JI DETERMINATION
PDD REPORT

CARBONTRUST LIMITED

"RECONSTRUCTION OF THE METALLURGICAL PLANT AT THE CHELYABINSK METALLURGICAL PLANT OAO, CHELYABINSK, RUSSIA"

Report No: 8000407795 / 2012-233

Date: 2012-04-26

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Final Approval by: Rainer Winter	Organisational unit: TÜV NORD JI/CDM Certification Program
Client: CARBONTRUST LIMITED	Client ref.: Jolanta Narmontaite
Summary:	☒ positive determination opinion ☐ negative determination opinion

TÜV NORD JI/CDM Certification Program (CP) was commissioned to carry out determination PDD of the project: "*Reconstruction of the metallurgical plant at the Chelyabinsk Metallurgical Plant OAO, Chelyabinsk, Russia*" with regard to the relevant requirements of the UNFCCC for JI project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords.

In the course of the pre-determination 10 Corrective Action Requests (CARs) and 2 Clarification Requests (CLs) were raised and successfully closed except for CAR A1. As the approval of the Host country will only be issued upon a positive determination opinion, this CAR will automatically be closed upon issuance of host country approval.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

The project is in line with all relevant host country criteria Russian Federation and all relevant UNFCCC requirements for JI. Project activity approval have been obtained from DFP of Russian Federation will only be issued after final determination opinion. Therefore CAR A1 connote be closed at this stage.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 5,885,148 tCO2e are most likely to be achieved in the period from 2008-01-01 to 2012-12-31."

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the determination PDD.

Report No.: 8000407795	Subject Group: Climate Protection	
Report title: "Reconstruction of the metallurgical plant at the Chelyabinsk Metallurgical Plant OAO, Chelyabinsk, Russia"		
Work carried out by: Mr. Evgeni Sud Mr. Anton Yarushin		
Final technical review by:	Local technical review by	
Date of this revision: 2012-04-26	Rev. No.:	Number of pages: 169

Indexing terms

Kyoto Protocol
JI Determination PDD

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Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
ERU	Emission Reduction Unit
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
CL	Clarification Request
DFP	Designated Focal Point
FAR	Forward Action Request
EIA	Environmental Impact Assessment
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
NCV	Net Calorific Value of Fuel
PDD	Project Design Document
PP	Project participant
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change

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1 OBJECTIVE / SCOPE

TÜV NORD JI/CDM Certification Program (CP) has carried out a determination PDD of the project

"Reconstruction of the metallurgical plant at the Chelyabinsk Metallurgical Plant OAO, Chelyabinsk, Russia"

with regard to the relevant requirements for JI project activities.

The determination is a requirement for all JI projects. The purpose is to have an independent third party assessment of the project design and in particular, the project's baseline, the monitoring plan (MP), the project's compliance with relevant UNFCCC JI Track 1 and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Determination 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 the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords.

2 GHG PROJECT DESCRIPTION

2.1 Project Characteristics

Essential data of the project is presented in the following Table 2-1.

Table 2-1: Project Characteristics

Item	Data		
Project title	*Reconstruction of the metallurgical plant at the Chelyabinsk Metallurgical Plant OAO, Chelyabinsk, Russia"*		
Project size	☒ Large Scale	☐ Small Scale	
JI Procedure	☒ Track 1	☐ Track 2	☐ PoA
Project Scope	☐	1	Energy Industries (renewable- /non-renewable sources)
	☐	2	Energy distribution
	☐	3	Energy demand
	☐	4	Manufacturing industries
	☐	5	Chemical industry
	☐	6	Construction
	☐	7	Transport
	☐	8	Mining/Mineral production
	☒	9	Metal production
	☐	10	Fugitive emissions from fuels (solid, oil and gas)
	☐	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	☐	12	Solvents use
	☐	13	Waste handling and disposal
	☐	14	Land –use, land-use change and forestry
	☐	15	Agriculture

Item	Data
Applied Methodology	*JI Specific*
Technical Area(s)	O (Metall production)
Crediting period	*5 years*
Start of crediting period	*2008-01-01*

2.2 Involved Parties and Project Participants

The following parties to the Kyoto Protocol and project participants are involved in this project activity (Table 2-2).

Table 2-2: Project Parties and project participants

Characteristic	Party	Project Participant
Host party	Russian Federation	"Chelyabinsk Metallurgical Plant" OAO
Other involved party	-	-

2.3 Project Location

The details of the project location are given in table 2-3:

Table 2-3: Project Location

No.	Project Location
Host Country	Russian Federation
Region:	Chelyabinsk region
Project location address	city of Chelyabinsk,
Geographical coordinates	55°15' latitude., 61°25' longitude

2.4 Technical Project Description

The project activity involves a number of measures aimed at metallurgical reconstruction of the production facilities by means of introducing continuous casting technology and secondary treatment of steel at the oxygen converter plant and arc-furnace plant #6:

- Construction of CCM-3, LF-2 (ladle furnace) at the oxygen-converter plant;
- Construction of CCM-4, LF-3 at the oxygen-converter plant;
- Construction of CCM-5, LF-4 and vacuum vessel at the oxygen-converter plant;
- Renewal of CCM-2, installation of LF-2 and vacuum vessel at arc-furnace plant #6.

Due to reconstruction of the metallurgical production facilities, the steel produced at the oxygen-converter plant undergoes ladle treatment and casting primarily on continuous casting machines (CCM-2, 3, 4, 5). A continuous cast steel billet is transferred to rolling plants an can be sold on the saleable product. Part of the melted steel is casted into molds and rolled at rolling plant #3 on mill 1250-3 /continuous billet mill until billets are ready.

The main sintering, blast-furnace, steelmaking and rolling plants production facilities of ChMK have remained unchanged after the project implementation.

The technical key data are provided in tables 2-4a and 2-4b below:

Table 2-4: Technical data of the project activity

Key parameters:	Project Activity
Equipment	continuous casting machine 3BLC0906 (CCM-3)
Manufacturer:	Danieli (Italy)
Type	continuous casting machine 3BLC0906; Notation: 0197BD25G01001
Commissioning Date:	15.03.2003
Capacity	1 000 000 t/a.

Key parameters:	Project Activity
Equipment	continuous casting machine 3BLC0906 (CCM-4)
Manufacturer:	Danieli (Italy)
Type	continuous casting machine 3BLC0906; Notation: 0197BD25G01001
Commissioning Date:	15.06.2004
Capacity	1 000 000 T/a.

Key parameters:	Project Activity
Equipment	continuous casting machine 3BLC12.05 (CCM-5)
Manufacturer:	Danieli (Italy)
Type	continuous casting machine 3BLC12.05 Notation: DP03WG-NC11-M1001
Commissioning Date:	2011
Capacity	1 000 000 T/A

Key parameters:	Project Activity
Equipment	Ladle furnace LFA140 3 32
Manufacturer:	Danieli (Italy)
Type	Ladle furnace LFA140 3 32 two-positioned, . Notation: DP03WG-GE11-M1001
Commissioning Date:	2009.
Capacity	705 000 t/a

Key parameters:	Project Activity
Equipment	Ladle furnace LFA140 3 32
Manufacturer:	Danieli (Italy)
Type	Ladle furnace LFA140 3 32 two-positioned Notation: DP03WG-GE11-M1001
Commissioning Date:	2011
Capacity	705 000 t/a

Key parameters:	Project Activity
Equipment	Ladle furnace capacity160 t
Manufacturer:	Sibelektroterm, Novosibirks
Type	Ladle furnace capacity160 t. Notation: АКП-160-2
Commissioning Date:	2003
Capacity	705 000 t/a

Key parameters:	Project Activity
Equipment	vacuum vessel VDA 140 5R
Manufacturer:	Danieli (Italy)
Type	double-chamber vacuum vessel VDA 140 5R. Notation: DP03WG-GE31-M1001
Commissioning Date:	
Capacity	140 t

Key parameters:	Project Activity
Equipment	continuous casting machine (CCM-2)
Manufacturer:	Danieli (Italy)).
Type	continuous casting machine.
Commissioning Date:	2009
Capacity	1 200 000 T/a

Key parameters:	Project Activity
Equipment	Ladle furnace LFA140 3 32
Manufacturer:	Danieli (Italy)
Type	Ladle furnace LFA140 3 32 Notation: DP03UM01/08
Commissioning Date:	2009.
Capacity	705 000 t/a

Key parameters:	Project Activity
Equipment	vacuum-oxygen degassing VOD 120 5
Manufacturer:	Danieli (Italy)
Type	vacuum-oxygen degassing VOD 120 5 Notation: DP03UM01/08
Commissioning Date:	2008 .
Capacity	650 000 T/a

3 METHODOLOGY AND DETERMINATION PDD SEQUENCE

3.1 Determination PDD Steps

The determination of the project consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the project design document (PDD)
- A desk review of the PDD/PDD/ submitted by the client and additional supporting documents
- Determination planning,
- On-Site assessment,
- Background investigation and follow-up interviews with personnel of the project developer and its contractors,
- Draft determination reporting
- Resolution of corrective actions (if any)
- Final determination reporting
- Technical review
- Final approval of the determination.

The sequence of the determination is given in the table 3.1 below:

Table 3.1: Determination PDD sequence

Topic	Time
Assignment of determination	2012-03-09
Submission of PDD for global stakeholder commenting process	N/A[1]
On-site visit	2012-03-12
Draft reporting finalised	2012-04-13
Final reporting finalised	2012-04-26
Technical review on final reporting finalised	2012-04-25

3.2 Contract review

To assure that

- the project falls within the scopes for which accreditation is held,

[1] Not required according tot he Track 1 procedure oft he Host Country

- the necessary competences to carry out the determination PDD can be provided,
- Impartiality issues are clear and in line with the JI accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities a determination team, consistent of one team leader and 1 additional team member, were appointed. Furthermore also the personnel for the technical review and the final approval were determined.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function [1]	Qualification Status [2]	Scheme competence	Technical competence [4]	Host country Competence	Team Leading competence
☒ Mr. ☐ Ms.	Evgeni Sud	TN Cert Germany	TL	LA	☒	O	☒	☒
☒ Mr. ☐ Ms.	Anton Yarushin	Anton Yarushin	ETE	ETE	☐	-	☒	☐
☒ Mr. ☐ Ms.	Rainer Winter	TN Cert Germany	FA TR [3]	SA	☒	O	☐	☒

[1] TL: Team Leader; TM: Team Member, TR: Technical review; FA: Final approval

[2] GHG Auditor Status: A: Assessor; E: Expert; SA: Senior Assessor; T: Trainee; TE: Technical Expert

[3] No team member

[4] As per S01-MU03 or S01-VA070 A2 (such as A, B, C.....)

3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PDD, as received from the project participants, has been made publicly available on the dedicated UNFCCC JI website

prior to the determination activity commenced. Stakeholders have been invited to comment on the PDD within the 30 days public commenting period.

In case comments were received, they are taken into account during the determination process. The comments and the discussion of the same are documented in annex 5 of this report.

3.5 Determination PDD Protocol

In order to ensure consideration of all relevant assessment criteria, a determination protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of determination and the results of the pre-determination the identified criteria. The determination protocol reflects the generic JI requirements each JI project has to meet as well as project specific issues as applicable. The determination protocol serves the following purposes:

- It organises, details and clarifies the requirements that a JI project is expected to meet;
- It ensures a transparent determination PDD process where the independent entity will document how a particular requirement has been validated and the result of the determination.

The determination protocol as described in Figure 1.

Determination Protocol Table A-1: Requirement checklist						
No.	***DVM[2] paragraph / Checklist Item*** *(incl. guidance for the determination team)*	***Initial Finding*** *(Means and results of assessment)*	***Ref.***	***Action requested to project participant*** *(CAR, CL, FAR)*	***Review of PP´s action***	***Conclusion***
Number of the checklist item	*The section gives a reference to the relevant paragraph of the DVM. The checklist items are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further subdivided as per the requirements of the topic and the individual project*	*The section is used to elaborate and discuss the checklist item in detail. It includes the initial assessment of the determination team and how the assessment was carried out.*	*Gives reference to the information source on which the assessment is based on.*	*Assessment based on evidence provided if the criterion is not fulfilled a CAR, CL or FAR (details of each finding are elaborated in chapter 4) is raised otherwise no action is requested. The assessment refers to the draft determination stage.*	*Assessment based on the project participant action in response to the raised CAR, CL or FAR (details of each finding are elaborated in chapter 4). The assessment refers to the final determination stage.*	*Final assessment at the final determination stage is given.*

[2] JISC 19 Annex 4

	activity.					

Figure 1: Determination protocol tables

The completed determination protocol is enclosed in Annex 1 to this report.

3.6 Review of Documents

The published PDD (version 1) and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the determination team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Follow-up Interviews

The determination team has carried out interviews in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria applicable for JI.

The main topics of the interviews are summarized in table 3-3.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent 1. Projects & Operations Personnel of Chelyabinsk Metallurgical Plant OAO 2. Consultant, CJSC "National Carbon Sequestration Foundation"	- Chronological description of the project activity with documents of key steps of the implementation. - Current status of plant design - Technical details of the project realization, project feasibility, designing, operational life time, monitoring of the project - Host Country Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Project activity starting date - ERU allocation / ownership - Baseline study assumptions - Additionality - Monitoring - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PDD

A comprehensive list of all interviewed persons is part of section: 7 References.

3.8 Project comparison

The determination team has compared the proposed JI project activity with similar projects or technology that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Project technology
- Additionality issues
- Methodological issues
- Reasons for reviews, requests for reviews and rejections within the JI registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:

- mistakes have been made in assumptions, application of the methodology or the project documentation which will have a direct influence on the project results,
- the requirements deemed relevant for determination PDD of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC JISC or that emission reductions would not be able to be verified during determination ERU.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first determination ERU.

3.9.2 Draft Determination PDD

After reviewing all relevant documents and taken all other relevant information into account, the determination team issues all findings in the course of a draft determination report and hands this report over to the project proponent in order to respond on the issues raised and to revise the project documentation accordingly.

3.9.3 Final Determination PDD

The final determination starts after issuance of the proposed corrective action (CA) of the CARs CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are "closed out" by the determination team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first determination ERU. The determination team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive determination opinion can be issued by the determination team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final determination report a technical review of the whole determination procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this project falls under. The technical reviewer is not considered to be part of the determination team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the determination opinion and the topic specific assessments as prepared by the determination team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete determination will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for the Host Country Approval and/or registration can be started (in case of a positive determination opinion).

4 DETERMINATION FINDINGS

In the following table the findings from the desk review of the published PDD, visits, interviews and supporting documents are summarised**:**

Table 4-1: Summary of CARs, CLs and FARs issued

Determination topic [1)]	No. of CAR	No. of CL	No. of FAR
General description of project activity (A) - Project boundaries - Participation requirements - Technology to be employed - Contribution to sustainable development	3	-	-
Project baseline (B) - Baseline Methodology - Baseline scenario determination - Additionality determination - Calculation of GHG emission reductions Project emissions Baseline emissions - Leakage	3	-	-
Duration of the Project / Crediting Period (C)	-	-	-
Monitoring Methodology (D) - Monitoring of Project emissions Baseline emissions Leakage Sustainable development indicators / environmental impacts Project management planning	3	2	-
Estimation of greenhouse gas emission reductions (E)	-	-	-
Environnemental impacts (F)	1	-	-
Stakeholder Comments (G)	-	-	-
SUM	**10**	**2**	**-**

[1)] The letters in brackets refer to the determination protocol

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all determination items it should be referred to the determination protocols (see Annex 1).

Finding:	**A1**		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Approvals of all Parties involved are pending.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The written project approval will be received from the Parties involved after the project determination by accredited independent entity (AIE). According to the Regulations "On Realization of Article 6 of Kyoto Protocol to United Nations Framework Convention on Climate Change" approved by the Government Decree № 780 dated on 15.09.2011 the project shall be approved following the positive determination of the project by an AIE. The corresponding information is provided in the section A.3 and A.5 of the PDD.		
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	This is correct because a positive determination opinion is prerequisite for applying Host Country Approval.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☐ Appropriate action was taken ☐ Project documentation was corrected correspondingly ☐ Additional action should be taken ☐ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.		

Finding:	**A2**		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The implementation schedule for construction of CCM-5, LF-4 and vacuum vessel is incorrect in respect of equipment commissioning.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The implementation schedule (Diagram A.4-1) for the construction of CCM-5, LF-4 and vacuum vessel is corrected based on the attached Provisional Acceptance Certificates.		

