised towards steel capacity increasing. EAF#1 and EAF#2 are electric arc furnaces with the simi-	CAR 04	OK

			lar technologies. The main benefit of this process is that EAF allows to use 100 % metal scrap during steel production and also allows to control the composition of fluid metal inside the Ladle furnace (more energy efficiently) and permits to exclude iron from steel production (iron production connected with significant CO_2 emission). **CAR 04** Section A.4.2 contains table with main technical data of EAFs. This table should include data on natural gas consumption as according to PDD natural gas is injected into the scrap to accelerate scrap melting.		
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	**CL 01.** Please clarify if the project requires extensive initial training and maintenance efforts with regard to the use of the new equipment on EAF1 and EAF2.	CL 01	OK

A.4.2.5.	Does the project make provisions for meeting training and maintenance needs?	1,2	DR	Conclusion is pending a response to CL 01.	Pending	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	The explanation provided in PDD Section A.4.3 reads: "The main benefit of electric arc steelmaking process is that EAF allows using 100 % metal scrap during steel production in comparison with basic oxygen steel. Basic oxygen steel is requested to use iron during production. Iron production is connected with significant CO_2 emission. Thus, this technology allows to exclude iron from steel production. Also EAF is more environmental friendly than Open Hearth Furnace (OHF) which is absolutely obsolete technology and still used in CIS only. The Ladle furnace is included in steelmaking process by EAF. It is reducing of power consumption too." **CAR 05.** PDD reads that "EAF is more environmentally friendly than Open hearth Furnace (OHF)". Nothing is said about others steelmaking equipment which may be used in baseline	CAR 05	OK

			scenario for the steel production of incremental part.		
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 3,251,860 tCO2e over the crediting period 2008 - 2012. Refer to PDD Section A.4.3.1. According to the PDD version 1.8 dated 09/08/2010 emission reduction is 3,339,629 tCO2e. 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 650,372 tCO2e. Refer to PDD Section A.4.3.1. According to the PDD version 1.8 dated 09/08/2010 the estimated annual emission reduction is 667,926 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	OK
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 "Using of the ex-	CAR 06	OK

			isting EAF#1 and other steel plants will produce the remaining steel demand." It is the continuation of the existing situation. The existing EAF #1 will continue to operate. Annual steel production of EAF #1 will be about 600 thousand tonnes. As the market demand is growing Amurmetal will lose market share under Scenario 1. In other words, the incremental steel volume (about 1.4 million tonnes of steel) would be produced by the other (new and/or existing) steel plants. It will depend on demand for steel. Other steel plants can increase steel production in Russia. Also new plants can be built in Russia to cover steel market demand. Amurmetal continues operating the existing steelmaking capacity (EAF#1) without implementation of the proposed project. Key information and data used to establish the baseline is provided in the tabular form of the JI format. Annex 2 Baseline Information contains a summary of the key elements in tabular form. **CAR 06.** Tables with key data used to establish the baseline for the steel production of EAF#1 and total steel production in the project scenario in year y should contain QA/QC procedures, as steel production is weighted by the measuring tools that should be controlled and certified regularly. Please include necessary	CAR 07 CAR 08 CAR 09	OK OK OK

			information in the tables. **CAR 07.** The baseline approach used in PDD is not in accordance with the situation on the Russian steel market which is open for the foreign producers (in 2007 Russia imported were 6.658 mln tons of black metals excluding pig iron and ferroalloys it is 10-12% from the total annual consumption of Russian industry http://www.gks.ru/dbscripts/Cbsd/DBInet.cgi). Hence it is incorrect to take into consideration only Russian producers because incremental part of metal could be produced by foreign companies (Chinese, Japanese, etc.) This is very possible as mighty foreign producers are in the vicinity of Far East consumers. Please justify the conservatism of the approach of neglecting foreign producers. **CAR 08**. Please justify that "third party steel producers" would have capacities for the incremental part production for the baseline in a complete and transparent manner. **CAR 09.** Please justify the conservativeness of approach applied for the baseline emissions calculation (calculation of emissions from all steel plants in Russia with the use of data for every plant provided by LLC "Korporatsiya proizvoditeley chernih metallov") in comparison		

			with the use of IPCC data.		
B.1.2. Is it justified the choice of the applicable baseline for the project category?	1,2,3	DR	It is explicitly indicated that a JI specific approach regarding baseline setting is applied in accordance with Appendix B of the JI Guidelines. Baseline is identified by listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one. Three possible alternatives for baseline scenario were identified, described, and assessed: 1. Using of the existing EAF#1 and other steel plants will produce the remaining steel demand. 2. Construction of new EAF and modernization of the old EAF#1. 3. Modernization of the EAF#1 and demothballing of the open-hearth plant. 4. Using the existing EAF#1, modernization of the arc-furnace plant #1 combined with demothballing of the open-hearth plant. After the assessment of the alternative scenarios, only Scenario 1 was left as plausible. Scenarios 2 and 3 were excluded as very expensive and out of date. Scenario 4 was excluded due to the higher investment as compared with	CAR 10 CL 02	OK OK

			EAF#1 modernization. As a result, Scenario 1 was selected as the baseline scenario. **CAR 10.** Please justify that in the scenario 3, modernization of several furnaces will require higher investment than in EAF#1 modernization (provide analysis or investment calculations). **CL 02.** Please clarify how the old (not modernised) furnace EAF1 in the baseline would provide the same quality of products as planned according to the project.		
B.1.3. Is it described how the methodology is applied in the context of the project?	1,2	DR	A theoretical description of the baseline is provided in PDD Section D.1.1.4 and Annex 2.		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, 4	DR	Basic assumptions of the baseline methodology presented in Section D.1.1.4. and Annex 2 are as follows: - Baseline emissions consist of two parts: production emissions by the existing equipment (EAF #1) and production emissions by other metallurgical plants (the further is referred as the incremental part). - The incremental part of baseline is calculated as a difference between the project production and output of EAF#1 before modernization. - Specific energy consumption factors for ox-	Pending	OK