Finding:	A2
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	The implementation schedule of for the construction of CCM-5, LF-4 and vacuum vessel was duly corrected in the revised PDD and is in line with Provisional Acceptance Certificates.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.

Finding:	A3		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	A justification of the prior consideration of JI was not provided. It was not demonstrated that continuous and real actions was taken to secure JI status.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The JI component of the project is summarized in the attached Reference of implementation stages of JI Project at ChMK. The confirmed documents including Protocols, Order, Letters, etc. in period 2002-2012 are attached.		
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	The information on justification of the prior consideration of JI and that continuous action were taken to secure JI status is provided in the Summary table in the PDD. The appropriate revision was introduced in the version 2 of revised PDD. Please see the subsection "Kyoto history component".		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.		

Finding:	B1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The justification is not provided that the main sintering, blast-furnace, steelmaking and rolling plants production facilities of ChMK have remained unchanged.		

Finding:	B1
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The main sintering, blast-furnace, steelmaking and rolling plants production facilities are identical in the project and baseline scenarios. The confirmed information including characteristic of the equipment in sintering, blast-furnace, steelmaking and rolling plants is provided in the attached Reference of Technical Department of ChMK.
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	In response to the finding the PP has provided technical characteristic/TS/ of the equipment in sintering, blast-furnace, steelmaking and rolling plants. Provided documents specify the technical characteristics of the applied equipment. Based on the provided documents it could be confirmed that production facilities in the main sintering, blast-furnace, steelmaking and rolling plants are identical in the project and baseline scenarios.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.

Finding:	B2		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Results of cost efficiency analysis provided in the tables B.1-4, B.1-5 are not corresponding to the provided Excel spreadsheets.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The results of the cost efficiency analysis stated in the section B.1 of the PDD are corrected in according to the Excel spreadsheets.		
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	The results of the cost efficiency analysis stated in the section B.1 of the PDD were duly corrected in the revised PDD. The results of the cost efficiency analysis as per section B.1 of the PDD were crosschecked against the values evident in the Excel spreadsheets and found consistent.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.		

Finding:	B3		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	There is not consistency of the used version of Guidance on criteria for baseline setting and monitoring.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The Version 03 of the Guidance on criteria for baseline setting and monitoring is used by PDD elaboration. The corresponding version of the Guidance for baseline setting and monitoring is provided in the reviewed PDD.		
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	The revised PDD was reviewed and it could be confirmed that version 03 of the Guidance on criteria for baseline setting and monitoring was consistently used throughout the PDD. The use of the version 03 is appropriate because it is the most recent version.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.		

Finding:	D1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The values of the parameters which are determined once and remain fixed within the crediting period are to be justified in respect of conservativeness and applicability for baseline, project and leakages GHG monitoring.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The justification of the parameters choice which are determined once and are taken as constants for the whole monitoring period is provided in the Annex 3 "Monitoring plan".		
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	As evident from the annex 3 of the PDD the values of the parameters which are determined once and remain fixed during the crediting period were duly justified. The most part of the values was taken directly from the IPCC guidelines, which is an internationally accepted source. For calculated values – the relevant formulae and input values were provided. Few further values were taken from third party independent and reliable data sources.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.		

Finding:	D2		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please clarify procedures used in case of malfunction of the relevant measurement devices.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The procedures used in case of malfunction of the relevant measurement devices are clarified in the section D.3 of the PDD. If the primary sources of monitoring parameters' data (results of measurements and calculations) are not available during the current monitoring period, the monitoring parameters shall be registered according to the redundant measuring instruments installed inside or outside of the project framework (applicable for the parameters that are weighed) or shall be calculated according to the established procedure and approved methodologies for recording of energy resources consumption (Regulation of ChMK about Energy Resources Recording dated on 23.08.2011).		
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	Section D.3 of the PDD describes procedures used in case of malfunction of the relevant measurement devices. The described procedures were reviewed and found appropriate.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.		

Finding:	D3		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please correct the information about measured, estimated and calculated parameters stated in the section D of PDD according to the data provided during the site visit of meters calibration/verification frequency.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The information about measured, estimated and calculated parameters stated in the section D of PDD is corrected according to the existed procedures of ChMK in area of production data recording.		

Finding:	D3
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	In response to the finding the PP has revised information about monitoring parameters listed in the section D of PDD. The information now complies with the existed procedures related to the recording of the production data.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.

Finding:	D4		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please provide information in the section D.1.5 of responsible laboratory for measuring of project's environmental impact.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The responsible laboratories for measuring of project's environmental impact at ChMK are Central analytical laboratory and Dust-ventilation laboratory. The information about their accreditation is provided in the PDD and confirmed by the attached documents.		
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	The required information about the involved laboratory was provided. Based on the provided certificates it could be evidences that the laboratory has all required accreditation evidences/ATT/.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.		

Finding:	D5		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	Please clarify the certification status of Quality Management System at ChMK.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The Quality Management System at ChMK is certified according to the standard ISO 9001:2008. The corresponding information is provided in the section D.3 of the PDD.		

Finding:	D5
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	In response to the finding the PP has explained that the plant is certified under ISO 9001:2008. The corresponding certificate was provided.
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.

Finding:	F1		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding *Describe the finding in unambiguous style; address the context (e.g. section)*	The actual License to carry out activities associated with hazardous waste management is not provided in the section F.1 of the PDD.		
Corrective Action #1 *This section shall be filled by the PP. It shall address the corrective action taken in details.*	The information about actual License to carry out activities associated with hazardous waste management at ChMK is provided in the section F.1 of the PDD. License to carry out activities associated with hazardous waste management # OT-56-002712 (74) dated on 08.04.2009 of Federal Service of Ecological, Technological and Atomic Supervision for the period from 08.04.2009 to 08.04.2014.		
AIE Assessment #1 *The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and AIE assessments (#2, #3, etc.) shall be added.*	It could be duly evidenced that PP has the relevant license to carry out activities associated with hazardous waste management at ChMK. This was confirmed by the License to carry out activities associated with hazardous waste management # OT-56-002712 (74) dated on 08.04.2009 of Federal Service of Ecological, Technological and Atomic Supervision for the period from 08.04.2009 to 08.04.2014.		
Conclusion *Tick the appropriate checkbox*	☐ To be checked during the first periodic determination ERU ☒ Appropriate action was taken ☒ Project documentation was corrected correspondingly ☐ Additional action should be taken ☒ The CAR / CL is closed, ☐ The CAR / CL could **not** be closed.		

5 DETERMINATION ASSESSMENT SUMMARY

5.1 General Description of the Project Activity

5.1.1 Participation

LOA

Letter of Approval (LoA) from all Parties involved are pending. As the LoA of the Host country will only be issued upon a positive determination opinion, this CAR will automatically be closed upon issuance of host country approval.

Project Participants

Party involved is Russian Federation acting as a Host Party. Project Participant of the Host Country is "Chelyabinsk Metallurgical Plant" OAO.

5.1.2 PDD editorial Aspects

Project Design Document Form Version 01 – in effect as of 15 June 2006 – has been used. This is the latest version of the PDD form. Guidelines for users of the JI PDD form Version 04 have been used for completing the PDD. These Guidelines should be taken into account for all PDDs to be published from 1 January 2009.

5.1.3 Technology to be employed

The project activity involves a number of measures aimed at metallurgical reconstruction of the production facilities by means of introducing continuous casting technology and secondary treatment of steel at the oxygen converter plant and arc-furnace plant #6:

- Construction of CCM-3, LF-2 (ladle furnace) at the oxygen-converter plant;
- Construction of CCM-4, LF-3 at the oxygen-converter plant;
- Construction of CCM-5, LF-4 and vacuum vessel at the oxygen-converter plant;
- Renewal of CCM-2, installation of LF-2 and vacuum vessel at arc-furnace plant #6.

Due to reconstruction of the metallurgical production facilities, the steel produced at the oxygen-converter plant undergoes ladle treatment and casting primarily on continuous casting machines (CCM-2, 3, 4, 5). A continuous cast steel billet is transferred to rolling plants an can be sold on the saleable product. Part of the melted steel is casted into molds and rolled at rolling plant #3 on mill 1250-3 /continuous billet mill until billets are ready.

The main sintering, blast-furnace, steelmaking and rolling plants production facilities of ChMK have remained unchanged after the project implementation.

The description of the project activity is considered to be accurate, complete, presented in a detailed manner and in line with provided evidences.

The implementation of the project activity could be evidenced by various protocols and acts that traced particular stages of the project implementation and recorded milestones of the project implementation. The determination team has checked all provided evidences/CR1/ Based on this the description of the project implementation as described in the PDD could be verified.

5.1.4 Small Scale Projects

No applicable because it is a large scale project

5.2 Project Baseline, Additionality and Monitoring Plan

5.2.1 Application of the Methodology

The PDD explicitly indicates that the JI specific approach was used to identify the baseline and justify the additionality.

The PDD provide a detailed theoretical description in a complete and transparent manner. In particular it indicates that JI specific approach is based on the Guidance on criteria for baseline setting and monitoring" (Version 03) and Appendix B to Decision 9/CMP.1. The version 03 of the Guidance on criteria for baseline setting and monitoring" is the latest version that was issued within the JISC 26 meeting.

5.2.2 Project Boundary

All equipment used within the project activity has been listed in the PDD including the information about its purpose and the technical specification. The project boundary is clearly described in words and a visualisation of the physical project boundary as well as a table defining all significant GHG gases has been included in the PDD.

Within the on-site assessment the determination team was able to confirm that project was implemented as described in the PDD. The relevant equipment was installed. The technical data of the installed equipment correspond to the information provided in the PDD.

5.2.3 Baseline Identification

The procedure to arrive at the baseline scenario is in line with the applied methodology. All plausible alternatives have been identified.

Alternatives

The PDD includes an analysis of all realistic alternatives to the project scenario. The project activity without JI consideration and the continuation of the pre-project practice have been identified as plausible and realistic alternatives.

Key factor analysis (Barrier analysis)

In order to identify the most plausible alternative the PP performed key factor analysis, which is similar to the barrier analysis as per the approved CDM tools/TA//CT/.

In the course of the key factor analysis the PP demonstrated that project activity faces different barriers related to the financial viability. In essence it was demonstrated that the project activity faces the investment barrier (lack of financing resources) and the financial barrier (low financial attractiveness).

All individual project measures were assessed within the investment analysis. It was duly demonstrated that all particular project measures are financially not attractive, i.e. the finical indicator of each project measure is below the benchmark valid at time of investment decision.

Taking this into account it was reasonably concluded that the project activity is less attractive as compared to the continuation of the pre-project situation.

Investment analysis

Investment analysis that was performed as a part of the key factor analysis shows that the project scenario is not the most attractive alternative or economically feasible without benefits from ERU sales. All parameters applied within the investment analysis have been assessed as plausible. Applied benchmark has been supported by evidences chosen and has been assessed as appropriate. (Please refer to annex 3).

5.2.4 Additionality Determination

Consideration of JI in decision making (if project start before determination)

The starting date is in line with JI glossary of terms. Based on provided evidences it could be concluded that JI was considered at the time of the decision making. The corresponding evidences demonstrate that without benefits out of JI the project would be not financial viable. Furthermore the impact of JI has been calculated and it could be demonstrated that benefits out of JI would make the project financial attractive. The consideration of JI has been assessed as serious.

The description of actions and the corresponding assessment of the determination team for the considered project activity is presented in the table below:

Year	Description of action provided by Project participant	Assessment by the determination team
2002 (management decision)	**Action**: Decision of complex CCM-3 at the oxygen-converter plant construction using the joint Implementation mechanism of the Kyoto Protocol.	Decision to go ahead with project measures related to CCM-3 and the oxygen-converter plant was made in 2002. The decision to go ahead with the project is evident from the

	Evidence: The business plan for the installation of continuous casting machine at JSC Mechel dated February 2002. **Justification of the evidence:** That was a management decision to start the project as a JI activity.	business plan for the installation of continuous casting machine at JSC Mechel dated February 2002/PTS-02/, which signed and approved by the responsible plants managers. The business plan/PTS-02/ clearly states that project measures should be implemented as JI project. Based on this it could be confirmed that project participant was aware of the JI prior to the project activity start date. Provided evidence/PTS-02/ clearly shows that JI was considered within the decision making process. As explained in the section B of the PDD the project activity does not result in sufficient economic or financial benefits. Therefore the determination team agrees that the benefits from ERUs were a decisive factor in the decision to proceed with the project. The business plan is elaborated in a detailed manner. It refers to the particular measures and technologies to be applied as well as the main technical, organizational and economic aspects of the considered project measure. The business plan is prepared in appropriate manner and the decision to go ahead with the project is signed by responsible managers. Therefore the provided evidence was assessed to be a reliable source. The provided evidence is in line with requirements of the "*Guidelines on the demonstration and assessment of prior consideration of the CDM"* as per EB 62 annex 13. As a result the determination team is of the opinion that it could be duly demonstrated that the JI was seriously considered in the decision to implement the project activity.

		It was concluded that justification of prior consideration is in line with the requirements of the "*Guidelines on the demonstration and assessment of prior consideration of the CDM"* as per EB 62 annex 13.
2004 (management decision related to CCM-4)	**Action:** Decision of complex CCM-4 at the oxygen-converter plant construction using the joint implementation mechanism of the Kyoto Protocol. **Evidence:** Protocol of the meeting for review the technical and economic assessment of CCM-4 construction dated on 05.02.2004.. **Justification of the evidence:** That was a management decision to start the project measure related to CCM-4 as a JI activity.	As result of the discussion the decision to go ahead with project activity was taken by the responsible managers within this meeting. This is evident from the protocol of this meeting/PTS-04/. Within the meeting it was discussed to take into account additional benefits from JI registration similar to the decision made in 2002 for CCM-3. It could be confirmed that project participant was aware of the JI prior to the start of implementation/PTS-04/PTS-02/. As explained in the section B of the PDD the project activity does not result in sufficient economic or financial benefits. Therefore the determination team agrees that the benefits from ERUs were a decisive factor in the decision to proceed with the project. The protocol clearly lists the personnel attended, the topics discussed and decision made. The protocol of the meeting is prepared in appropriate manner and the decision to go ahead with the project is signed by responsible managers. Therefore the provided evidence was assessed to be a reliable source. The provided evidence is in line with requirements of the "*Guidelines on the demonstration and assessment of prior consideration of the CDM"* as per EB 62 annex 13. As a result the determination team is of the opinion that it could be duly

		demonstrated that the JI was seriously considered in the decision to implement the project activity. It was concluded that justification of prior consideration is in line with the requirements of the "*Guidelines on the demonstration and assessment of prior consideration of the CDM"* as per EB 62 annex 13.
2005	The PP indicated that real actions were taken to secure JI status in 2005 However no reliable evidences could be found.	The PP indicated that real actions were taken to secure JI status in 2005. However no reliable evidences could be provided. For the year 2005 the PP explained that responsible personnel was aware about the decisions met in 2002 and 2004 and has continued monitoring of the development of the Kyoto protocol ratification and the requirements for approving JI projects in Russia. The same was confirmed within the interviews with responsible personnel in the course of the determination. Furthermore the PP was able to plausibly explain that responsible personnel examined all information, decisions, guidelines related to JI mechanism published by official data sources. Based on the explanations provided in the course of the determination the determination team is of the opinion that continuous and real actions were taken to secure JI status in accordance with provisions of the EB 62 annex 13 although the gap between two documented evidences is more than two 2 years i.e. 2 years and 10 months.
2006	**Action 1**: Establishing a special department responsible for the development of project as JI projects **Evidence 1** Instruction to	**Action 1** Based on the provided instruction to establish a working group responsible for JI projects of JSC "Mechel» № 15-p of 06.02.2006[/PTS-06/] it could be

	establish a working group responsible for JI projects of JSC "Mechel» № 15-p of 06.02.2006	confirmed that PP took real measures to secure JI status.
	Action 2: Decision of continuation of project implementation under the joint implementation mechanism and beginning of the CCM-2 and CCM-5 complexes construction using the Kyoto Protocol mechanism; **Evidence 2:** Protocol of meeting by the general director of CJSC "UC Mechel" dated on 20.12.2006 **Justification of the evidences:** Keeping adherence to commitment to develop the project under JI-mechanism after KP ratification and establishment of JI approval procedure the PP proceeded with the monitoring of status of laws on adoption of these documents. Also decision to go ahead with further two project measures was made.	**Action 2** Provided *Protocol of meeting by the general director of CJSC "UC Mechel" dated 20.12.2006*/PTS-06/ was assessed as appropriate evidence to demonstrate that continuing and real actions were taken to secure JI status in accordance with EB 62 annex 13. because • The document clearly indicates that PP has analyzed the development of the carbon market and progress of the Kyoto protocol ratification, • The document clearly states that although the PP saw a slowdown of the Kyoto protocol ratification it decided to take further steps. Provided *protocol*/PTS-06/ was assessed as reliable evidence because it is prepared in a detail manner, contain the topics of discussion, the decision made and is signed by responsible personnel. It should be borne in mind that in this year the Kyoto process was still in the very early stage. Many details related to the preparation of the relevant documents as well as to the preparation of the application by the local authorities were not defined. Therefore actions indicated by PP were assessed as plausible with regards to the circumstances and sufficient to demonstrate that real actions were taken to secure JI status.

2007-2008	**Action:** Consultation with the consulting companies in area of joint implementation in Russia **Evidence**: Confirmed by the letters between Mechel and consulting companies in 2007-2008	The PP provided documented evidences like emails, requests for proposals and other communication proofs, which clearly demonstrate that in the time period between 2007 and 2008 the PP has contact JI consultants and/or Carbon buyers. As evident from the provided documents the communication between the PP and consultants was related to PDD development as well as the purchase of the ERUs from the project activity. The information given in the letters deemed to be reliable. Therefore it was concluded that that real actions were taken to secure JI status of the project.
2009-2010	**Action:** Organization and holding of a tender for ChMK's projects elaboration under the joint implementation mechanism; **Evidence** Agency contract between Mechel JSC and ChMK #086/M-09 dated on 01.07.2009 about tender organization. **Evidence** Letter #M/0349/MC/06 dated on 26.03.2010 about agency contract implementation	The PP provided documented evidences clearly evidence that in the time period between 2009 and 2010 the PP has selected the JI consultant. In doing so, the PP organized a tender and received several proposals from JI consultants.This is evident from various emails, requests for proposals and other communication proofs/PTS-09/. Most important are the • Agency contract between Mechel JSC and ChMK #086/M-09 dated on 01.07.2009 about tender organization. • Letter #M/0349/MC/06 dated on 26.03.2010 about agency contract implementation. These two documents clearly demonstrate that in the time period between 2009 and 2010 the PP has contacted JI consultants and/or Carbon buyers. Therefore it was concluded that that

		real actions were taken to secure JI status of the project.
2011	Signing of a contract with a consulting company for the projects elaboration under the joint implementation mechanism.	The contract/PTS-11/ signed with JI consulting company is a clear evidence that real action was taken to secure JI status.
2012		In 2012 TÜV Nord was requested to submit a commercial offer for determination services for this project activity.

As a result it could be concluded that project participant was able to demonstrate that continuing and real actions were taken to secure JI status for the project in parallel with its implementation in accordance with provisions of EB 62 annex 13. The explanation of each action was supported by corresponding documented evidence. All explanations and justifications given to explain each particular action were found plausible, in line with the information given in the corresponding evidence and in line with the development of JI approval process in Russia.

As per the EB 62 annex 13 "*In validating proposed CDM project activities where there is less than 2 years of a gap between the documented evidence the DOE shall conclude that continuing and real actions were taken to secure CDM status for the project activity*". As evident from the table above, documented evidences were provided for every year after the management decision. Therefore the determination team concluded that continuing and real actions were taken to secure JI status for the project activity.

Application of methodology / methodological tools

The additionality was justified following the JI specific approach elaborated in the PDD.

Alternatives

The PDD provides an analysis of all realistic alternatives to the project scenario as required by the JI specific approach. The project activity without JI consideration and the continuation of the pre-project practice have been identified as plausible and realistic alternatives.

Investment analysis

Investment analysis was carried out within the baseline identification as a part of the Key factor analysis. The project scenario is not the most attractive alternative or economically feasible without benefits from ERU sales? The latest version of the

Guidance on the Assessment of Investment Analysis was applied in the assessment issued by CDM EB. The calculation approach is correct. All parameters Are assessed to be plausible. The benchmark chosen is appropriate. Please refer to annex 3 of this report.

Barrier analysis

Please refer to the comment under baseline identification.

Common practice analysis

Finally, the PP performed common practice analysis. The geographical region (Russia) is appropriate. The technology excluding JI projects is not widely observed in the region.

Summary

In the course of the determination it could be concluded that the baseline scenario has been appropriately elaborated and additionality has been appropriately justified.

5.2.5 Monitoring Methodology

The monitoring plan is elaborated in detail in section D of the PDD. The PDD clearly states that JI specific approach was used to elaborate the monitoring plan. The applied approach is based on the requirements of the "Guidance on criteria for baseline and monitoring" version 03. This is the most recent version and hence appropriate.

The determination team has crosschecked the applied approach found it appropriate Also the fixed parameters and variables were found consistent with the IPCC data and further third party sources.

5.2.6 Monitoring Plan

The monitoring plan covers all monitoring parameters given in the elaborated JI specific monitoring methodology. The monitoring plan was already successfully implemented.

5.2.7 Project Management Planning

The project management planning is appropriate for the purpose of the projects monitoring. As already noted the monitoring plan was already successfully implemented and is duly performed by PP.

It is important to note that PP established a special metrological department, which is responsible for proper operation of all measurement devices. This division includes a laboratory, which has accreditation to perform calibration (and exchange) of the measurement equipment. It could be confirmed that all measurement devices are under control of this metrological division. Therefore it was concluded that PP quality control measures are duly implemented at the plant.

5.2.8 Calculation of GHG Emission Reductions

The calculation done is as per elaborated algorithm. All data not to be monitored is correct. The values for the monitoring parameters are plausible. The estimated emission reductions are plausible and conservative. It should be noted that for the years 2008-2011 the actual figures were used. For the year 2012 the estimation is based on the historical figures.

5.2.9 Crediting Period

The choice of the crediting period is unambiguously given in entire PDD. The crediting period starting date 2008-01-01 is appropriate.

5.2.10 Environmental Impacts

The project documentation contains an analysis of environmental impacts. An EIA is required from host country. Therefore the EIA was carried out in accordance with the requirement of host country.

5.2.11 Comments by Local Stakeholders

All relevant local stakeholders have been invited to comment on the project. The stakeholder consultation process was assessed as appropriate and in line with the Host country regulation.

6 DETERMINATION OPINION

TÜV NORD JI/CDM Certification Program (CP) was commissioned to carry out determination PDD of the project: "*Reconstruction of the metallurgical plant at the Chelyabinsk Metallurgical Plant OAO, Chelyabinsk, Russia*" with regard to the relevant requirements of the UNFCCC for JI project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria refer to the Kyoto Protocol Article 6 criteria and the Guidelines for the implementation of Article 6 of the Kyoto Protocol as agreed in the Marrakech Accords.

In the course of the pre-determination 10 Corrective Action Requests (CARs) and 2 Clarification Requests (CLs) were raised and successfully closed except for CAR A1. As the approval of the Host country will only be issued upon a positive determination opinion, this CAR will automatically be closed upon issuance of host country approval.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

The project is in line with all relevant host country criteria Russian Federation and all relevant UNFCCC requirements for JI. Project activity approval have been obtained from DFP of Russian Federtion will only be issued after final determination opinion. Therefore CAR A1 connote be closed at this stage.

- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 5,885,148 tCO2e are most likely to be achieved in the period from 2008-01-01 to 2012-12-31."

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the determination PDD.

Essen 2012-04-26

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Essen 2012-04-26

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Rainer Winter

TÜV NORD JI/CDM CP

Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
AE	Plants internal reports that evidence the • steel production figures in the time period between 2002 and 2011, • consumption of materials, fuels and electricity • actual production data of CCM-1 and CCM-2 from the oxygen-converter steel for 2004-2006
ATT	Accreditation certificates of the laboratory for carrying out calibration works №127 and №179 including the authorization for performing calibration works
BFC	Estimates of the construction costs made by "Chelyabgipromez"
BJD	Commercial offer "DANIELI" company
Bench	Acceptable Internal Rate of Return for the investment projects at Mechel Company as per the Protocol of Investment Committee Mechel OAO dated on 26.12.2006
CR	Provisional Acceptance Certificates that evidence the implementation of the project measures and the progress of the works: • Certificate of Completion for «Oxygen-Converter Plant. Continuous Casting of Steel. Phase 1» approved by the Acceptance Committee in July 2004; • Certificate of Completion for «Oxygen-Converter Plant. CCM-4 Complex» approved by the Acceptance Committee in February 2007; • Certificate of Completion for «Oxygen-Converter Plant. CCM-4 Complex. Phase 2. Stage 1, LF-3 installation» approved by the Acceptance Committee in December 2009; • Certificate of Completion for «Arc furnace plant #6. CCM

Reference	Document
	Reconstruction. Installation of LF and Vacuum Vessel. Increase in production of casted billets to 1 200 000 tons per year», approved by the Acceptance Committee in February 2011; • Provisional Acceptance Certificate on CCM-5 dated on 26.01.2012; Provisional Acceptance Certificate on Ladle furnace dated on 09.02.2012.
CSTR	Production expenses -the planned and actual expenses used within the investment decisions of individual project measures
EIA	Materials on the environmental impact assessment of the project are presented in the project documentation: • Oxygen-Converter Plant. Continuous Casting Plant. Detailed Design. Volume 4. Environmental Impact Assessment. CH-01935-OVOS. // OJSC «Chelyabgipromez» – Chelyabinsk, 2004; • Oxygen-Converter Plant. Reconstruction. CCM-4. Detailed Design. Volume 4. Environmental Impact Assessment. CH-01952-OVOS. // OJSC «Chelyabgipromez» – Chelyabinsk, 2007; • Oxygen-Converter Plant. Reconstruction. CCM-4 Complex. Phase 2. Stage 1. LF-3 Installation. Volume 5. List of Environment Protection Measures. CH-10014-OOS.P. // OJSC «Chelyabgipromez» – Chelyabinsk, 2008; • Arc-Furnace Plant #6. CCM Renewal. LF and Vacuum Vessel Installation. Slab Production Increase up to 1 200 000 Tons per Year. Detailed Design. Approvable Part. Volume 5. List of Environment Protection Measures. CH-10002-OOS.P. // OJSC «Chelyabgipromez» – Chelyabinsk, 2008; • Oxygen-Converter Plant. Reconstruction. Installation of Blooming CCM-5, LF-4 and Vacuum Vessel. Project Documentation. Volume 11. List of Environment Protection Measures. CH-10018- OOS.P. // OJSC «Chelyabgipromez» – Chelyabinsk, 2011.
EIA1	• Regulations regarding the assessment of environmental impacts (planned commercial and other activities in the Russian Federation", approved by order of the State Commission for the Protection of the Environment of the Russian Federation № 372 dated May 16, 2000 • Confirmation about the compliance with the environmental regulation

Reference	Document
EIA2	Regulations relevant for assessment of the environmental impacts resulted from the project activity. • Federal law of the RF "On Protection of the Environment" as of 10.01.2002 #7-FL; • Federal law of the RF "On Ecological Examinations" as of 25.11.1995 #174-FL; • Federal law of the RF "On the Sanitary and Epidemiological Safety of the Population" as of 30.03.1999 #52-FL; • Federal law of the RF "On the Protection of Atmospheric Air" as of 04.05.1999 #96-FL; • Federal law of the RF "On Production and Consumption Wastes" as of 24.06.1998 #89-FL; • Sanitary Regulations and Standards 2.2.1/2/1/1200-03 "Sanitary Protection Zones and Sanitary Classification of Companies, Buildings and other Facilities"; • Sanitary Regulations and Standards "Instructions on the development, coordination, approval and composition of design estimate documentation"; • Regulation on the evaluation of planned commercial and other activities on the environment in the Russian Federation approved by the order of the State Committee for Environmental Protection #372 as of 16.05.2000.
EIA3	Documents confirming the compliance with the State Expert review: • Conclusion #539 of the State Environmental Expertise Committee with regard to the detailed design • «ChMK. Oxygen-Converter Plant. Continuous Casting Plant» issued by the General Directorate for Natural Resources and Environmental Protection of MNR of Russia for the Chelyabinsk region dated on 30.08.2004; • Positive conclusion of the State Expert Review #653-07/GGE-4798/02 with regard to the project documentation «ChMK. Oxygen-Converter Plant. CCM-4 Complex» issued by FSI GLAVGOSEXPERTIZA OF RUSSIA dated on 12.09.2007; • Positive conclusion of the State Expert Review #560-09/GGE-4798/02 with regard to the project documentation « ChMK.

Reference	Document
	Oxygen-Converter Plant. Reconstruction. CCM-4 Complex. Phase 2. Stage 1. LF-3 Installation» issued by FSI GLAVGOSEXPERTIZA OF RUSSIA dated on 10.09.2009; • Positive conclusion of the State Expert Review #611-11/GGE-7407/02 with regard to the project documentation «ChMK. Oxygen-Converter Plant. Reconstruction. Installation of Blooming CCM-5, LF-4 and Vacuum Vessel» issued by FSI GLAVGOSEXPERTIZA OF RUSSIA dated on 22.06.2011; • Positive conclusion of the State Expert Review #133-10/GGE-6510/02 with regard to the project documentation «ChMK. Arc-Furnace Plant #6. Reconstruction of CCM. Installation LF and Vacuum Vessel. Slab Production Increase up to 1 200 000 Tons per Year» issued by FSI GLAVGOSEXPERTIZA OF RUSSIA dated 25.02.2010;
IF	Justification of Investments prepared by JSC "Chelyabgipromez"
INV	Investment analysis carried out in Excel calculation spreadsheet
ISO	ISO 9001:2008 certificate No. 7510070010 valid from 03.04.2010-02.04.2013
LMD	List of measurement devices of the plant including the calibration schedules of the applied equipment
ORD	Proposals, Explanatory Notes, the conclusion of services provided by specialists of Mechel Company
PDD	• Project Design Document: "Reconstruction of the metallurgical plant at the Chelyabinsk Metallurgical Plant OAO, Chelyabinsk, Russia", version 01 dated 11.03.2012 • Project Design Document: "Reconstruction of the metallurgical plant at the Chelyabinsk Metallurgical Plant OAO, Chelyabinsk, Russia", version 02.2 dated 23.04.2012
PDV	Compliance with the relevant environmental norms and regulation could be duly evidences by means of the following documents:

Reference	Document
	Permissions for air pollutant emissions: • Permission for air pollutant emissions #882 dated on 01.01.2006 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.01.2006 to 01.07.2008; • Permission for air pollutant emissions #1776 dated on 01.11.2008 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.07.2008 to 01.07.2009; • Permission for air pollutant emissions #1980 dated on 22.06.2009 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.07.2009 to 31.12.2009; • Permission for air pollutant emissions #Ch-2146 dated on 18.01.2010 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.01.2010 to 01.01.2011; • Emission allowance for airborne contaminants # Ch-2437 dated 27.09.2010 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 07.09.2010 to 06.09.2015. **Permissions for discharge of pollutants into bodies of water:** • Permission for discharge of pollutants into the environment (bodies of water) #211 dated on 11.12.2007 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.01.2008 to 01.01.2009; • Permission for discharge of pollutants into the environment (bodies of water) #282 dated on 01.12.2008 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.01.2009 to 31.12.2012. **Permissions for disposal and recovery of waste materials:** • License to carry out activities associated with hazardous waste

Reference	Document
	management #74M04/0019/L dated on 30.04.2004 issued by the General Directorate for Natural Resources and Environmental Protection of MNR of Russia for the Chelyabinsk region for the period from 30.04.2004 to 30.04.2009; • Document on approval of waste generation standards and waste disposal limits #7835 dated 24.04.2009 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 24.04.2009 to 08.04.2014; **Further documents** • License to carry out activities associated with hazardous waste management # OT-56-002712 (74) dated on 08.04.2009 of Federal Service of Ecological, Technological and Atomic Supervision for the period from 08.04.2009 to 08.04.2014.
PB	The planned balance of production of sinter, pig iron, steel and rolled steel used within the investment decisions of individual project measures
PBM	The prices of basic and auxiliary materials, energy planning used within the investment decisions of individual project measures
PFG	Prices for finished goods used within the investment decisions of individual project measures
PK	Planned and actual schedule of production used within the investment decisions of individual project measures
REFTD	Assignment for the preparation of technical and commercial proposals delivery of the technology, equipment, technical documentation and the "know-how"
PS	First contact signing for project equipment supply Contract #756/00186465/00055 dated on 27.07.2003 between "Conares Trading AG" and JSC "Mechel". that evidence the project starting date
PTS-02	The business plan for the installation of continuous casting machine at JSC Mechel dated February 2002.