			ygen and air production at Amurmetal are fixed in project scenario, they are ex ante. In this context, some baseline and project parameters are calculated by determining a three year average prior to project start. - The incremental part of baseline emission is calculated on the basis of steel production emission factor (third party steel producers) in Russia. Emission factor due to incremental production of steel is calculated with the use of the approach resembling the "Tool to calculate the emission factor for an electricity system" (version 02). - The above approach envisages the calculation of Operating Margin (emission factor for the all plants) and Build Margin (emission factor for the new ones). These two factors are used to calculate Combined Margin factor. Verifiers observe that the use of Build Margin is inappropriate for the steel production as it was developed for the electricity emission factor calculation and was designed to reflect dispatch of electric energy within united energy systems. Steel production is not controlled by any dispatch center and steel plants work autonomously. So it is more appropriate for the steel emission factor to use only Operation Margin without taking into account Build Mar-		

			gin. Anyway in PDD Build Margin is taken as zero. Conclusion is pending a response to CAR 07 and CAR 08		
B.1.5. Is all literature and sources clearly referenced?	1,2	DR	Generally literature and sources are presented. **CAR 11** Please provide full reference to the sources of data for specific emission of CH4 and N2O for the estimation of emissions presented in section D.1.	CAR 11	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 the "Tool for the demonstration and assessment of additionally" (Version 05.2) [3] was used. At Step 1a, 4 alternative scenarios were listed (three mentioned in section B.1 and also the proposed project activity undertaken without JI registration. At Step 1b it is concluded that all scenarios are consistent with mandatory laws and regulations of the Russian Federation. For Alternative 2 (project without JI registration) benchmark analysis was applied, followed by sensitivity analysis. Input data for the analyses is provided. It is shown that the project	CAR 12 CAR 13 CAR 14 CAR 15 CAR 16 CAR 17	OK OK OK OK OK OK

			activity is not economically and financially attractive. **CAR 12.** Please provide the rationale for conducting own investment analysis having in mind that Amurmetal has an "Explanatory Note on investment substantiation" (reference [7] in the Working Design documentation). Please compare the results of own analysis with those mentioned above. **CAR 13.** Benchmark IRR=20% (12% central bank refinancing rate and 8% risk factor) was proposed by PDD developer. The Central Bank refinancing rate reflects inflation. However, calculations in PDD are carried out at constant prices as of 2005. The explanation is given as follows: "The calculation at constant prices as of the time of decision-making provides an objective view of the long-term future. It allows performing a "pure" sensitivity analysis not impacted by expert estimations of inflation levels, prices etc., and to identify the most important factors really impacting the project's financial performance". So there is inconsistency between the chosen benchmark value (accounting inflation) and the no-inflation calculation model. **CAR 14.** Please provide the sources of the in-		

			put data for the costs and tariffs used in investment analysis. **CAR 15.** The PDD statement "it is unlikely that steel and metal stock price will increase or decrease separately, hence these parameters are considered together" (English is corrected) is erroneous. The market steel price is regulated by the market and depends on the other steel producers. The increase/decrease of metal stock price accordingly changes the production steel price and does not change the market steel price. Therefore it is questionable to make sensitivity analysis for these indicators taken together. **CAR 16.** According to the project boundaries presented on the figure B.3.1 the product of the project is melted steel. In investment analysis was used average internal steel price for the calculation of IRR. Melted steel is a semi-product of the metal plant and has no market price (nobody sales it). Please provide the description and calculation of average internal steel price value. Step 3, barrier analysis, was not conducted, as envisaged by [3]. At Step 4, the common practice analysis was		

			conducted. **CAR 17.** Common practice analysis cannot be accepted by verifiers. Please provide a transparent analysis of distinctions in technology, scale, product and environment of the project activity from similar activities of the steel producers located in the same geographical region and explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive. When doing so, please take note, that production of steel in electric arc furnaces is generally wide spread in Russia. With the unresolved CAR 12, CAR 13, CAR 14, CAR 15, CAR 16, CAR 17 the additionality of the project activity 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	Conclusion is pending a response to CAR 05	Pending	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 07, CAR 08, and CAR 10.	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" [5].		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	The description of project boundaries is provided. So 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 18.** Please include in Table B.3.1 gases (CH4 and N2O) that was excluded from the consideration due to their small volume of emissions (see the description in section D.1).	CAR 18	OK
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	**CAR 19.** Please provide date of baseline setting in DD/MM/YYYY format.	CAR 19	OK
B.4.2. Is the contact information provided?	1,2	DR	Mikhail Butyaykin Global Carbon BV		OK

			Phone: +31 30 850 6724 Fax: +31 70 891 0791 Email: butyaykin@global-carbon.com;		
B.4.3. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	It is indicated that Global Carbon BV is 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	Project start date is 2 March 2006 when contract between JSC Amurmetal and OJSC "Uralgipromez" was signed. OJSC "Uralgipromez" has developed design documents for construction new EAF.		OK
C.2. Expected operational lifetime of the project					
C.2.1. Is the project's operational lifetime clearly defined in years and months?	1,2	DR	The operational lifetime of the project is 20 years or 240 months.		OK
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 5 years or 60 months with the starting date 01/01/2008.		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 in accordance with Appendix B of the JI Guidelines.		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	DR	Data to be collected in order to monitor emissions from the project are defined in PDD Section D.1.1.1. Data to be collected include: - project emissions that consist of EAF1 and EAF2 emissions; emissions from electricity, fuel and charge materials consumption; emissions associated with charge materials production; - emission factors for charge materials' production; emission factor for fuel and electricity consumption; - net calorific value of fuel; - specific energy consumption for oxygen and air production. It is defined that the data will be archived in electronic and paper form. **CAR 20.** Please describe under which conditions is the natural gas amount measured: working, normal or standard. **CAR 21.** It is not indicated how the variables presented in table D.1.1.1 with recording fre-	CAR 20 CAR 21	OK OK