Reference	Document
PTS-04	Protocol of the meeting for review the technical and economic assessment of CCM-4 construction dated on 05.02.2004
PTS-05	Minutes of discussion ecological council of the plant dated 26.09.2005.
PTS-06	Protocol of meeting by the general director of CJSC "UC Mechel" dated on 20.12.2006 Instruction to establish a working group responsible for JI projects of JSC "Mechel» № 15-p of 06.02.2006
PTS-07	Documented evidences regarding the communication between Mechel and JI consulting companies in the time period 2007 2008
PTS-09	• Agency contract between Mechel JSC and ChMK #086/M-09 dated on 01.07.2009 about tender organization. • Letter #M/0349/MC/06 dated on 26.03.2010 about agency contract implementation
PTS-11	Letter #UCM/0357/AD dated on 08.08.2011 about contact signing with a consulting company for project joint implementation.
Reg	Laws and regulations relevant in the specific context of the project activity: • Federal law of the RF "On Protection of the Environment" as of 10.01.2002 #7-FL; • Federal law of the RF "On Ecological Examinations" as of 25.11.1995 #174-FL; • Federal law of the RF "On the Sanitary and Epidemiological Safety of the Population" as of 30.03.1999 #52-FL; • Federal law of the RF "On the Protection of Atmospheric Air" as of 04.05.1999 #96-FL; • Federal law of the RF "On Production and Consumption Wastes" as of 24.06.1998 #89-FL; • Sanitary Regulations and Standards 2.2.1/2/1/1200-03 "Sanitary Protection Zones and Sanitary Classification of Companies,

Reference	Document
	Buildings and other Facilities"; • Sanitary Regulations and Standards "Instructions on the development, coordination, approval and composition of design estimate documentation"; • Regulation on the evaluation of planned commercial and other activities on the environment in the Russian Federation approved by the order of the State Committee for Environmental Protection #372 as of 16.05.2000. • Russian metallurgy development strategy up to 2020, approved by the Ministry of Industry and Trade of the Russian Federation order #150 on March 18, 2009; • Russian Government Decree #780 dated on September 15, 2011 "On Realization of Article 6 of Kyoto Protocol to United Nations Framework Convention on Climate Change
SC	Evidences regarding the stakeholder consultation process: • Protocol dated on 26.05.2004 of the meeting on the issue of environmental impact of the facilities being constructed at ChMK (Continuous Casting Plant, CCM-3 Complex); • Letter to the administration of the Chelyabinsk Metallurgichesky district #212-05 dated on 28.04.2006 with regard to public consultations on issues relating to environmental aspects of the facilities planned for construction within the territory of ChMK (Oxygen-converter plant. CCM-4 Complex); • Protocol dated on 22.05.2009 of the meeting on the issue of environmental impact of construction of the facility «ChMK. Oxygen-converter Plant. CCM-4 Complex. Phase 2»; • Protocol dated on 22.05.2009 of the meeting on the issue of environmental impact of construction of the facility «ChMK. Arc-furnace plant #6. Renewal of CCM. Installation of LF and Vacuum Vessel. Slab Production Increase up to 1,200,000 Tons per Year»; • Protocol dated on 22.12.2010 of the meeting on the issue of environmental impact of construction of the facility «ChMK. Oxygen-converter Plant. Reconstruction. Installation of Blooming CCM-5». • Representatives of ChMK, OJSC «Chelyabgipromez», the

Reference	Document
	administration of the Chelyabinsk Metallurgichesky district, as well as members of the public have taken part in the public consultations.
TS	Reference of Technical Department of ChMK that was provided to evidence that production facilities in the main sintering, blast-furnace, steelmaking and rolling plants are identical in the project and baseline scenarios.
VC	Expenses overview as per the internal financial reports
WGE	Plants general expenses, commercial activity related expenses used within the investment decisions of individual project measures
XLS	Emission reduction (Excel) calculation spreadsheet

Table 7-2: Background investigation and assessment documents

Reference	Document
/**CPM**/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
CDM-Pr	Project in the metal sector reviewed to analyse approaches used in similar cases: • Implementation of Resource-Saving Technologies at JSC "Ural Steel", Novotroitsk, Russia • Implementation of arc-furnace steelmaking at Magnitogorsk Iron and Steel Works • Reconstruction of the steel – smelting manufacture of "Seversky pipe plant" • Reconstruction of the steelmaking at JSC "Ashinskiy Metallurgical Works", Asha, Russian Federation • Implementation of modern technologies of sinter production and blast furnaces charging at OJSC MMK • Production of continuously casted slab steel billet by arc-furnace technique at OJSC MMK • Construction and implementation of the Casting and Rolling Complex for the production of hot rolled flat products in the Vyksa District, the Nizhny Novgorod Region, the Russian Federation

Reference	Document
/**DVM**/	Joint Implementation determination and verification manual (Version 01), issued by the Joint Implementation Supervisory Committee
/**GBM**/	Guidance on Criteria for baseline setting and monitoring
/**GCP**/	Guidelines for users of the Joint Implementation project design document form (version 03)
/**GJI**/	Guidelines for the implementation of Article 6 of the Kyoto Protocol as per 9/CMP.1
/**IPCC-GP**/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/**IPPC-RM**/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/**KP**/	Kyoto Protocol (1997)
/**MA**/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/**Meth**/	
/**TA**/	Tool for the demonstration and assessment of additionality (Ver. 5.2).

Table 7-3: Websites used

Reference	Link	Organisation
/**cbr**/	www.cbr.ru	Information about the Central bank discount rate
/**ipcc**/	www.ipcc-nggip.iges.or.jp	IPCC publications
/**mb**/	http ://www.metalbulletin.com /	Metalbuletin
/**ric**/	http://russia-ic.com/about_us/	Russia steel info center
/**rsa**/	http://eng.russtal.ru/	Association of Russian iron and steel producers
/**wsa**/	http://worldsteel.org/statistics/top-producers.html	World steel assocciation

Reference	Link	Organisation
/**unfccc**/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	MoI[1]		Name	Organisation / Function
/**IM01**/	V	☐ Mr. ☐ Ms	Kopnin Vladimir	Chief Engineer / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Sadirin Alexandr	Head CEST / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Sashnikov Alexey	Manager / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Haustov Sergey	KIPiA / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Vabomen Igor	Manager of training centre / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Movchan Anatoly	Head of training centre / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Strukin Vadim	Deputy head UOTPB / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Chernikov Anton	OM / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Rusanova Elena	Expert of analytical department /n OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Pershikova Elena	Deputy chief accountant / OAO, Chelyabinsk, Russia
/**IM01**/	V	☐ Mr. ☐ Ms	Kazakov Roman	JI consultant / NCSF

[1] Means of Interview: (**T**elephone, **E**-Mail, **V**isit)

ANNEX

A1: Determination Protocol

A2: Assessment of Baseline Identification

A3: Assessment of Financial Parameters

A4: Assessment of Barrier analysis

A5: Outcome of the GSCP

ANNEX 1: DETERMINATION PROTOCOL

Table A-1: Requirements Checklist

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
A	***Project approvals by Parties involved***					
A.1	*DVM § 19* Have the DFPs of all Parties listed as Parties involved in the PDD provided written project approvals?	*Description:* The Party involved is Russia as the Host Country. No other Party is involved at this stage. The Host Country Approval is pending. *Means of verification:* The approval of the Host Party is pending. *Conclusion:* CAR A1 was raised on this context.	/PDD/	CAR A1	CAR A1	
A.2	*DVM § 19* Does the PDD identify at least the host Party as a Party involved?	*Description:* As per the section A.3 of the PDD Russia has been identified as the Host Country. No Investor Party was identified at this stage. *Means of verification:* This is indicated in the section A.3 of the PDD. *Conclusion:* The requirement is fulfilled.	/PDD/			OK
A.3	*DVM § 19* Has the DFP of the host Party issued a written project	*Description:* No written approval has been provided so far (see A.1). *Means of verification:* N/A	/PDD/	CAR A1	CAR A1	

[3] JISC 19 Annex 4

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	approval?	*Conclusion:* See A.1.				
A.4	*DVM § 20* Are all the written project approvals by Parties involved unconditional?	*Description:* No written approval has been provided so far (see A.1). *Means of verification:* N/A *Conclusion:* See A.1.	/PDD/	CAR A1	CAR A1	
A.5	*DVM § 21* Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: ▪ A written project approval by a Party involved, explicitly indicating the name of the legal entity? or ▪ Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	*Description:* No written approval has been provided so far (see A.1). *Means of verification:* N/A *Conclusion:* See A.1.	/PDD/	CAR A1	CAR A1	

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
B	***Baseline Setting***					
B.1	*DVM § 22* Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? ▪ JI specific approach ▪ Approved CDM methodology approach	The PDD explicitly indicates that the JI specific approach was used to identify the baseline.	PDD	CAR B3	CAR B3	OK
	JI specific approach only					
B.2	*DVM § 23* Does the PDD provide a detailed theoretical description in a complete and transparent manner?	*Description:* The PDD explicitly indicates that the JI specific approach was used to identify the baseline and justify the additionality. The PDD provide a detailed theoretical description in a complete and transparent manner. In particular it indicates that JI specific approach is based on the Guidance on criteria for baseline setting and monitoring" (Version 03) and Appendix B to Decision 9/CMP.1. The version 03 of the Guidance on criteria for baseline setting and monitoring" is the latest version that was issued within the JISC 26 meeting.	/PDD/ /CT/			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		Means of determination: The applied approach was accepted because it follows the step-wise concept of the "Combined tool to identify the baseline scenario and demonstrate additionality". In particular it provides a step-wise method to identify the baseline scenario. The applied approach is applicable in the specific context of the considered project because the potential alternatives to the proposed project activity are available to project participant (PP) and cannot be implemented in parallel to the proposed project activity. In other words the PP can either introduce measures or not. The applied JI specific approach is similar to the approaches suggested by the approved CDM tools/TA//CT/. The PP took into account the specific circumstances and technologies of the considered project activity. For example, the specific operation modes and historical data were taken into account in the context of the identification of the baseline. In doing so some conservative assumptions were used with regards to the production output in the project and baseline scenarios. In particular, the PDD that "*all plausible future scenarios shall be provide outputs in comparable quantities and with comparable quality and properties".* One characteristic feature of the applied approach is that the financial analysis was performed in the framework of the so				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		called key factor analysis. The financial analysis complies with relevant CDM requirements such as provisions of the *"Guidance on Assessment of Investment analysis"* EB 62 annex 5 as well as relevant provisions of the ""*Combined tool to identify the baseline scenario and demonstrate additionality*". Therefore the applied approach was assessed as appropriate. Finally, it is worth to note that the applied approach is similar to the approaches used in the positively determined JI projects, which involve similar measures/CDM-PR/. The applied approach was clearly explained in the PDD and afterwards, carried out in order to determine the baseline scenario. *Conclusion:* Therefore the elaborated approach was assessed to be applicable for the purpose of the baseline identification. The requirement is fulfilled.				
B.3	*DVM § 23* Does the PDD provide justification that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting	*Description:* The PDD identifies and justifies the baseline scenario by listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one The following possible technical options were identified and considered in the PDD. *Scenario 1. Project implementation without registration as a JI project. Mainly production of continuous casted billets*	PDD INV Bench GBM	CAR B1 CAR A2 CAR A3 CAR B2	CAR B1 CAR A2 CAR A3 CAR B2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	the most plausible one?	*from the steel smelted in ChMK oxygen-converter plant.* *Scenario 2. Continuation of the current situation.8 Mainly production of rolled billets from the steel smelted in ChMK oxygen-converter plant.* *Means of determination:* The PP has duly identified the project activity itself as well as the continuation of the pre-project situation as possible and plausible options. Furthermore, the PP has explained why there are no further plausible options by taking into account the specific circumstances of the considered plant. All considered scenarios were explained in a detailed manner. The determination team has checked identified scenarios and was able to conclude that no scenario was omitted. Please refer to the assessment in annex 2 of this report. Following the elaborated JI specific approach all identified scenarios were checked against compliance with the relevant regulation, and afterwards the so called "key factor review" was performed in order to identify the most plausible option. In doing so the identification of the most plausible scenario was based on conservative assumptions. Most importantly it was demonstrated that project, which does not comply with company's internal benchmark will be not implemented and cannot be considered as plausible				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		options. The comparison with the internal benchmark was assessed as an appropriate analysis method because scenario 2 (continuation of the pre project situation does not require any additional investments. Due to this a financial indicator (Internal Rate of Return (IRR)) can be calculated only for the alternative 1 (project scenario). The PP provided a clear, viewable and unprotected Excel spreadsheet that presents the investment calculation. The period chosen for the investment analysis does not reflect the technical lifetime of the project activity because a shorter period is chosen. Therefore the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) was included. As assessed in detail in annex 3 all the input values used in the investment analysis were valid and applicable at the time of the investment decision of particular measure. Within the IRR calculation the costs of financing expenditures (loan repayments and interests) were excluded from the calculation. In essence, the financial analysis compares the investment costs with income resulted from the project activity. *Conclusion:*				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		As evident from the mentioned above the particular requirements of the DVM §23 (a) are fulfilled.				
B.4	(b) Taking into account relevant national and/or sectoral policies and circumstance? – Are key factors that affect a baseline taken into account?	*Description:* As per the PDD the continuation of the pre-project situation is not prohibited by any law or regulation. *Means of determination:* This could be confirmed through analysis of the relevant laws and regulation. Please refer to annex 2 of this report. In addition the PP has explained the key factors (that affect the baseline) and how these factors were taken into account. In particular, it is explained that the project activity faces low financial attractiveness as compared to the continuation of the pre-project situation. Furthermore the specific circumstances of the metallurgical industry in Russia and the development of the metallurgical sector were considered within the baseline identification. In particular, different official and governmental documents/REG/ with regards to the metallurgical industry like • Regulation on the evaluation of planned commercial and other activities on the environment in the Russian Federation approved by the order of the State Committee for Environmental Protection #372 as of 16.05.2000. • Russian metallurgy development strategy up to 2020,	PDD EIA EIA1 EIA2 EIA3 PDV Reg GBM	CAR B1 CAR A2 CAR A3 CAR B2	CAR B1 CAR A2 CAR A3 CAR B2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		approved by the Ministry of Industry and Trade of the Russian Federation order #150 on March 18, 2009; were taken into account. Chelyabinsk Metallurgical Plant is Russia's largest enterprise of a full metallurgical cycle producing quality and high-quality. Plants experts are well-experienced and competent with regards to the issues related to the metallurgical sector and applied technologies. Plant experts' competence and experience was used within the baseline identification. *Conclusion:* As evident from the mentioned above the particular requirements of the DVM §23 (b) are fulfilled.				
B.5	(c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors?	*Description:* PDD provides justification that the baseline is established in a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors. *Means of determination:* The applied approach of the baseline identification involves the step-wise concept of the *"Combined tool to identify the baseline scenario and demonstrate additionality".* Within the justification all plants internal data was transparently presented in the PDD. The same could be verified within the determination. All applied data sources could be verified. Therefore it was assessed as transparent.	PDD Reg GBM			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		Please also refer to the comment under B.1 *Conclusion:* The requirement is fulfilled.				
B.6	(d) Taking into account of uncertainties and using conservative assumptions?	*Description:* Uncertainties and using conservative assumptions were taken into account within the baseline identification. *Means of determination:* On the one hand PDD demonstrates that continuation of the pre-project situation is not prohibited by any law or regulation and reflects also the common practice. On the other hand assuming that "*all plausible future scenarios shall be provide outputs in comparable quantities and with comparable quality and properties"* it could be demonstrated that project activity does not provide sufficient rate of return. For detailed assessment please refer to annex 2. *Conclusion:* The requirement is fulfilled.	PDD Reg			OK
B.7	(e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project activity or due to force majeure?	*Description:* The amount of ERU depends inter alia on the operation of the plant and the corresponding production. *Means of determination:* As evident from the PDD the production was assumed to remain on a normal level. The baseline emissions are determined in a manner that that ERUs cannot be earned for decreases in activity levels	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		outside the project activity or due to force majeure. Please refer to the assessment of the monitoring plan. *Conclusion:* The requirement is fulfilled.				
B.8	(f) By drawing on the list of standard variables contained in appendix B to . Guidance on criteria for baseline setting and monitoring., as appropriate	*Description:* The requirements of the appendix B to *Guidance on criteria for baseline setting and monitoring* were taken into account within the development of the monitoring plan. The standard variables were duly elaborated in line with IPCC data. *Means of determination:* Please refer to the assessment of the monitoring plan in this annex below. *Conclusion:* The requirement is fulfilled.	PDD GBM			OK
B.9	*DVM § 24* If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements supplementary developed by the project participants in line with 23 above?	*Description:* Not applicable because a JI specific approach was elaborated and applied. *Means of determination:* N/A *Conclusion:* N/A	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
B.10	*DVM § 25* If a multi-project emission factor is used, does the PDD provide appropriate justification?	*Description:* N/A *Means of determination:* N/A *Conclusion:* N/A	PDD			OK
B.11	*DVM § 25* Does the PDD provide the title, reference number and version of the approved CDM methodology used?	*Description:* N/A *Means of determination:* N/A *Conclusion:* N/A	PDD			OK
	Approved CDM methodology approach only	*DVM §26 are not applicable because an approved CDM methodology was no used.*				
C	***Additionality***					
	JI specific approach only					
C.1	*DVM § 28* Does the PDD indicate which of the following approaches for	*Description:* The PDD explicitly indicates that the JI specific approach was used to justify the additionality.	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	demonstrating additionality is used? *(a)* Provision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the .Tool for the demonstration and assessment of additionality. (allowing for a two-month	In doing so, the "p*rovision of traceable and transparent information showing the baseline was identified on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals"* was used. *Means of determination:* This is evident from the PDD. *Conclusion:* The requirement is fulfilled.				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	grace period) or any other method for proving additionality approved by the CDM Executive Board.					
C.2	*DVM § 29* (a) Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	*Description:* The PDD explicitly indicates that the JI specific approach was used to identify the baseline and justify the additionality. The PDD provide a detailed theoretical description in a complete and transparent manner. In particular it indicates that JI specific approach is based on the Guidance on criteria for baseline setting and monitoring" (Version 03) and Appendix B to Decision 9/CMP.1. Version 03 of the Guidance on criteria for baseline setting and monitoring" is the latest version that was issued within the JISC 26 meeting. *Means of determination:* The applied approach was accepted because it follows the step-wise concept of the "Combined tool to identify the baseline scenario and demonstrate additionality". In essence the approach to justify the additionality makes use of the results of the baseline identification and requires to perform a common practice analysis. The same approach	PDD GBM CT TA INV INV1 INV2 INV3 Bench GBM	CAR B1 CAR A2 CAR A3 CAR B2	CAR B1 CAR A2 CAR A3 CAR B2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		is proposed by approved CDM tools/CT//AT/. Please refer to b.2 and annex 2 of this report *Conclusion:* Therefore the elaborated approach was assessed to be applicable for the purpose of the baseline identification. The requirement is fulfilled.				
C.3	*DVM § 29* (b) Are additionality proofs provided?	*Description:* All additionality proofs referred to in the PDD and used within the addtionality justification were provided and could be verified by the determination team. *Means of determination:* **Common practice analysis** The PP makes use of the results of the baseline identification and performs the common practice analysis in order to examine the extent to which the proposed project type has already diffused in the relevant sector and region. In doing so, metallurgical industry was defined as the relevant sector and Russian Federation as the geographical area. This deemed to be appropriate. As per the PDD similar measures were observed in the following metallurgical plants • OJSC "Magnitogorsk Iron and Steel Works"; • OJSC "Ural Steel"; • OJSC "Nizhneserginsky Metizno-Metallurgichesky	PDD INV INV1 INV2 INV3 Bench GBM CDM-Pr PDD /wsa/ /rsa/ /mb/ /ric/	CAR B1 CAR A2 CAR A3 CAR B2	CAR B1 CAR A2 CAR A3 CAR B2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		Plant"; • OJSC "Ashinskiy Metallurgical Works"; • CJSC "Chelyabinsk Tube-Rolling Plant"; • OJSC "Metallurgical Plant named after A.K. Serov"; • OJSC "Seversky Pipe Plant" The determination team has checked this information and was able to confirm that similar measures were implemented in the above mentioned plants. The PP has correctly indicated that projects implemented in all these plants were set up as JI projects. Therefore they can be excluded from the consideration. This could be duly confirmed through the analysis of the JI project as per the information proved by the Russian registry of carbon units http://www.carbonunitsregistry.ru/reports-pso.htm. In addition the determination team reviewed information provided by the independent third party sources like • Association of Russian iron and steel producers/rsa/ • World steel association/wsa/ • Metalbuletin/mb/ • Russia steel info centre/ric/				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		The information provided by these sources supports the results of the analysis provided in the PDD. The results of the common practice analysis could be further supported by the information provided positively determined JI project /CDM-Pr/. As a result it could be confirmed that similar activities are observed, but essential distinctions between the project activity and similar activities can reasonably be explained. Therefore it was correctly concluded that the proposed project activity is additional. *Conclusion:* The requirement is fulfilled.				
C.4	*DVM § 29* (c) Is the additionality demonstrated appropriately as a result?	*Description:* Please refer to the comment under B.1 and B.2. *Means of determination:* PDD *Conclusion:* The requirement is fulfilled.	PDD INV INV1 INV2 INV3 Bench GBM	CAR B1 CAR A2 CAR A3 CAR B2	CAR B1 CAR A2 CAR A3 CAR B2	OK
C.5	*DVM § 30* *If the approach 28 (c) is chosen,* are all explanations, descriptions	*Description:* Please refer to the comment under B.1 and B.2. *Means of determination:* PDD	PDD INV	CAR B1 CAR A2	CAR B1 CAR A2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	and analyses made in accordance with the selected tool or method?	*Conclusion:* The requirement is fulfilled.	INV1 INV2 INV3 Bench GBM	CAR A3 CAR B2	CAR A3 CAR B2	
	Approved CDM methodology approach only	*Description:* Not applicable because approach 28 (c) was not chosen. *Means of determination:* N/A *Conclusion:* N/A	PDD			
D	***Project boundary (applicable except for JI LULUCF projects)***					
	JI specific approach only					
D.1	*DVM § 32* Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are	*Description:* The PDD describes the project boundary, including the physical delineation of the proposed JI project activity. *Means of determination:* Based on provided evidences it could be determined that the delineation of the project boundary is correct and meets the requirements of the relevant JI rules – DVM and Guidance on criteria for baseline setting and monitoring. As evident from the PDD the project boundary includes	PDD CR1	CAR B1	CAR B1	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		GHG emission sources attributed to the project activity. In particular, the project boundary includes all facilities of the plant related to the project activities and where GHG emissions occur. These are: 1. Sintering plant; 2. Blast-furnace plant; 3. Oxygen-converter plant; 4. Arc-furnace plant #6; 5. Rolling plant #3. Mill 1250-3 / CBM Parts of the plant that are not affected by the project activity were excluded from the project boundary. This information was checked and found correct. Only those sources were taken into account emissions from which are above (1%) in the overall quantity of GHG emissions." This is in line with the requirements of the Guidance on criteria for baseline setting and monitoring version 03. The PDD summarizes the emission sources and GHG types in a table format. *Conclusion:* The requirement is fulfilled.				
D.2	(i) Under the control of the project participants?	*Description:* All emissions and corresponding sources are under control of project participant (PP).	PDD	CAR D3	CAR D3	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		Means of determination: The project boundary includes CO_2 emissions from fuel combustion and from oxidation of carbon contained in raw and materials. The CO_2 emissions in the project and in the baseline scenario depend mainly on the steel production, which is under control of PP. *Conclusion:* The requirement is fulfilled.				
D.3	(ii) Reasonably attributable to the project?	*Description:* The project boundary includes CO_2 emissions resulted from steel production. *Means of determination:* It is obvious that these emission sources are attributable to the project activity. *Conclusion:* The requirement is fulfilled	PDD			OK
D.4	(iii) Significant?	*Description:* Only those sources are taken into account emissions from which are above (1%) in the overall quantity of GHG emissions. *Means of determination:* This is in line with the requirements of the Guidance on criteria for baseline setting and monitoring version 03. *Conclusion:* The requirement is fulfilled	PDD GBM			OK
D.5	*DVM § 32* *(b) Is the project boundary defined on the basis of a case-by-case assessment with regard*	*Description:* The project boundary is defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above *Means of determination:* Please refer to the assessments	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	to the criteria referred to in 32 (a) above?	under D.1 – D.4 above. *Conclusion:* The requirement is fulfilled				
D.6	*DVM § 32* (c) Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	*Description:* The PDD describes the project boundary by using a figure that shows the physical delineation of the proposed JI project activity. *Means of determination:* Based on provided evidences it could be determined that the delineation of the project boundary is correct and meets the requirements of the relevant JI rules – DVM and Guidance on criteria for baseline setting and monitoring. *Conclusion:* The requirement is fulfilled.	PDD			OK
D.7	*DVM § 32* (d) Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	*Description:* All gases and sources included are explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified. *Means of determination:* The CO_2 emissions are the main emission source. The PDD provides a detailed explanation of the emission and the corresponding emissions sources. This explanation was checked and found correct and in line with the real situation. *Conclusion: The requirement is fulfilled*	PDD GBM			OK
	Approved CDM methodology approach only	DVM §33 is not applicable because JI specific approach was used.				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
E	***Crediting period***					
E.1	*DVM § 34* (a) - Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began? - Is the starting date after the beginning of 2000?	*Description:* The project starting date is 27.07.2003 – this is the date when real implementation of the scheduled measures began. *Means of determination:* The starting date of the project is determined as date of first contact signing for project equipment. The contract has been provided and the date could be verified. To apply the date of the contract with equipment supplier is applicable to determine the project starting date. *Conclusion:* The requirement is fulfilled.	PDD PS			OK
E.2	*DVM § 34* (b) Does the PDD state the expected operational lifetime of the project in years and months?	*Description:* As per the PDD the expected operational lifetime is 15 years. *Means of determination:* The expected operational lifetime of the project is determined as lifetime of the main projects equipment in accordance with Russian regulations. The PP referred to Russian Government Decree #1 dated on 01/01/2002 about fixed assets included in depreciation groups (edit. By Decrees of Russian Government # 415 on 09/07/2003, #476 on 08/08/2003, # 697 on 18/11/2006, #676 on 12/09/2008). The PP explained how the technical lifetime was elaborated based on the information provided in the above mentioned decree. The decree was checked and	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		and the explanation was found reasonable Therefore the assumed lifetime was accepted. *Conclusion:* The requirement is fulfilled.				
E.3	*DVM § 34* (c) Does the PDD state the length of the crediting period in years and months?	*Description:* Please refer to section C.3 of the PDD. As per the PDD the length of the first crediting period is 5 years, i.e. 60 months. In addition the PDD states that in case the second commitment period will be established under Kyoto Protocol, and further to recent Russian government recognition, emission reductions for the subsequent period will be applied. *Means of determination:* The choice of the crediting period between 2008 and 2012 is appropriate because the project was operational in 2008. In addition the PDD states that in case the second commitment period will be established under Kyoto Protocol, and further to recent Russian government recognition, emission reductions for the subsequent period will be applied. The crediting period will not exceed the project operational lifetime. This is in line with Glossary of Joint Implementation Terms (Version 2).	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
E.4	*DVM § 34* (c) Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	The starting date of the crediting period will be on or after the date the first emission reductions. This is in line with §34 DVM.	PDD			OK
E.5	*DVM § 34* (d) Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	Please refer to E.3.	PDD			OK
E.6	*DVM § 34* (d) *If the crediting period extends beyond 2012,* does the PDD state that the extension is subject to the host Party approval?	Yes, the PDD states that the extension is subject to the host Party approval. Please refer to E.3.	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
E.7	Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	*Description:* The PDD provides estimates of emission reductions presented separately for those until 2012 and those after 2012. *Means of determination:* This is evident from the separate tables in PDD section A.4.3.1 and section E. *Conclusion:* The requirement is fulfilled	PDD			OK
F	***Monitoring plan***					
F.1	*DVM § 35* Does the PDD explicitly indicate which of the following approaches is used? – JI specific approach – Approved CDM methodology approach	*Description:* The PDD explicitly indicates that a JI specific approach was used. *Means of determination:* This is evident from the PDD section D.1. As per the PDD the applied approach is based on the requirements of the "Guidance on criteria for baseline and monitoring" version 03. This is the most recent version and hence appropriate. *Conclusion:* The requirement is fulfilled	PDD GBM	CAR D1 CAR D3 CAR D4 CLD5	CAR D1 CAR D3 CAR D4 CLD5	OK
	JI specific approach only					
F.2	*DVM § 36* (a) Does the monitoring plan describe	*Description:* The monitoring plan is elaborated in detail in section D of the PDD.	PDD GBM	CAR D1 CAR D3	CAR D1 CAR D3	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		Means of determination: As per the PDD the applied approach is based on the requirements of the "Guidance on criteria for baseline and monitoring" version 03. This is the most recent version and hence appropriate. The chosen JI specific approach is based on paragraph 30 of Guidance on criteria for baseline setting and monitoring (Version 03). The approach chosen was reviewed and it could be confirmed that it includes the following procedures: • The collection and archiving of all relevant data necessary for estimating or measuring anthropogenic emissions by sources of GHGs occurring within the project boundary during the crediting period; • The collection and archiving of all relevant data necessary for determining the baseline of anthropogenic emissions by sources of GHGs within the project boundary during the crediting period; • The identification of all potential sources of, and the collection and archiving of data on increased anthropogenic emissions by sources of GHGs outside the • project boundary that are significant and reasonably attributable to the project during the crediting period; • The collection and archiving of information on	IPCC CDM-Pr	CAR D4 CLD5	CAR D4 CLD5	