			quency "monthly" is reduced to yearly format as in the formulae below these variables have annual values.		
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	DR	These are formulae (1) - (17) presented in PDD Section D.1.1.2. **CL 03.** Please clarify how emissions from the Ladle furnace were taken into account in the calculations as it was included in the project boundaries.	CL 03	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	DR	Data to be collected in order to monitor baseline emissions are defined in PDD Section D.1.1.3. Data to be collected include: - baseline emission that consist of emission from on-site production (EAF1) and from incremental production; - total steel production in the project scenario; steel production of EAF1; incremental steel production in the baseline; - baseline emission factor for incremental steel production. **CAR 22.** Please explicitly refer to the sources of data to be monitored, which are referred in PDD Section D as "plant records". Please indicate title of a relevant document and its perio-	CAR 22	OK

			dicity.		
D.1.6. Description of the Formulae used to estimate baseline emissions (for each gas, source etc, emissions in units of CO2 equivalent).	1,2	DR	Conclusion is pending a response to CAR 07. **CAR 23.** Annex 2 provides calculation of BEF for incremental production under the baseline scenario. Presented formula (13) is incorrect. It considers the electricity consumption for the iron production, i.e. charge material, at the incremental plants. However, in the project scenario, electricity consumption is considered only for melting of steel; electricity consumption for charge materials is not taken into consideration. This implies overestimation of the baseline emission factor since electricity consumption is considered both for charge material and final products. Please take note: the emission factor for Electric Arc Furnace presented in Table Anx.2.5 of PDD is 0.578 tCO2/ton of steel, whereas in 2006 IPCC V.3 Ch. 4 p.4.27, Table 4.1 the same factor is 0.08 tCO2/ton. Please provide consistency between the baseline emissions and project emissions calculation.	CAR 23	OK
D.1.7. Option 2 – Direct monitoring of emissions reductions from the project (values should be consistent with those in section E)	1,2	DR	Not applicable.		OK
D.1.8. Data to be collected in order to monitor emis-	1,2	DR	Not applicable.		OK

sion reductions from the project, and how these data will be archived.					
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	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	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	DR	In the baseline scenario, energy consumption (natural gas, coke) is higher than in project scenario. Therefore, estimated leakage is conservatively neglected.		OK
D.1.12. Description of the Formulae used to estimate emission reductions for the project (for each gas, source etc.; emissions in units of CO2 equivalent).	1,2	DR	This is the Formula (24): $ER_y = BE_y – PE_y$. Refer to PDD Section D.1.4.		OK
D.1.13. Is information on the collection and archiving of information on the environmental impacts of the project provided?	1,2	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	DR	Reference to relevant Russian regulations is provided. These are: - Federal law of Russian Federation "On Environmental Protection" (10 January 2002, N 7-FZ); - Federal law of Russian Federation "On Air		OK

			Protection" (04 May 1999, N 96-FZ);		
D.1.15. If not applicable, is it stated so?	1,2	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	DR	QC and QA procedures are described in PDD Section D.2. **CAR 24.** References to electricity meters (P-11 and P-33), fuel meters (P-14, P-16, P-17, P-36, P-38, P-39) and weighing apparatus (P-12, P-13, P-15, P-34, P-35, P-37) are inadequate. Please refer to PDD Sections D.1.1.1.	CAR 24	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	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	DR	Manager of Environmental protection department of JSC Amurmetal, Mr. Pavel Kosolapov. Phone: +7 4217529368 E-mail: kosolapov@amurmetal.ru JI Consultant of Global Carbon BV, Mr. Mikhail Butyaykin. Phone: +31 30 850 6724 Fax: +31 70 891 0791 E-mail: butyaykin@global-carbon.com		OK
D.4.2. Is the person/entity also a project participant listed in Annex 1 of PDD?	1,2	DR	It is indicated that JSC Amurmetal and Global Carbon BV are project participants.		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 project emissions in accordance with the Formula specified in for the applicable project category?	1,2	DR	The estimated project emissions for each source of emissions are presented in PDD Section E.1 Table E.1.1.		OK
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?	1,2	DR	There is no explicit indication that conservative assumptions were made.		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 D.1.11.		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	Conclusion is pending a response to CAR 07, CAR 21.	Pending	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 presented in PDD Section E.4 Table E.4.1.		OK
E.4.3. Have conservative assumptions been used to calculate baseline GHG emissions?	1,2	DR	There is no explicit indication that conservative assumptions were made.	Pending	OK

			Conclusion is pending a response to CAR 07, CAR 09 and CAR 21.		
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 (24) $ER_y = BE_y – PE_y$ in PDD. Refer to Section E.5 Table E.5.1 for the crediting period.		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 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 25.** List of relevant documentation with titles, dates etc. is not provided.	CAR 25	OK