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		environmental impacts, in accordance with procedures as required by the host Party; • Quality assurance and control procedures for the monitoring process; • Procedures for the periodic calculation of the reductions of anthropogenic emissions by sources by the proposed JI project, and for leakage effects. The basic concept of the elaborated approach is similar to the approaches used in similar projects/CDD-Pr/. *Conclusion:* The requirement is fulfilled				
F.2.1	– *All relevant factors and key characteristics that will be monitored?*	*Description:* The monitoring plan describes all relevant factors and key characteristics that will be monitored. *Means of determination:* **Relevant factors** As per the PDD the relevant factors related to the project scenario are the production of continuous casted billets from the steel smelted in oxygen-converter plant. This is correct because this is the way how the project measures affect the CO_2 emissions.	PDD IPCC AE	CL D1 CL D2	CL D1 CL D2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		The relevant factors related to the baseline scenario are the production of rolled billets from the steel smelted in oxygen-converter plant. This is correct because it reflects the technology that would have been applied in the baseline scenario. **Key characteristics** The PDD explain the approach for calculation of GHG emissions. The key characteristics as provided in the PDD were assessed as follows: 1. As per the PDD "*Calculation of CO2 emissions in the project and baseline scenarios from sintering plant, blast-furnace plant, oxygen-converter plant, arc-furnace plant is provided based on calculation of carbon oxidation of raw materials and fuel determined as carbon balance between the material flows (steel scrap, pig iron, coke, natural gas, electrodes, limestone) and product flows (pig iron, steel). It is assumed that all carbon not fixed in the finished products is oxidized to CO2".* This approach is corresponds to the provisions of the IPCC Guidelines. The similar concept was applied in similar projects[CDM-Pr/]. 2. As per the PDD *"Calculation of CO2 emissions in the project and baseline scenarios from rolling plant #3 and CO2 leakages from energy resources generation (electricity,*				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		blast, compressed air) is provided based on data of fuel (natural gas, coal) combustion and emission factor from fuel combustion. The oxidation factor of fuel is estimated equal 1 (or 100%) for conservative assumption of emissions. In calculation of CO2 emissions are not included the emissions from blast-furnace gas and coke oven gas combustion for exclusion of double counting as these emissions are included in the emissions by pig iron and coke production". This approach is corresponds to the provisions of the IPCC Guidelines. The similar concept was applied in similar projects[CDM-Pr/]. The applied fuel emission factors are in line with the IPCC values. The fuel oxidation factor taken as 100% was acceptable. The emissions from blast-furnace gas and coke oven gas combustion for exclusion of double counting as these emissions are included in the emissions by pig iron and coke production. This was checked and found correct. 3. As per the PDD "*Calculation of CO2emissions from fuel combustion for electricity generation is provided based on data of electricity consumption from the grid and emission factor from electricity generation in the grid for the project consumed electricity".* This was accepted because it represents an approach commonly used in CDM projects. 4. As per the PDD "*Calculation of CO2 leakages from coke, pellets and lime production is provided based on data of*				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		these raw materials consumption in the project and baseline scenarios and emission factors from their production outside the project boundaries". The approach complies with the provisions suggested by the IPCC guidelines. **Monitoring parameters** Based on the provided explanations and taking into account the measures and technologies used within the project activity it could be concluded that all relevant monitoring parameters were included in the monitoring plan. The parameters which are continuously monitored according to the requirements of the monitoring plan are summarized below : • pig iron, steel scrap, limestone, lime, electrodes, natural gas, electricity, oxygen consumption in oxygen-converter plant; • steel production in oxygen-converter plant; • pig iron, steel scrap, limestone, lime, electrodes, natural gas, electricity, oxygen consumption in arc-furnace plant #6; • steel production in arc-furnace plant #6; • coke, limestone, sinter, pellets, natural gas, blast, electricity, oxygen consumption in blast-furnace plant; • pig iron production in blast-furnace plant;				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		• coke, limestone, lime, sinter, natural gas, electricity consumption in sintering plant; • sinter production in sintering plant; • natural gas, electricity, oxygen consumption in rolling plant #3; • ingots rolling in rolling plant #3; • natural gas, coal consumption in CHPP for energy resources production (electricity, blast, compressed air); • electricity consumption from the grid; • electricity consumption from the CHPP; • electricity, blast, compressed air production in CHPP; • electricity, compressed air consumption for oxygen production; • oxygen distribution; • ash, volatile matter, sulphur content in coke; • conversion factor of natural gas consumption to standard fuel. *Conclusion:* The requirement is fulfilled.				
F.2.2	– *The period in which they will*	*Description:* The monitoring period depends on the	PDD	CL D2	CL D2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	be monitored?	monitoring parameter and is either constantly, monthly or default values. *Means of determination:* The period in which the parameters will be monitored was assessed as appropriate. *Conclusion:* The requirement is fulfilled	IPCC CDM-Pr			
F.2.3	– *All decisive factors for the control and reporting of project performance?*	*Description:* The monitoring plan describes the monitoring procedures including all decisive factors for the control and reporting of the project performance. *Means of determination:* It could be verified that all parameters are monitored by the plant according to its internal reporting procedures and would have been monitored also in absence of the project activity. The project activity does not require monitoring of new or additional parameters. *Conclusion:* The requirement is fulfilled.	PDD			OK
F.3	*DVM § 36* (b) Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals	*Description:* The monitoring plan specifies the indicators, constants and variables. *Means of determination:* The use of IPCC data was assessed as appropriate because it is an internationally accepted source. Also the monitoring plan for similar projects, which were positively determined, refers to the IPCC data.	PDD IPCC CDM-P	CL D2	CL D2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	to be monitored?	*Conclusion:* The requirement is fulfilled.				
F.4	*DVM § 36* (b) *If default values are used*	*Description:* The monitoring plan specifies the following default values: Parameters which are determined once and are taken as constants for the whole monitoring period. They are available at the stage of determination: • carbon content in steel scrap taken as 0.01 tC/t; • carbon content in steel taken as 0.01 tC/t; • carbon content in pig iron taken as 0.04 tC/t; • carbon content in electrodes taken as 0.82 tC/t; • carbon content in limestone taken as 0.12 tC/t; • default carbon content in natural gas taken as 15.30 tC/Tj; • default CO2 emission factor from natural gas combustion taken as 56.10 tCO2/TJ; • default CO2 emission factor from coal combustion taken as 94.60 tCO2/TJ;	PDD IPCC CDM-P			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		These values were taken from the IPCC Guidelines. The values indicated in the PDD were crosschecked against IPCC guidelines and found consistent. • The emission factor from natural gas combustion in tCO2/ t of standard fuel taken as 1.664 tCO2 / t of standard fuel was calculated based on the formulae indicated in the Annex 3. The formulae was checked and found appropriate. • emission factor from coal combustion in tCO2/ t of standard fuel taken as 2.772 tCO2 / t of standard fuel was calculated based on the formulae indicated in the Annex 3. The formulae was checked and found appropriate; • conversion factor of calorie into joule taken as 4,1862 J/cal is in line with provided data source; • conversion factor of standard fuel into calorie 7000 kcal / kg of standard fuel; • CO2 emission factor for electricity generation in the grid for the years 2008-2012 is in line with the provided data source; • CO2 emission factor for pellets production taken as 0.03 tCO2/t ; • CO2 emission factor for coke production taken as				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		0.56 tCO2/t; These values were taken from the IPCC Guidelines. The values indicated in the PDD were crosschecked against IPCC guidelines and found consistent. • CO2 emission factor for lime production taken as 1.481 tCO2/t is in line with the applied data source - Best Available Techniques in the Cement, Lime and Magnesium Oxide Manufacturing Industries, European Commission, May 2010; • maximal continuous billets production from the oxygen-converter steel in the baseline scenario taken as 144,610 was estimated based on actual production data of CCM-1 and CCM-2 from the oxygen-converter steel for 2004-2006. The actual production figures were provided and the estimation was assessed as reasonable; • specific natural gas consumption in oxygen-converter plant in the baseline scenario taken as 0.006 thousand m3 / t was calculated based specific natural gas consumption in oxygen-converter plant in the baseline scenario, the natural gas consumption in oxygen-converter plant in the baseline scenario and the steel production in oxygen-converter plant in the baseline scenario, All values were taken from the internal reports/AE/. The reports/AE/ were checked and the				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		applied values could be verified; • specific electricity consumption in oxygen-converter plant in the baseline scenario taken as 0,024 MWh/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific electrodes consumption in oxygen-converter plant in the baseline scenario taken as 0.119 kg/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific ingots consumption for billets production in the baseline scenario; taken as 1.219 t/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004. • specific natural gas consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0.013 thousand m3 / t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific electricity consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0,037 MWh/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		plant ChMK for 2002-2004; • specific oxygen consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0,001 thousand m3/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004. All above mentioned parameters are elaborated in the PDD in clear and detailed manner. *Means of determination:* The applied values are in line with the IPCC values. Therefore the default values were accepted. *Conclusion:* The requirement is fulfilled.				
F.4.1	- *Are accuracy and reasonableness carefully balanced in their selection?*	The accuracy and reasonableness is carefully balanced in the selection of the default values. Please refer to the comment under F.4.	PDD IPCC AE			OK
F.4.2	– *Do the default values originate from recognized sources?*	The default values are in line with the referred data sources. Please refer to the comment under F.4.	PDD IPCC AE			OK
F.4.3	– *Are the default values supported by statistical*	The default values are reasonable because they were sources from well-reputed internationally accepted	PDD IPCC			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	analyses providing reasonable confidence levels?	independent sources.. Please refer to the comment under F.4.	AE			
F.4.4	– *Are the default values presented in a transparent manner?*	Yes, Annex 3 lists the values, the data source or the way how the default value was determined.	PDD			OK
F.5	*DVM § 36* (b) (i) For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	*Description:* The monitoring plan clearly indicates how monitoring parameters will be selected and justified. *Means of determination:* The parameters which are continuously monitored according to the requirements of the monitoring plan are summarized below : • pig iron, steel scrap, limestone, lime, electrodes, natural gas, electricity, oxygen consumption in oxygen-converter plant; • steel production in oxygen-converter plant; • pig iron, steel scrap, limestone, lime, electrodes, natural gas, electricity, oxygen consumption in arc-furnace plant #6; • steel production in arc-furnace plant #6;	PDD ATT			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		• coke, limestone, sinter, pellets, natural gas, blast, electricity, oxygen consumption in blast-furnace plant; • pig iron production in blast-furnace plant; • coke, limestone, lime, sinter, natural gas, electricity consumption in sintering plant; • sinter production in sintering plant; • natural gas, electricity, oxygen consumption in rolling plant #3; • ingots rolling in rolling plant #3; • natural gas, coal consumption in CHPP for energy resources production (electricity, blast, compressed air); • electricity consumption from the grid; • electricity consumption from the CHPP; • electricity, blast, compressed air production in CHPP; • electricity, compressed air consumption for oxygen production; • oxygen distribution; • ash, volatile matter, sulphur content in coke; • conversion factor of natural gas consumption to standard				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		fuel. For all monitoring parameters the PDD provides a clear and well elaborated information about • The name of variable • The data source, which should be applied • Data unit • Information whether the particular parameter is measured, calculated or estimated • The information about the recording frequency • Proportion of data to be monitored is always 100%. This is appropriate. • Archiving provisions • Responsibility for data collection and recording • Measurement devices and the responsibility for timely calibration *Conclusion:* The requirement is fulfilled.				
F.6	*DVM § 36* (b) (ii) For other values,	Not applicable because the monitoring plan either defines default values or specifies provisions for parameters that should be monitored	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
F.6.1	– *Does the monitoring plan clearly indicate the precise references from which these values are taken?*	N/A please refer to the comment above	PDD			OK
F.6.2	– *Is the conservativeness of the values provided justified?*	N/A please refer to the comment above	PDD			OK
F.7	*DVM § 36* (b) (iii) For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	CL D2 was raised in this context.	PDD	CL D2	CL D2	OK
F.8	*DVM § 36* (b) (iv) Are International System Unit (SI units) used?	*Description:* Within the measurements the international system units are used. *Means of determination:* The PDD was crosschecked against the Guidance on criteria for baseline setting and monitoring and it could be confirmed that international system units are used.	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		Conclusion: The requirement is fulfilled.				
F.9	*DVM § 36* (b) (v) Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	*Please refer to comments under F.1.-F.8.*	PDD			OK
F.10	*DVM § 36* (b) (v) Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	The monitoring plan was checked and it could be confirmed that parameters, coefficients, variables, etc. Are consistent between the baseline and monitoring plan.	PDD XLS			OK
F.11	*DVM § 36* (c) Does the monitoring plan draw on the list of standard variables contained in appendix B of .Guidance on criteria for baseline setting and	Please refer to the comments above.	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	monitoring.?					
F.12	*DVM § 36* (d) Does the monitoring plan explicitly and clearly distinguish:					
F.12.1	*(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination?*	*Description: The monitoring plan explicitly and clearly distinguish between: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination?* *Means of determination:* This is evident from the section D of the PDD *Conclusion:* The requirement is fulfilled.	PDD			OK
F.12.2	*(ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination?*	As per the PDD there are no Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination	PDD			

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
F.12.3	*(iii) Data and parameters that are monitored throughout the crediting period?*	*Description:* Data and parameters that are monitored throughout the crediting period are clearly listed and elaborated in the PDD *Means of determination:* Evident from section D of the PDD *Conclusion: The requirement is fulfilled.*	PDD			OK
F.13	*DVM § 36* (e) Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	*Description:* The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording. *Means of determination:* The monitoring plan as described in section D specifies the methods like Russian Norms (that should be applied within the monitoring. Also provisions related to monitoring frequency and recording (e.g. monthly, constantly, etc.) is specified in section D. *Conclusion:* The requirement is fulfilled.	PDD			OK
F.14	*DVM § 36* (f) Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission	Please refer to F.2.	PDD IPCC			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	reductions from the project, leakage, as appropriate?					
F.15	*DVM § 36* (f) (i) Is the underlying rationale for the algorithms/formulae explained?	Please refer to F.2.	PDD			OK
F.16	*DVM § 36* (f) (ii) Are consistent variables, equation formats, subscripts etc. used?	The determination team has checked the monitoring plan and was able to confirm that variables, equation formats, subscripts were consistently used.	PDD			OK
F.17	*DVM § 36* (f) (iii) Are all equations numbered?	As evident from the PDD all equations numbered.	PDD			OK
F.18	*DVM § 36* (f) (iv) Are all variables, with units indicated defined?	As evident from the PDD all variables are clearly defined. The units are specified for all variables.	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
F.19	*DVM § 36* (f) (v) Is the conservativeness of the algorithms/procedures justified?	Please refer to the comment under F 14	PDD			OK
F.20	*DVM § 36* (f) (v) To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	Please refer to the comment under F 14	PDD			OK
F.21	*DVM § 36* (f) (vi) Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	*Description:* Yes, the consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions of the baseline is ensured. *Means of determination:* The procedure for calculating the emissions from the baseline scenario reflects the baseline scenario elaborated in the section B of the PDD *Conclusion:* The requirement is fulfilled.	PDD IPCC AE			OK
F.22	*DVM § 36*	All formulae are explained. Further explanation can be found	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	(f) (vii) Are any parts of the algorithms or formulae that are not self-evident explained?	in the IPCC guidelines.				
F.23	*DVM § 36* Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	As already noted the formulae and algorithm are based on the internationally accepted IPCC guidelines.	PDD			OK
F.24	*DVM § 36* (f) (vii) Are references provided as necessary?	As evident from the PDD all references are provided.	PDD			OK
F.25	*DVM § 36* (f) (vii) Are implicit and explicit key assumptions explained in a transparent manner?	All key assumptions are explained in a transparent manner and are in line with IPCC guidelines.	PDD			OK
F.26	*DVM § 36*	Please refer to the comments above.	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	(f) (vii) Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?					
F.27	*DVM § 36* (f) (vii) Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	*N/A*	PDD			OK
F.28	*DVM § 36* (g) Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain	As already noted the monitoring of particular parameters will take into account the relevant national monitoring norms.	PDD Reg			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	aspects of the project?					
F.29	*Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?*	The names of the relevant Russian norms are clearly provided in the PDD.	PDD Reg			OK
F.30	*DVM § 36* (h) Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	N/A	PDD			OK
F.31	*DVM § 36* (i) Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and	*Description:* The section D of the PDD defines the quality assurance and control procedures for all monitoring parameters. Also the monitoring process is described in the PDD. *Means of determination:* The determination team has checked the procedures for quality assurance and control for all monitoring parameters and found them appropriate.	PDD	CL D2	CL D2	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	made available upon request?	It is important to note that PP established a special metrological department/division, which is responsible for proper operation of all measurement devices of the plant. This division includes a laboratory, which has accreditation to perform calibration (and exchange) of almost all measurement equipment. In cases where the calibration cannot be performed by the plants laboratory and independent and certified laboratory will carry out the calibration. It could be confirmed that all measurement devices are under control of this metrological division. Therefore it was concluded that PP quality control measures are duly implemented at the plant. *Conclusion:* The requirement is fulfilled.				
F.32	*DVM § 36* (j) Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	*Description:* The monitoring plan clearly specifies the responsibilities for the monitoring activities. *Means of determination:* The operation and management structure is described in the section D.3 of the PDD. The described structure could be confirmed in the course of the determination based on the interviews with responsible personnel. The correctness of the described structure could be further verified by the names of departments and responsible personnel evident from the internal	PDD IM01	CAR D4	CAR D4	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		reports/approvals. It is important to note that project monitoring is a part of the plant's entire monitoring system, i.e. all parameters are monitored by the plant due to relevant laws or other obligations.. Therefore the project monitoring does not require measurements of new/additional parameters. It is important to note that PP established a special metrological department/division, which is responsible for proper operation of all measurement devices. Therefore it was concluded that PP quality control measures are duly implemented at the plant. *Conclusion:* The requirement is fulfilled.				
F.33	*DVM § 36* (k) Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type?	Yes, the monitoring plan, on the whole, reflects good monitoring practices appropriate to the project type because the monitoring methods are based on the official norms of the Host country.	PDD			OK
F.34	*If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?*	*N/A*				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
F.35	*DVM § 36* (l) Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?	*Description:* The monitoring plan provides in tabular form, a complete compilation of the data that has to be collected and measured. *Means of determination:* This is evident from the PDD. The table has been checked against the elaborated formulae and monitoring concept. It could be concluded that all required information is summarized in the relevant tables. *Conclusion:* The requirement is fulfilled.	PDD LDM			OK
F.36	*DVM § 36* *(m) Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?*	As per the PDD "The data on the emission reductions achieved, and the original data will be available for project participants 2 years after the last transfer of ERUs". Therefore this requirement is fulfilled. See CAR D3.	PDD	CAR D3	CAR D3	OK
F.37	*DVM § 37*	*N/A*				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?					
	Approved CDM methodology approach only	DVM § 38 is not applicable because a JI specific approach was used.				
	Applicable to both JI specific approach and approved CDM methodology approach					
F.43	*DVM § 39* *If the monitoring plan indicates overlapping monitoring periods during the crediting period,*	*N/A because an overlapping of monitoring periods is not indicated.*				
G	***Leakage***					
	JI specific approach only					