F.1.2. Are there any host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1,2,7	DR	Design Document contains Section "Environment Protection" as per Construction Code of RF. It received positive conclusion by Glavgosexpertiza which was made available to verifiers.		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 environmental impact.		OK
F.1.5. Are transboundary environmental impacts considered in the analysis?	1,2	DR	PDD reads "that according to section "Environmental Protection" of Design Document, project does not have any transboundary environmental impacts". This issue was checked during the site visit.		OK
F.1.6. Have identified environmental impacts been addressed in the project design?	1,2	DR	Environmental impacts have been assessed in section "Environmental Protection" of Design Document. Project impact is insignificant. The design document received a positive conclusion by Glavgosexpertiza.		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	**CAR 26.** Please provide information if comments from local stakeholders were received. If not applicable, please state so.	CAR 26	OK
G.1.2. The nature of comments is provided?	1,2	DR	Conclusion is pending a response to CAR 26.	Pending	OK
G.1.3. Has due account been taken of any stakeholder comments received?	1,2	DR	Conclusion is pending a response to CAR 26.	Pending	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.		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.		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.		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	Response 1 dated 01/03/2012 The host country letter of approval was issued on 12th of March 2012.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 02 The indicated sectoral scope (4) Manufacturing industries is incorrect, please change it to sectoral scope (9) Metal production.	A.1.1	Response 1 dated 19/07/2010 The sector scope was changed on (9) Metal production.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 03. Please provide the source of coordinates presented in PDD. Are these coordinates of the plant or the city Komsomolsk-on-Amur?	A.4.1.4	Response 1 dated 19/07/2010 The project site coordinates are improved by program Google Earth. The project site coordinates are: 135° 59' 5"E longitude, 50° 33' 50" N latitude. Response 2 dated 02/08/2010 The source was added in PDD on the page 6 (by the program Google Earth).	Conclusion on Response 1 CAR is not closed. Please indicate the source of information on coordinates in PDD. Conclusion on Response 2 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 Section A.4.2 contains table with main technical data of EAFs. This table should include data on natural gas consumption as according to PDD natural gas is injected into the scrap to accelerate scrap melting.	A.4.2.1	Response 1 dated 19/07/2010 Natural gas consumption was added in the Table A.4.2.1.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 05. PDD reads that "EAF is more environmentally friendly than Open hearth Furnace (OHF)". Nothing is said about others steelmaking equipment which may be used in baseline scenario for the steel production of incremental part.	A.4.3.1	Response 1 dated 19/07/2010 The following text was added. Also a basic oxygen furnace together with a blast furnace has biggest EF of GHG emissions.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 06. Tables with key data used to establish the baseline for the steel production of EAF#1 and total steel production in the project scenario in year y should contain QA/QC procedures, as steel production is weighted by the measuring tools that should be controlled and certified regularly. Please include necessary information in the tables.	B.1.1	Response 1 dated 19/07/2010 The necessary information was included on the page 16. Steel production will be calculated as sum of daily reports in Production department during a month. Monthly data is checked. The check is based on the monthly technical report and weighing of goods. Response 2 dated 02/08/2010	Conclusion on Response 1 CAR is not closed. Please include due information on QA/QC procedures for steel production of EAF#1. Conclusion on Response 2 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
		The necessary information was added on the pages 15-16. Steel production of EAF#1 was calculated as average for three years according to the plant technical report. Steel production is calculated as sum of daily reports of Production department during a year. Annual data is being checked. The check is based on the annual technical report and weighing of goods.	
CAR 07. The baseline approach used in PDD is not in accordance with the situation on the Russian steel market which is open for the foreign producers (in 2007 Russia imported were 6.658 mln tons of black metals excluding pig iron and ferroalloys it is 10-12% from the total annual consumption of Russian industry http://www.gks.ru/dbscripts/Cbsd/DBInet.cgi). Hence it is incorrect to take into consideration only Russian producers because incremental part of metal could be produced by foreign companies (Chinese, Japanese, etc.) This is very possible as mighty foreign producers are	B.1.1	Response 1 dated 19/07/2010 According to the Steel Statistical Yearbook 2008, all Russian steel export exceeded all Russian import fourfold (29 411 and 7 293 thousand tonnes of steel). Import is connected only with final product. Import of ingots and semi-products is 15 thousand tonne of steel which is less than 1%. Amurmetal project produces semis. Therefore in case absence of Amurmetal project, Other Russian steel producers will produce semis and export.	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
in the vicinity of Far East consumers. Please justify the conservatism of the approach of neglecting foreign producers.			
CAR 08. Please justify that "third party steel producers" would have capacities for the incremental part production for the baseline in a complete and transparent manner.	B.1.1	Response 1 dated 19/07/2010 Accordingly report of Korporatsiya proizvoditeley chernih metalov, capacity factors are EAF-82.6%; OHF-96.5%; BOF-0.79% in Russia in 2007 year. Steel production was reduced in 2008-2010. Thus third party steel producers have capacities for the incremental part production for the baseline. Response 2 dated 02/08/2010 According to the report of Korporatsiya proizvoditeley chernih metalov, load factors are EAF-82.6%; OHF-96.5%; BOF-78.9% in Russia in 2007 year. It corresponds with 12 million tonnes of possible steel production increase per year. The baseline incremental part production is 1.5 million tonnes of steel per year. Steel production was reduced in 2008-2010 in Russia. Thus third party steel producers have capacities for the incremental part production for the baseline.	Conclusion on Response 1 CAR is not closed. Please justify that "third party steel producers" would have capacities for the baseline incremental part production in 2011-2012. Conclusion on Response 2 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 09. Please justify the conservativeness of approach applied for the baseline emissions calculation (calculation of emissions from all steel plants in Russia with the use of data for every plant provided by LLC "Korporatsiya proizvoditeley chernih metallov") in comparison with the usage of IPCC coefficients for steel making industry emission calculation.	B.1.1	Response 1 dated 19/07/2010 Accordingly Greenhouse Gas Inventories, Chapter 4 (Metal Industry Emissions, Figure 4.9, Decision tree for estimation of CO2 emissions from ferroalloy production) Tier 1 cannot be used in a key category. Also usage of Tier 2 or 3 approaches is more correct in the baseline and the project scenario.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 10. Please justify that in the scenario 3, modernization of several furnaces will require higher investment than in EAF#1 modernization (provide analysis or investment calculations).	B.1.2	Response 1 dated 19/07/2010 The open-hearth plant was mothballed in 1996 year. It was inactive for more than 10 years and before that it was exploited more than 20 year. It had destructive influence on shop metal structures, furnaces lining and flue liners. Usual an OHF is required full reconstructed once in 20 years. Therefore full reconstructed of shop and furnace was required. Open-hearth plant has been inspected during site visit of BVC. Response 2 dated 02/08/2010	Conclusion on Response 1 CAR is not closed. Justification of higher investment in modernization of several furnaces under scenario 3 is not provided. Conclusion on Response 2 The requirement to the level of investments for scenario 3 was withdrawn from PDD. Thereby CAR has become