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
G.1	*DVM § 40* (a) Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	*Description:* The PDD appropriately describes an assessment of the potential leakage of the project and appropriately explains which sources of leakage are to be calculated and which can be neglected. *Means of determination:* Main sources of significant leakage as a result of the project implementation include emissions associated with the following processes that occur outside of the project boundaries: • Coke production; • Pellets production; • Limestone production; • Energy resources production (electricity, blast, compressed air). These sources of leakage were duly included in the monitoring plan (Section D) and estimated in the PDD (Section E). In addition the PDD explains what the other potential sources of leakages are and explains why these leakage sources are negligible. In particular as per the PDD "*Emissions that occur at the stage of production, processing and transportation of fuel and raw materials used in the manufacture of steel products by ChMK are excluded from*	PDD GMB TS			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		consideration because the project implementation leads to a decrease in consumption of raw materials, fuel and energy as compared to the baseline scenario". This is accepted because this approach is commonly used in many CDM methodologies and was applied in comparable cases. Furthermore the PDD states that "emissions that occur at the stage of production, processing *and transportation of fuel to generate energy resources are excluded from consideration because they are negligible, as confirmed by the analysis of methodologies for projects aimed at generating electricity*". This is accepted because this approach is commonly used in many CDM methodologies and was applied in comparable cases.. Therefore it could be concluded that leakage emissions were duly identified and taken into account within the monitoring plan. The assessment of leakage emissions deemed to be in line with the Guidance on criteria for baseline setting and monitoring (Version 03) Conclusion: The requirement is fulfilled.				
G.2	*DVM § 40* (b) Does the PDD provide a procedure for an ex ante estimate of leakage?	Leakage emissions were duly estimated in the section E of the PDD.	PDD XLS			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	Approved CDM methodology approach only					
G.3	*DVM § 41* Are the leakage and the procedure for its estimation defined in accordance with the approved CDM methodology?	*N/A*				
H	***Estimation of emission reductions or enhancements of net removals***					
H.1	*DVM § 42* Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the baseline scenario and in the project scenario (b) Direct assessment of emission reductions	*Description:* The PDD indicates that estimates are based on the assessment of emissions or net removals in the baseline scenario and in the project scenario *Means of determination:* This is evident from the PDD *Conclusion:* The requirement is fulfilled.	PDD XLS			OK
H.2	*DVM § 43*					

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of:					
H.2.1	(a) Emissions or net removals for the project scenario (within the project boundary)?	*Description:* PDD provide ex ante estimates of emissions for the project scenario (within the project boundary). *Means of determination:* The estimation of the project emissions is based on the formulae specified in the monitoring plan. This could be verified by reproducing the calculation of the estimated emission reductions. The monitoring parameters are listed below: • pig iron, steel scrap, limestone, lime, electrodes, natural gas, electricity, oxygen consumption in oxygen-converter plant; • steel production in oxygen-converter plant; • pig iron, steel scrap, limestone, lime, electrodes, natural gas, electricity, oxygen consumption in arc-furnace plant #6; • steel production in arc-furnace plant #6; • coke, limestone, sinter, pellets, natural gas, blast, electricity, oxygen consumption in blast-furnace plant;	PDD AE XLS IPCC			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		• pig iron production in blast-furnace plant; • coke, limestone, lime, sinter, natural gas, electricity consumption in sintering plant; • sinter production in sintering plant; • natural gas, electricity, oxygen consumption in rolling plant #3; • ingots rolling in rolling plant #3; • natural gas, coal consumption in CHPP for energy resources production (electricity, blast, compressed air); • electricity consumption from the grid; • electricity consumption from the CHPP; • electricity, blast, compressed air production in CHPP; • electricity, compressed air consumption for oxygen production; • oxygen distribution; • ash, volatile matter, sulphur content in coke; • conversion factor of natural gas consumption to standard fuel. The estimation of the monitoring parameters is based on the				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		actual figures for the years 2008-2011. The values for the year 2012 are based on the historical values. Bearing in mind that the final version of the PDD was developed in 2012 the use of actual figures was accepted. The determination team has crosschecked the actual figures for the years 2008-2011 as indicated in various internal reports and recordings[AE/] against the values in the (Excel) calculation spreadsheet and found them consistent. The default values as determined in the monitoring plan were consistently applied in the (Excel) calculation spreadsheet. These values were assessed as follows: carbon content in steel scrap taken as 0.01 tC/t; • carbon content in steel taken as 0.01 tC/t; • carbon content in pig iron taken as 0.04 tC/t; • carbon content in electrodes taken as 0.82 tC/t; • carbon content in limestone taken as 0.12 tC/t; • default carbon content in natural gas taken as 15.30 tC/Tj; • default CO2 emission factor from natural gas combustion taken as 56.10 tCO2/TJ; • default CO2 emission factor from coal combustion taken				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		as 94.60 tCO2/TJ; These values were taken from the IPCC Guidelines. The values indicated in the PDD were crosschecked against IPCC guidelines and found consistent. • The emission factor from natural gas combustion in tCO2/ t of standard fuel taken as 1.664 tCO2 / t of standard fuel was calculated based on the formulae indicated in the Annex 3. The formulae was checked and found appropriate. • emission factor from coal combustion in tCO2/ t of standard fuel taken as 2.772 tCO2 / t of standard fuel was calculated based on the formulae indicated in the Annex 3. The formulae was checked and found appropriate; • conversion factor of calorie into joule taken as 4,1862 J/cal is in line with provided data source; • conversion factor of standard fuel into calorie 7000 kcal / kg of standard fuel; • CO2 emission factor for electricity generation in the grid for the years 2008-2012 is in line with the provided data source; • CO2 emission factor for pellets production taken as 0.03 tCO2/t ;				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		• CO2 emission factor for coke production taken as 0.56 tCO2/t; These values were taken from the IPCC Guidelines. The values indicated in the PDD were crosschecked against IPCC guidelines and found consistent. • CO2 emission factor for lime production taken as 1.481 tCO2/t is in line with the applied data source - Best Available Techniques in the Cement, Lime and Magnesium Oxide Manufacturing Industries, European Commission, May 2010; • maximal continuous billets production from the oxygen-converter steel in the baseline scenario taken as 144,610 was estimated based on actual production data of CCM-1 and CCM-2 from the oxygen-converter steel for 2004-2006. The actual production figures were provided and the estimation was assessed as reasonable; • specific natural gas consumption in oxygen-converter plant in the baseline scenario taken as 0.006 thousand m3 / t was calculated based specific natural gas consumption in oxygen-converter plant in the baseline scenario, the natural gas consumption in oxygen-converter plant in the baseline scenario and the steel production in oxygen-converter plant in the baseline				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		scenario, All values were taken from the internal reports/AE/. The reports/AE/ were checked and the applied values could be verified; • specific electricity consumption in oxygen-converter plant in the baseline scenario taken as 0,024 MWh/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific electrodes consumption in oxygen-converter plant in the baseline scenario taken as 0.119 kg/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific ingots consumption for billets production in the baseline scenario; taken as 1.219 t/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004. • specific natural gas consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0.013 thousand m3 / t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific electricity consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0,037				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		MWh/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific oxygen consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0,001 thousand m3/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004. The determination team has checked the calculation as given in the Excel spreadsheet and found it correct. *Conclusion:* The requirement is fulfilled				
H.2.2	(b) Leakage, as applicable?	Leakage emissions were duly estimated based on the formulae as specified in the monitoring plan. The estimation was checked and found correct.	PDD XLS			OK
H.2.3	(c) Emissions or net removals for the baseline scenario (within the project boundary)?	*Description:* PDD provide ex ante estimates of emissions for the baseline scenario (within the project boundary). *Means of determination:* The estimation of the baseline emissions is based on the formulae specified in the monitoring plan. This could be verified by reproducing the calculation of the estimated emission reductions. The monitoring parameters are listed below:	PDD AE XLS IPCC			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		• pig iron, steel scrap, limestone, lime, electrodes, natural gas, electricity, oxygen consumption in oxygen-converter plant; • steel production in oxygen-converter plant; • pig iron, steel scrap, limestone, lime, electrodes, natural gas, electricity, oxygen consumption in arc-furnace plant #6; • steel production in arc-furnace plant #6; • coke, limestone, sinter, pellets, natural gas, blast, electricity, oxygen consumption in blast-furnace plant; • pig iron production in blast-furnace plant; • coke, limestone, lime, sinter, natural gas, electricity consumption in sintering plant; • sinter production in sintering plant; • natural gas, electricity, oxygen consumption in rolling plant #3; • ingots rolling in rolling plant #3; • natural gas, coal consumption in CHPP for energy resources production (electricity, blast, compressed air); • electricity consumption from the grid;				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		• electricity consumption from the CHPP; • electricity, blast, compressed air production in CHPP; • electricity, compressed air consumption for oxygen production; • oxygen distribution; • ash, volatile matter, sulphur content in coke; • conversion factor of natural gas consumption to standard fuel. The estimation of the monitoring parameters is based on the actual figures for the years 2008-2011. The values for the year 2012 are based on the historical values. Bearing in mind that the final version of the PDD was developed in 2012 the use of actual figures was accepted. The determination team has crosschecked the actual figures for the years 2008-2011 as indicated in various internal reports and recordings[AE/] against the values in the (Excel) calculation spreadsheet and found them consistent. The default values as determined in the monitoring plan were consistently applied in the (Excel) calculation spreadsheet. These values were assessed as follows: carbon content in steel scrap taken as 0.01 tC/t;				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		• carbon content in steel taken as 0.01 tC/t; • carbon content in pig iron taken as 0.04 tC/t; • carbon content in electrodes taken as 0.82 tC/t; • carbon content in limestone taken as 0.12 tC/t; • default carbon content in natural gas taken as 15.30 tC/Tj; • default CO2 emission factor from natural gas combustion taken as 56.10 tCO2/TJ; • default CO2 emission factor from coal combustion taken as 94.60 tCO2/TJ; These values were taken from the IPCC Guidelines. The values indicated in the PDD were crosschecked against IPCC guidelines and found consistent. • The emission factor from natural gas combustion in tCO2/ t of standard fuel taken as 1.664 tCO2 / t of standard fuel was calculated based on the formulae indicated in the Annex 3. The formulae was checked and found appropriate. • emission factor from coal combustion in tCO2/ t of standard fuel taken as 2.772 tCO2 / t of standard fuel was calculated based on the formulae indicated in the				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		Annex 3. The formulae was checked and found appropriate; • conversion factor of calorie into joule taken as 4,1862 J/cal is in line with provided data source; • conversion factor of standard fuel into calorie 7000 kcal / kg of standard fuel; • CO2 emission factor for electricity generation in the grid for the years 2008-2012 is in line with the provided data source; • CO2 emission factor for pellets production taken as 0.03 tCO2/t ; • CO2 emission factor for coke production taken as 0.56 tCO2/t; These values were taken from the IPCC Guidelines. The values indicated in the PDD were crosschecked against IPCC guidelines and found consistent. • CO2 emission factor for lime production taken as 1.481 tCO2/t is in line with the applied data source - Best Available Techniques in the Cement, Lime and Magnesium Oxide Manufacturing Industries, European Commission, May 2010; • maximal continuous billets production from the oxygen-converter steel in the baseline scenario taken as				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		144,610 was estimated based on actual production data of CCM-1 and CCM-2 from the oxygen-converter steel for 2004-2006. The actual production figures were provided and the estimation was assessed as reasonable; • specific natural gas consumption in oxygen-converter plant in the baseline scenario taken as 0.006 thousand m3 / t was calculated based specific natural gas consumption in oxygen-converter plant in the baseline scenario, the natural gas consumption in oxygen-converter plant in the baseline scenario and the steel production in oxygen-converter plant in the baseline scenario, All values were taken from the internal reports/AE/. The reports/AE/ were checked and the applied values could be verified; • specific electricity consumption in oxygen-converter plant in the baseline scenario taken as 0,024 MWh/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific electrodes consumption in oxygen-converter plant in the baseline scenario taken as 0.119 kg/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004;				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		• specific ingots consumption for billets production in the baseline scenario; taken as 1.219 t/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004. • specific natural gas consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0.013 thousand m3 / t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific electricity consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0,037 MWh/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004; • specific oxygen consumption in rolling plant #3 on mill 1250-3/CBM in the baseline scenario taken as 0,001 thousand m3/t was duly calculated based on the Initial data are taken from reports/AE/ of costs in oxygen-converter plant ChMK for 2002-2004. The determination team has checked the calculation as given in the Excel spreadsheet and found it correct. *Conclusion:* The requirement is fulfilled				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
H.2.4	(d) Emission reductions or enhancements of net removals adjusted by leakage?	*n/a:*				
H.3	*DVM § 44* *If the approach (b) in §42 is chosen,* does the PDD provide ex ante estimates of:	*n/a:*				
H.3.1	(a) Emission reductions or enhancements of net removals (within the project boundary)?	*n/a:*				
H.3.2	(b) Leakage, as applicable?	*n/a:*				
H.3.3	(c) Emission reductions or enhancements of net removals adjusted by leakage?	*n/a:*				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
H.4	*DVM § 45* *For both approaches in 42* (a) Are the estimates in 43 or 44 given:					
H.4.1	(i) On a periodic basis?	As evident from the PDD the estimates are presented on annual basis. This is appropriate.	PDD XLS			OK
H.4.2	(ii) At least from the beginning until the end of the crediting period?	As evident from the PDD the estimates are from 01.01.2008 until 31.12.2012 - from the beginning until the end of the crediting period. This is correct.	PDD XLS			OK
H.4.3	(iii) On a source-by-source/sink-by-sink basis?	Yes, for each source.	PDD XLS			OK
H.4.4	(iv) For each GHG?	As evident from the PDD the estimates are for each GHG. .	PDD XLS			OK
H.4.5	(v) In tons of CO_2 equivalent, using global warming	Yes, the final emission reductions are presented in tonnes of CO_2 equivalent.	PDD XLS			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol?					
H.4.6	(b) Are the formula used for calculating the estimates in 43 or 44 consistent throughout the PDD?	The determination team has checked the estimates by reproducing the calculation and was able to confirm that formula used for calculating the estimates in 43 or 44 are consistent throughout the PDD.	PDD XLS			OK
H.4.7	(c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate?	Yes, please refer to H.2.1 and H.2.3.	PDD XLS IPCC AE			OK
H.4.8	(d) Are data sources used for calculating the estimates in	Yes, please refer to H.2.1 and H.2.3.	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	43 or 44 clearly identified,reliable and transparent?		XLS IPCC			
H.4.9	(e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	Yes, please refer to H.2.1 and H.2.3.	PDD XLS IPCC AE			OK
H.4.10	(f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner?	Yes, please refer to H.2.1 and H.2.3.	PDD			OK
H.4.11	(g) Are the estimates in 43 or 44 consistent throughout the PDD?	Yes, please refer to H.2.1 and H.2.3.	PDD			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
H.4.12	(h) Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?	ok	PDD EIA			OK
H.5	*DVM § 46* *If the calculation of the baseline emissions or net removals is to be performed ex post,* does the PDD include an illustrative ex ante emissions or net removals calculation?	The estimation of the baseline emissions is based on the actual figures for the years 2008-2011 and estimates for the year 2012.	PDD			OK
	Approved CDM methodology	Not applicable because a JI specific approach is used.				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	approach only					
I	***Environmental impacts***					
I.1	*DVM § 48* (a) Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	*Description:* As per the PDD an Environment Impact Assessment (EIA) is required by the Host Party. *Means of determination:* The conducting of the EIA was duly evidenced by following documents: • Oxygen-Converter Plant. Continuous Casting Plant. Detailed Design. Volume 4. Environmental Impact Assessment. CH-01935-OVOS. // OJSC «Chelyabgipromez» – Chelyabinsk, 2004; • Oxygen-Converter Plant. Reconstruction. CCM-4. Detailed Design. Volume 4. Environmental Impact Assessment. CH-01952-OVOS. // OJSC «Chelyabgipromez» – Chelyabinsk, 2007; • Oxygen-Converter Plant. Reconstruction. CCM-4 Complex. Phase 2. Stage 1. LF-3 Installation. Volume 5. List of Environment Protection Measures. CH-10014-OOS.P. // OJSC «Chelyabgipromez» – Chelyabinsk, 2008; • Arc-Furnace Plant #6. CCM Renewal. LF and	PDD PDV EIA EIA1 EIA2 EIA3	CAR F1	CAR F1	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		Vacuum Vessel Installation. Slab Production Increase up to 1 200 000 Tons per Year. Detailed Design. Approvable Part. Volume 5. List of Environment Protection Measures. CH-10002-OOS.P. // OJSC «Chelyabgipromez» – Chelyabinsk, 2008; • Oxygen-Converter Plant. Reconstruction. Installation of Blooming CCM-5, LF-4 and Vacuum Vessel. Project Documentation. Volume 11. List of Environment Protection Measures. CH-10018-OOS.P. // OJSC «Chelyabgipromez» – Chelyabinsk, 2011. In addition the PP provided documents confirming the compliance with the State Expert review. These documents are: • Conclusion #539 of the State Environmental Expertise Committee with regard to the detailed design • «ChMK. Oxygen-Converter Plant. Continuous Casting Plant» issued by the General Directorate for Natural Resources and Environmental Protection of MNR of Russia for the Chelyabinsk region dated on 30.08.2004; • Positive conclusion of the State Expert Review #653-				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		07/GGE-4798/02 with regard to the project documentation «ChMK. Oxygen-Converter Plant. CCM-4 Complex» issued by FSI GLAVGOSEXPERTIZA OF RUSSIA dated on 12.09.2007; • Positive conclusion of the State Expert Review #560-09/GGE-4798/02 with regard to the project documentation « ChMK. Oxygen-Converter Plant. Reconstruction. CCM-4 Complex. Phase 2. Stage 1. LF-3 Installation» issued by FSI GLAVGOSEXPERTIZA OF RUSSIA dated on 10.09.2009; • Positive conclusion of the State Expert Review #611-11/GGE-7407/02 with regard to the project documentation «ChMK. Oxygen-Converter Plant. Reconstruction. Installation of Blooming CCM-5, LF-4 and Vacuum Vessel» issued by FSI GLAVGOSEXPERTIZA OF RUSSIA dated on 22.06.2011; • Positive conclusion of the State Expert Review #133-10/GGE-6510/02 with regard to the project documentation «ChMK. Arc-Furnace Plant #6. Reconstruction of CCM. Installation LF and Vacuum Vessel. Slab Production Increase up to 1 200 000 Tons per Year» issued by FSI				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		GLAVGOSEXPERTIZA OF RUSSIA dated 25.02.2010; Finally the PP evidenced that the plant complies with all relevant environmental regulations of the Host Country. Compliance with the relevant environmental norms and regulation could be duly evidences by means of the following documents: **Permissions for air pollutant emissions:** • Permission for air pollutant emissions #882 dated on 01.01.2006 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.01.2006 to 01.07.2008; • Permission for air pollutant emissions #1776 dated on 01.11.2008 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.07.2008 to 01.07.2009; • Permission for air pollutant emissions #1980 dated on 22.06.2009 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.07.2009 to 31.12.2009; • Permission for air pollutant emissions #Ch-2146				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		dated on 18.01.2010 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.01.2010 to 01.01.2011; • Emission allowance for airborne contaminants # Ch-2437 dated 27.09.2010 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 07.09.2010 to 06.09.2015. **Permissions for discharge of pollutants into bodies of water:** • Permission for discharge of pollutants into the environment (bodies of water) #211 dated on 11.12.2007 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.01.2008 to 01.01.2009; • Permission for discharge of pollutants into the environment (bodies of water) #282 dated on 01.12.2008 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 01.01.2009 to 31.12.2012. **Permissions for disposal and recovery of waste**				