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 3 was corrected on the page 15. In this scenario, the open-hearth plant will be demothballed. EAF#1 will be modernised. Capacity of EAF#1 will be increased by about 400 thousand tonnes of steel per year. Annual capacity of the open hearth plant will be about 1 million tonnes of steel. In this case, volume of natural gas consumption will be the highest out of all scenarios. Also it means investment in an outdated technology it does not make sense. Steelmaking by EAF is a more modern technology than OHF. It would be unreasonable to invest in an outdated technology. Moreover, this scenario is not conservative in terms of greenhouse gas emissions. Thus this scenario cannot be considered as a plausible scenario	irrelevant. CAR is withdrawn.
CAR 11. Please provide full reference to the sources of data for specific emission of CH4 and N2O for the estimation of emissions presented in section D.1.	B.1.5	<u>Response 1 dated 19/07/2010</u> The text was changed and corrected on the page 27. Only CO_2 emissions as GHG are taken into account. Major source of CH_4 and N_2O emission at a steelmaking process is the burning of fuel (coke and natural gas). Given fuel specific consumption, in normally	<u>Conclusion on Response 1</u> CAR is not closed. PDD developer included in the response other values of specific emissions as compared with the previous original PDD. Please provide trans-

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
		blast furnace process for basic oxygen steel in Russia, CH_4 emission is of 113 g/tonne of steel and N_2O emissions of 17 g/tonne of steel compared with about 530 kg CO_2/ tonne of project steel (calculation according to 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, STATIONARY COMBUSTION and specific fuels consumption). Omitting these two pollutants for a steelmaking process is conservative, because they contribute to less than 1 % of the total emissions (CO_2 equivalent), far below the confidence level for the CO_2 emission calculation. The CH_4 and N_2O emission reductions will not be claimed in the baseline scenario. This is conservative. Response 2 dated 02/08/2010 Previous calculations were recalculated taking into account average consumptions of natural gas and coke for converter steel production and average content of iron in converter steel during its production in Russia. Converter steel was chosen as the most energy intensive technology of steelmaking. New file of CH_4 and N_2O emission calculation was presented to	parent calculations that justify the use of provided figures (CH_4 emission -113 g/tonne of steel and N_2O emissions - 17 g/tonne of steel compared with about 530 kg CO_2/ tonne of project steel). Conclusion on Response 2 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
		BV. The quantities of CH_4 and N_2O emission were corrected according to new calculation on page 28.	
CAR 12. Please provide the rationale for conducting own investment analysis having in mind that Amurmetal has an "Explanatory Note on investment substantiation" (reference [7] in the Working Design documentation). Please compare the results of own analysis with those mentioned above.	B.2.1	Response 1 dated 19/07/2010 New investment analysis is required for the purpose of the investment analysis in the context of the CDM tool. The main reason is that the investment analysis of Uralgipromez was calculated only for EAF 2 and it took into account repayment to the bank. The plant used only debt funds. Therefore IRR calculated by Uralgipromez is 2%. Investment analysis without repayment for EAF1 and EAF2 is 2.7%.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 13. Benchmark IRR=20% (12% central bank refinancing rate and 8% risk factor) was proposed by PDD developer. The Central Bank refinancing rate reflects inflation. However, calculations in PDD are carried out at constant prices as of 2005. The explanation is given as follows: "The calculation at con-	B.2.1	Response 1 dated 19/07/2010 The IRR benchmark was recalculated using new methodology in the section B2. Response 2 dated 02/08/2010 Name of "company related risk premium" was corrected and are the same in both documents. Supporting	Conclusion on Response 1 Response is accepted in main but the CAR will be closed when: Consistency is ensured between factors: "Company related risk premium" = 4% in

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
stant prices as of the time of decision-making provides an objective view of the long-term future. It allows performing a "pure" sensitivity analysis not impacted by expert estimations of inflation levels, prices etc., and to identify the most important factors really impacting the project's financial performance". So there is inconsistency between the chosen benchmark value (accounting inflation) and the no-inflation calculation model.		document from Amurmetal was presented to BV. Response 3 dated 09/08/2010 The source was added in Table B.2.1 (Amurmetal assessment).	PDD and "Market risk premium for developed markets" = 4% in calculation model The source of information for factor "Company related risk premium" in Table B.2.1 of PDD is indicated. Conclusion on Response 2 Response is accepted in main but the CAR will be closed when: The source of information for factor "Company related risk premium" in Table B.2.1 of PDD is indicated. Conclusion on Response 3 CAR is closed based on due correction made to PDD.
CAR 14. Please provide the sources of the input data for the costs and tariffs used in in-	B.2.1	Response 1 dated 19/07/2010	Conclusion on Response 1 CAR is not closed. Please

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
vestment analysis.		The investment analysis was recalculated in the section B2. As source was taken data of Amurmetal cost calculation. <u>Response 2 dated 02/08/2010</u> Supporting documents (blooms production price) were presented to BV. <u>Response 3 dated 09/08/2010</u> Authenticated supporting document (blooms price) is presented to BV.	provide a documented justification of blooms production price for 2005-2006. <u>Conclusion on Response 2</u> The supporting graphical information of cost changing was presented. Please provide a documented justification of blooms production price for 2005-2006. CAR is not closed. <u>Conclusion on Response 3</u> CAR is closed based on due correction made to PDD.
CAR 15. The PDD statement "it is unlikely that steel and metal stock price will increase or decrease separately, hence these parameters are considered together" (English is corrected) is erroneous. The market steel price is regulated by the market and depends on the other steel producers. The in-	B.2.1	<u>Response 1 dated 19/07/2010</u> The text was added on the page 20. It is unlikely that steel and metal stock price will go up or down independently one from another because these parameters are considered together. Scrap cost occupies fixed part in steel coast of Amurmetal. Also	<u>Conclusion on Response 1</u> CAR is not closed. Please, provide us documented evidence which would confirm the whole statement of Response 1 (for example, graphical trends which would

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
crease/decrease of metal stock price accordingly changes the production steel price and does not change the market steel price. Therefore it is questionable to make sensitivity analysis for these indicators taken together.		Amurmetal is exclusive scrap consumer in Russian Far East (exclusive steel producer). Therefore Amurmetal dictates metal stock price for this region. <u>Response 2 dated 02/08/2010</u> Supporting document (graphical trends which would show change in time of steel and metal stock price in Amurmetal) was presented to BV. <u>Response 3 dated 09/08/2010</u> Authenticated supporting documents (blooms price) were presented to BV.	show change in time of steel and metal stock price in Amurmetal). <u>Conclusion on Response 2</u> The supporting graphical information was presented. Please indicate the sources of input data in the presented graphical trend. CAR is not closed. <u>Conclusion on Response 3</u> CAR is closed based on due correction made to PDD.
CAR 16. According to the project boundaries presented on the figure B.3.1 the product of the project is melted steel. In investment analysis was used average internal steel price for the calculation of IRR. Melted steel is a semi-product of the metal plant and has no market price (nobody sales it). Please provide the description and calculation of av-	B.2.1	<u>Response 1 dated 19/07/2010</u> The project boundaries and the Sources of emissions were corrected on the pages 23-24. Parameters of formulas (6, 14) were corrected in section D.1.1.2. Bloom production (CCM) was included in the project boundaries. Bloom is final product sold by the plant. Bloom price is taken for recalculation of invest analy-	<u>Conclusion on Response 1</u> CAR is not closed. PDD developer changed the type of final product. It has become bloom. Please justify that in the baseline the same quality 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
erage internal steel price value.		sis. Consumption of fuel i by CCM, EAF and auxiliary equipment in month y (tonne or nm3); <u>Response 2 dated 02/08/2010</u> Third party producers can provide the same quality of blooms because readjustment of CCM does not require significant investment (only change of continuous casting mold and readjustment of pinch rolls). Data of bloom types of Russian producers were presented to BV. <u>Response 3 dated 09/08/2010</u> Baseline emission factor is updated in order to include 19 plants that using CCM and 8 plants that using blooming mill. A blooming mill can produce blooms as CCM in Amurmetal. Data on Russian blooming mill producers is presented to BV. ERs were changed in PDD.	blooms as planned in the project would be provided by third party producers. Please indicate in Response the correct number of pages where correction was made. <u>Conclusion on Response 2</u> Presented by project developer supporting information of bloom types of Russian producers showed that only 19 plants (their titles provided) could manufacture blooms on baseline. Please update calculation of emission factor for baseline considering these 19 plants (other ones must be entirely excluded from the consideration). PLEASE TAKE NOTE: Superfluous plants must be

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
			excluded from the all calculation (all sheets: Iron EF, BOF EF, EAF EF, OHF EF). Certainly, this will change values of emission factors by the baseline. CAR is not closed. Conclusion on Response 3 CAR is closed based on due correction made to PDD.
CAR 17. Common practice analysis cannot be accepted by verifiers. Please provide a transparent analysis of distinctions in technology, scale, product and environment of the project activity from similar activities of the steel producers located in the same geographical region and explain why the similar activities enjoyed certain benefits that rendered it financially/economically attractive. When doing so, please take note, that production of steel in electric arc furnaces is	B.2.1	Response 1 dated 19/07/2010 The text was added on the page 22. The steelmaking technology usage by Amurmetal does not use iron in charging (accidental iron in scrap is equal to 0.22%). Average iron consumption for EAFs in Russia is 11.45% (Average iron consumption for all steelmaking processes in Russia is 55.24% (OHF = 45.27%; BOF = 76.6%). There are only three plants from 18 electric furnace steelmakings in Russia which consume less iron than Amurmetal (such as	Conclusion on Response 1 CAR is closed based on due correction made to PDD. Please indicate the correct number of page in PDD where correction was made.

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
generally wide spread in Russia.		CSC Nizhneserginsky MMZ, JSC Oskolsky EMK, JSC MMZ Serp i Molot). But Oskolsky EMK consumes much more pellets (ore mixture) and production of MMZ Serp i Molot is insignificant.	
CAR 18. Please include in Table B.3.1 gases (CH4 and N2O) that was excluded from the consideration due to their small volume of emissions (see the description in section D.1).	B.3.1	Response 1 dated 19/07/2010 The Table B.3.1 was changed on the page 24.	Conclusion on Response 1 CAR is closed based on due correction made to PDD. Please indicate the correct number of page in PDD where correction was made.
CAR 19. Please provide date of baseline setting in DD/MM/YYYY format.	B.4.1	Response 1 dated 19/07/2010 It was corrected on the page 25.	Conclusion on Response 1 CAR is closed based on due correction made to PDD. Please indicate the correct number of page in PDD where correction was made.
CAR 20. Please describe under which conditions is the natural gas amount measured: working, normal or standard.	D.1.3	Response 1 dated 19/07/2010 m^3 was corrected to nm^3.	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 21. It is not indicated how the variables presented in table D.1.1.1 with recording frequency "monthly" is reduced to yearly format as in the formulae below these variables have annual values.	D.1.3	Response 1 dated 19/07/2010 The monitoring will use only monthly data. "annually" was corrected to "monthly" in the section D. Also formulas were corrected.	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 22. Please explicitly refer to the sources of data to be monitored, which are referred in PDD Section D as "plant records". Please indicate title of a relevant document and its periodicity.	D.1.5	Response 1 dated 19/07/2010 "Plant records" was corrected to "Technical report" and "Plant calculations" in the Tables D.1.1.1 and D.1.1.3. Response 2 dated 02/08/2010 Periodicity of "Technical report" and "Plant calculations" was added in the Tables D.1.1.1 and D.1.1.3.	Conclusion on Response 1 CAR is not closed. The periodicity of "Technical report" and "Plant calculations" is not indicated. Conclusion on Response 2 CAR is closed based on due correction made to PDD.
CAR 23. Annex 2 provides calculation of BEF for incremental production under the baseline scenario. Presented formula (13) is incorrect. It considers the electricity consumption for the iron production, i.e. charge material, at the incremental plants. However, in the project scenario, electricity consumption is considered only for melting of steel; electricity	D.1.6	Response 1 dated 19/07/2010 Electricity consumption was excluded from formula 13 on the page 60. Response 2 dated 02/08/2010 The electricity consumption was not included in previous calculation of the iron emission factor as con-	Conclusion on Response 1 CAR is not closed. After excluding electricity consumption from formula 13, the results of calculation did not change. Please provide BVC the updated spreadsheet to check the correctness of cal-

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
consumption for charge materials is not taken into consideration. This implies overestimation of the baseline emission factor since electricity consumption is considered both for charge material and final products. Please take note: the emission factor for Electric Arc Furnace presented in Table Anx.2.5 of PDD is 0.578 tCO2/ton of steel, whereas in 2006 IPCC V.3 Ch. 4 p.4.27, Table 4.1 the same factor is 0.08 tCO2/ton. Please provide consistency between the baseline emissions and project emissions calculation.		servative way for baseline emission calculation and later was excluded from formula 13 on page 62.	culation of baseline emissions. Conclusion on Response 2 CAR is closed based on due correction made to PDD.
CAR 24. References to electricity meters (P-11 and P-33), fuel meters (P-14, P-16, P-17, P-36, P-38, P-39) and weighing apparatus (P-12, P-13, P-15, P-34, P-35, P-37) are inadequate. Please refer to PDD Sections D.1.1.1.	D.2.1	Response 1 dated 19/07/2010 Source of data was added in Section D.1.1.1 (measuring instrumentation).	Conclusion on Response 1 CAR is closed based on due correction made to PDD.
CAR 25. List of relevant documentation with titles, dates etc. is not provided.	F.1.1	Response 1 dated 19/07/2010 The text was added on the page 53. Following documents were taken into consideration	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
		during environmental impact assessment: State Law "About environment protection" N7 –FZ dated 10 Jan 2002; State Law "About sanitary and epidemiological wellness of the population" N52-FZ dated 17 March 1999 and others.	Please indicate the correct number of page in PDD where correction was made.
CAR 26. Please provide information if comments from local stakeholders were received. If not applicable, please state so.	G.1.1	Response 1 dated 19/07/2010 The text was added on the page 54. Komsomolsk-on-Amur town government approved the proposed project.	Conclusion on Response 1 CAR is closed based on due correction made to PDD. Please indicate the correct number of page in PDD where correction was made.
CAR 27. Re: Public comment on the Project Ref#0230 «Production modernisation at JSC Amurmetal, Komsomolsk-on-Amur, Khabarovsk Krai, Russian Federation» from Johan Moss, Vice-President of Tricorona AB. Received by BVC on 08 July 2010. "Section A.3. of the PDD is incorrect. As per the Emission Reduction Purchase Agreement signed between Climate Change	A.3.1 A.3.2 A.3.3 D.4.2	Response 1 dated 19/07/2010 Amurmetal has never signed a document named "Emission Reduction Purchase Agreement" with Climate Change Management Sweden AB (CCM)". Therefore, claim that "CCM shall be listed as a Legal Entity Project Participant, and Party B shall read «Sweden»" in the Section A.3 of the PDD is rejected. The listing of Global Carbon BV and the Netherlands respectively shall remain. There are no grounds for	Conclusion on Response 1 The response is not accepted. Please provide evidence that Amurmetal has never signed the Emission Reduction Purchase Agreement signed between Climate Change Management Sweden AB (CCM) and JSC Amurmetal on July

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
Management Sweden AB (CCM) and JSC Amurmetall on July 31, 2008, CCM shall be listed as a Legal Entity Project Participant, and Party B shall read «Sweden». The listing of Global Carbon BV and the Netherlands respectively shall be removed. Section D.4. of the PDD is incorrect: As per the change of Section A.3., it follows that the sentence "Global Carbon BV is a Project Participant" shall be removed. Annex 1 of the PDD is incorrect: As per the Emission Reduction Purchase Agreement signed between Climate Change Management Sweden AB (CCM) and JSC Amurmetall on July 31, 2008, the contact details for Global Carbon BV shall be removed and replaced by the following:		words "Global Carbon BV is a Project Participant" to be removed in Section D.4 of the PDD. There are no grounds for contact details of Global Carbon BV to be removed in Annex 1 of the PDD. Response 2 dated 02/09/2010 Agreement # 42-08 K to jointly implement a project to reduce greenhouse gas emissions and acquire emission reductions between Climate Change Management Sweden AB and Host Company was indeed signed on July 31, 2008 with Amurmetall. However, this Agreement was unilaterally terminated by Amurmetall in accordance with subitem "b" of Item 5 of Article 15 of the Agreement on the grounds of non-performance of the obligations under the Agreement by Climate Change Management Sweden AB (CCM). CCM was several times in the past (2009 and 2010) informed about material breach of its contractual obligations and termination of the Agreement from Amurmetall. Claim that "CCM shall be listed as a Legal Entity Project Participant, and Party B shall read «Sweden»" in	31, 2008. Please take note the term Emission Reduction Purchase Agreement in the public comment is not enclosed in quotation marks. Hence, this may not be the formal title of the document in question. Particularly please take note that there is a document in possession of BVC entitled "Agreement # 42-08 K to jointly implement a project to reduce greenhouse gas emissions and acquire emission reductions between Climate Change Management Sweden AB and Host Company". Host Company is OAO Amurmetal. The document is signed on 31 July

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
Organization:	Climate Change Management Swe AB		the Section A.3 of the PDD is not valid. The listing of Global Carbon BV and the Netherlands respectively shall remain in PDD. There are no grounds for words "Global Carbon BV is a Project Participant" to be removed in Section D.4 of the PDD. There are no grounds for contact details of Global Carbon BV to be removed in Annex 1 of the PDD.	2008. According to clause d) of this document, OAO Amurmetal wishes to transfer and Climate Change Management Sweden AB wishes to acquire, upon terms and conditions set forth in this Agreement, Emission Reductions generated by the Project. Conclusion on Response 2 CAR is closed based on the evidence in the form of a letter from JSC Amurmetal to Climate Change Management Sweden AB dated 12/08/2010 about the unilateral termination of the Agreement No 42-08K. The copy of the letter as well as the evidence that Climate Change Management Swe-
Street/P.O.Box:	Kungsgatan 32			
Building:				
City:	Stockholm			
State/Region:				
Postcode/ZIP:	111 35			
Country:	Sweden			
Telephone:	+46 8 506 885 00			
FAX:	+46 8 34 60 80			
E-Mail:	Hco2@tricorona.seH			
URL:	Hwww.tricorona.seH			
Represented by:				
Title:	President			
Salutation:	Mr.			
Last Name:	Moss			
Middle Name:	A			
First Name:	Johan			
Department:				
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Direct FAX:	+46 8 34 60 80			
Direct tel:	+46 8 506 263 96			
Personal E-Mail:	Hjohan.moss@tricorona.seH			
Johan Moss Vice-President Tricorona AB"				

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
			den AB has received the letter (a copy of the letter from Mr. Moss to JSC Amurmetal dated 16/08/2010) are in possession of AIE Nonetheless AIE observes that it was incorrect not to refer to Climate Change Management Sweden AB as the project participant in the versions of PDD issued before 12/08/2010. <u>Disclaimer</u>: The AIE conclusion is based on the information in the above mentioned letter. Should Climate Change Management Sweden AB lodge an appeal and should

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
			arbitration announce the termination of the Agreement No 42-08K invalid AIE would reconsider the above conclusion.
CL 01. Please clarify if the project requires extensive initial training and maintenance efforts with regard to the use of the new equipment on EAF1 and EAF2.	A.4.2.4	Response 1 dated 19/07/2010 The text was added on the page 9. The plant trains staff continuously in the institute of Komsomolsk-on-Amur. The institute training covers the main subject areas of (several specialities): • smelt; • metalwork.	Conclusion on Response 1 CL is closed based on due correction made to PDD.
CL 02. Please clarify how the old (not modernised) furnace EAF1 in the baseline would provide the same quality of products as planned according to the project.	B.1.2	Response 1 dated 19/07/2010 The plant did not change steelmaking process (electric arc furnace to ladle furnace). Therefore old furnace could provide the same quality of products as in the project. After the ladle furnace introduction in 2001, the plant has made significant quality improvement of the products.	Conclusion on Response 1 CAR is closed based on appropriate clarification made.
CL 03. Please clarify how emissions from the Ladle furnace were taken into account in the	D.1.4	Response 1 dated 19/07/2010 Please see the page 33, the formula 3.	Conclusion on Response 1 CL is closed based on due

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
calculations as it was included in the project boundaries.		Electricity consumption of electric arc furnace and ladle furnace in year y (MWh)	correction made to PDD. Please indicate the correct number of page in PDD where correction was made.

Appendix B: Determination Team's CV

Vera Skitina, PhD (chemicals)
Lead Verifier
Bureau Veritas Certification Russia Technical Director - Lead Auditor, IRCA Lead Tutor, Lead Verifier

She has over 15 years of experience in powder metallurgy, aluminium metallurgy, plastic metal working, physical-chemistry processes, gas production at power plant, environmental science. She worked in Irkutsk Aluminium Plant, SUAL powder metallurgy plant, Nadvoitzky aluminium plant, Central Scientific Institute of Metals. She is a Lead auditor of Bureau Veritas Certification for Quality Management Systems (IRCA registered), Environmental Management System (IRCA registered), Occupational Health and Safety Management System (IRCA registered). She performed over 200 audits since 2004. Also she is a Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and a Lead Tutor of the IRCA registered ISO 9001 Lead Auditor Training Course. She is an Assuror of Social Reports. She has undergone intensive training on Clean Development Mechanism /Joint Implementation and was/is involved in the determination of over 15 JI projects and verification of 5 JI projects.

Andrey Rodionov, (expert in ferrous metallurgy, ecology and environmental management)
Verifier.
Bureau Veritas Certification Rus - Verifier.

He is engineer metallurgist, graduated from Tula State University, Technological Faculty. He has over 12 years of experience in ferrous metallurgy. He worked by a Lead engineer in plants "Tulachermet", "Splav", "Stankolit". He has conducted research and development, industrial work jointly with IMET Institute. He has introduced new technologies and information systems at plants in ferrous metallurgy as an expert. He has undergone an intensive trainings on Climate Change Joint Implementation/Clean Development Mechanism Lead Verifier, and ISO 14000 EMS Lead Auditor.

Daniil Ukhanov, (ecology and environmental management)
Verifier
Bureau Veritas Certification Rus - Verifier.

He is environmentalist, graduated from People Friendship University of Russia, Environmental Faculty. He has over 3 year experience in implementing of JI and CDM projects. He was a developer of more than 6 PDDs in different sectors (energy industries, oil and gas, manufacturing, wastes treatment, etc.). Carried out the full cycle of project development from project idea note creation to implementation of the project and verification stages. Performed 3 monitoring reports for different JI projects. He has undergone an intensive trainings on Climate Change Joint Implementation/Clean Development Mechanism Lead Verifier and ISO 14000 EMS Lead Auditor.

Mr. Leonid Yaskin, PhD (thermal engineering)

Climate change Internal Technical Reviewer.
Bureau Veritas Certification Rus General Director, Climate Change Local Manager, Lead Auditor, IRCA Lead Tutor, Lead Verifier

He has over 30 years of experience in heat and power R&D, engineering, and management, environmental science and investment analysis of projects. He worked in Krrzhizhanovsky Power Engineering Institute, All-Russian Teploelectroproject Institute, JSC Energoperspectiva. He worked for 8 years on behalf of European Commission as a monitor of Technical Assistance Projects. He is a Lead auditor of Bureau Veritas Certification for Quality Management Systems (IRCA registered), Environmental Management System (IRCA registered), Occupational Health and Safety Management System (IRCA registered). He performed over 250 audits since 2002. Also he is a Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and a Lead Tutor of the IRCA registered OHSAS 18001 Lead Auditor Training Course. He is an Assuror of Social Reports. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and was/is involved in the determination of over 60 JI projects.