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		materials: • License to carry out activities associated with hazardous waste management #74M04/0019/L dated on 30.04.2004 issued by the General Directorate for Natural Resources and Environmental Protection of MNR of Russia for the Chelyabinsk region for the period from 30.04.2004 to 30.04.2009; • Document on approval of waste generation standards and waste disposal limits #7835 dated 24.04.2009 issued by the Directorate for Technological and Ecological Supervision of the Rostekhnadzor for the Chelyabinsk region for the period from 24.04.2009 to 08.04.2014; *Conclusion:* The requirement is fulfilled.				
I.2	(b) *If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party,* does the PDD provide conclusion and all references to supporting documentation of an	The PP has duly evidenced that all required assessments of the environmental impacts were carried out and approved by the relevant authorities. Finally the PP has evidenced the compliance of the plant with the relevant environmental norms and regulation.	PDD PDV EIA EIA1 EIA2	CAR F1	CAR F1	OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
	environmental impact assessment undertaken in accordance with the procedures as required by the host Party?		EIA3			
J	***Stakeholder consultations***					
J.1	*DVM § 49* *If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party,* does the PDD provide:	*Description:* As explained in the PDD consultations with stakeholders on the project activity were carried. *Means of determination:* The stakeholder consultation process could be duly evidenced by the following documents: • Protocol dated on 26.05.2004 of the meeting on the issue of environmental impact of the facilities being constructed at ChMK (Continuous Casting Plant, CCM-3 Complex); • Letter to the administration of the Chelyabinsk Metallurgichesky district #212-05 dated on 28.04.2006 with regard to public consultations on issues relating to environmental aspects of the facilities planned for construction within the territory of ChMK (Oxygen-converter plant. CCM-4 Complex); • Protocol dated on 22.05.2009 of the meeting on the	PDD SC			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
		issue of environmental impact of construction of the facility «ChMK. Oxygen-converter Plant. CCM-4 Complex. Phase 2»; • Protocol dated on 22.05.2009 of the meeting on the issue of environmental impact of construction of the facility «ChMK. Arc-furnace plant #6. Renewal of CCM. Installation of LF and Vacuum Vessel. Slab Production Increase up to 1,200,000 Tons per Year»; • Protocol dated on 22.12.2010 of the meeting on the issue of environmental impact of construction of the facility «ChMK. Oxygen-converter Plant. Reconstruction. Installation of Blooming CCM-5». • Representatives of ChMK, OJSC «Chelyabgipromez», the administration of the Chelyabinsk Metallurgichesky district, as well as members of the public have taken part in the public consultations. *Conclusion:* The requirement is fulfilled.				
J.1.1	(a) A list of stakeholders from whom comments on the projects have been received, if any?	*Please refer to comment under J.1.*	PDD SC			OK

No.	DVM[3] paragraph / Checklist Item (incl. guidance for the determination team)	Initial Finding (Means and results of assessment)	Ref.	Action requested to PPs (CAR, CL, FAR)	Review of PP´s action	Con-clu-sion
J.1.2	(b) The nature of the comments?	*Please refer to comment under J.1.*	PDD SC			OK
J.1.3	(c) A description on whether and how the comments have been addressed?	*Please refer to comment under J.1.*	PDD SC			OK
K	***Determination regarding small-scale projects (additional elements for assessment)*** ☐ **Applicable** ☒ **Not applicable**					
L	***Determination regarding land use, land-use change and forestry projects (additional/alternative elements for assessment)*** ☐ **Applicable** ☒ **Not applicable**					
M	***Determination regarding programmes of activities (additional/alternative elements for assessment)*** ☐ **Applicable** ☒ **Not applicable**					

ANNEX 2: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-2: Assessment of Baseline Identification

☐	Baseline is not identified
☒	Assessment of baseline see below

Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evi-dence used	AIE Assessment	
					Appro-priateness of elimination	Assessment of determination team (results and means of assessment)
Scenario 2. Continuation of the current situation. Mainly production of rolled billets from the steel smelted in ChMK oxygen-converter plant. **(baseline scenario)**	☒	☐	Within the Step1 this alternative has been identified as a **plausible** scenario because it represents the current practice in the Host Country and is not prohibited by any national laws and/or regulation.	PDD PDC Reg PDV EIA	☐	**Step 1 Identification of alternatives to the project activity consistent with current laws and regulations** Within the Step 1 this alternative has been appropriately identified as a plausible scenario because it represents the current practice in the Host Country. It is important to note that the same technology was used in the pre-project situation. **Sub-step 1b) Compliance with current laws and regulations** As per the PDD "*there are no laws that restrict greenhouse gases emissions at metallurgical companies in Russia*". The PDD provides a list of the relevant regulations. The determination team has checked the relevant regulations and confirms that continuation of the

			Step 2 key factor review Key factor analysis shows that the continuation of the pre-project situation is not affected by the identified key factors.			pre-project practice was not prohibited or restricted by any law or regulation. The laws and regulation reviewed in this context are summarized below: • Federal law of the RF "On Protection of the Environment" as of 10.01.2002 #7-FL; • Federal law of the RF "On Ecological Examinations" as of 25.11.1995 #174-FL; • Federal law of the RF "On the Sanitary and Epidemiological Safety of the Population" as of 30.03.1999 #52-FL; • Federal law of the RF "On the Protection of Atmospheric Air" as of 04.05.1999 #96-FL; • Federal law of the RF "On Production and Consumption Wastes" as of 24.06.1998 #89-FL; • Sanitary Regulations and Standards 2.2.1/2/1/1200-03 "Sanitary Protection Zones and Sanitary Classification of Companies, Buildings and other Facilities"; • Sanitary Regulations and Standards "Instructions on the development, coordination, approval and composition of design estimate documentation"; • Regulation on the evaluation of planned commercial and other activities on the environment in the Russian Federation approved by the order of the State Committee for Environmental Protection #372 as of 16.05.2000. • Russian metallurgy development strategy up to 2020, approved by the Ministry of Industry and Trade of the Russian Federation order #150 on March 18, 2009;

						• Russian Government Decree #780 dated on September 15, 2011 "On Realization of Article 6 of Kyoto Protocol to United Nations Framework Convention on Climate Change It was correctly concluded that the relevant laws and regulations envisage the reduction of GHG emissions in the industry through the introduction of energy efficient technologies or energy saving. However they do not define any binding requirements that enforce metallurgical plants to reduce GHG emissions. Therefore it was correctly concluded that there are no binding requirements that forbid the continuation of the pre-project situation. As already noted the baseline scenario represents the technology used by PP since many years. Energy efficiency measures in the Russian metallurgical plants are not widely observed. The same is supported by the results of the common practice analysis. In this context the PP also provided different documented evidences that the pre-project practice complied with all relevant environmental norms and regulations.. **Step 2 (Key factor analysis) Barrier analysis** ***Investment barrier / Financial barrier (Cost efficiency)*** In the context of this barrier it was demonstrated that the implementation of large investments was prevented by company's lack of own and debt capita/ lack of access to capital. The continuation of the current practice does not require any additional expenses as compared to the introduction of a new technology within the project scenario (see

						below). Therefore this alternative does not face investment barrier (lack of own and debt capita/ lack of access to capital). As per the barrier analysis this practice is the most commonly used in Russia and was also applied in other metallurgical plants. Therefore there are no significant barriers, which would prevent this alternative. The same was explained within the interviews with responsible personnel..
Scenario 1. Project implementation without registration as a JI project. Mainly production of continuous casted billets from the steel smelted in ChMK oxygen-converter plant (**project activity**)	☒	☒	Within the Step 1 this alternative was identified as a **plausible** scenario because it is the project activity and is not prohibited by any national laws and/or regulation. **Step 2 key factor review** In the context of the key factor analysis the PP explained that the implementation of this alternative faces investment and financial barriers. Most important is the insufficient financial attractiveness of the	PDD Bench INV CDM-Pr CT AT	☒	**Step 1 Identification of alternatives to the project activity consistent with current laws and regulations** Within the Step1 this alternative has been appropriately identified as a **plausible** scenario because it represents the project activity itself. It could be verified that this alternative is not prohibited by any national laws and regulations. **Sub-step 1b) Compliance with current laws and regulations** The project activity is in line with the relevant laws and regulation. Please refer to the explanation provided for scenario 1 above. **Step 2 Key factor analysis** As per the PDD there are two barriers that prevent the implementation of the project activity. These barriers are (a) the investment barrier and (b) the financial barrier (cost efficiency).

			project activity.			***Investment barrier*** In the context of this barrier it was demonstrated that the implementation of large investments was prevented by company's lack of own and debt capita/ lack of access to capital. The investment barrier claims the lack of financial resources that prevented the realization of this scenario. According to the PDD the implementation of this alternative would result in additional expenses as compared to the continuation of the pre-project situation. Though this barrier was found reasonable and duly explained provided documented evidences could not fully justify the existence of this barrier in accordance with the provisions of EB 59 annex 13. ***Financial barrier (Cost efficiency)*** Most important in the context of the key factor analysis is the existence of the financial barrier. As per this barrier the economic attractiveness is below the company internal benchmark and this prevents the implementation of the project activity. The PP has performed an benchmark analysis and calculated the internal rate of return. **Benchmark** *Acceptable Internal Rate of Return* The "*Acceptable Internal Rate of Return*" was used as a benchmark. The Acceptable Internal Rate of Return was confirmed by Protocol of Investment Committee of the Mechel company/Bench/. Provided documented evidence was accepted because

						the relevant document specifies company internal financial benchmark for any investments. As already noted that project activity can only be implemented by other project developers. Therefore the company internal benchmark is applicable parameter to assess the financial viability of the project. The PP was able to demonstrate that this financial benchmark has been consistently used in the past, i.e. that project activities under similar conditions used the same financial benchmark. As a result it could be confirmed that the benchmark value is suitable for the project activity. As evident from the comparison the IRR of the considered project measure is below the company internal benchmark. Therefore it was duly concluded that the considered project measure is financially not attractive and, hence would have been not implemented in absence of additional benefits from JI registration. *Discount rate* At the time of the investment decision of some project measures the PP had no documented official internal procedures for benchmark determination. As applied benchmarks the PP used the discount rates as published by the Russia's Central Bank. The applied Central bank discount rate is in line with the information published by the Central Bank. As evident from the comparison the IRR of the considered project measure is below the benchmark. Therefore it was duly concluded that the considered project measure is financially not attractive and, hence would have been not implemented in absence of additional benefits from JI registration. Please refer to annex 3 of this report.

						Financial indicator (IRR) The PDD provides the calculation of the financial indicators for each individual project measure. The PP provided a clear, viewable and unprotected Excel spreadsheet that presents the investment calculation. The overall calculation of the financial indicators was assessed as appropriate. As assessed in detail in annex 3 all the input values used in the investment analysis were valid and applicable at the time of the investment decision of particular measure. Within the IRR calculation the costs of financing expenditures (loan repayments and interests) were excluded from the calculation. In essence, the financial analysis compares the investment costs with income resulted from the project activity. The PDD presents a clear comparison of the financial indicator for individual measures with the benchmark. It could be demonstrated that the financial indicator (internal rate of return (IRR)) of the individual measures is below the acceptable internal rate of return. Therefore the project activity is less attractive as compared to the internal benchmark (minimal IRR acceptable by the plant). Afterwards a sensitivity analysis was performed in order to demonstrate that the results are robust with regards to the reasonable variations in the critical assumptions. Since the sensitivity analysis confirms the result of the investment comparison analysis, all individual measures and the project activity as a whole cannot be considered as financial attractive.

						All explanations given in the PDD were assessed as plausible. The same was confirmed within the interviews with responsible personnel during the onsite assessment. The low financial attractiveness of energy efficiency measures in the metallurgical plants was reported in numerous positively determined JI projects/CDM-pr/. As a result the determination team confirms that the project activity faces barriers that prevent the implementation of the project activity. Most importantly is the fact that project activity is less economically attractive as compared to the continuation of the pre-project situation. Therefore this alternative is not the most plausible one and can be excluded from further consideration.

ANNEX 3: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-3: Assessment of Financial Parameters

☐	No financial parameters are used for additionality justification					
☒	Assessment of all financial parameters see below					
Parameter	**Value applied**	**Unit**	**Source of Information (please indicate document and page)**	**Reference**	**AIE ASSESSMENT**	
					Correctness of value applied	**Comment**
Construction of CCM-5, LF-4 and vacuum vessel at the oxygen-converter plant						
Investment cost CCM-5	5,592.5	Mio Rub.	Justification of Investments prepared by JSC "Chelyabgipromez" Expenses overview as per the internal financial reports Estimates for the construction costs made by "Chelyabgipromez" Proposals, Explanatory Notes,	/XLS/ /ORD/ /VC/ /IF/ /BFC/ /BJD/	☒	The investment costs were duly elaborated based on the different cost components related to the design works, construction and installation works, purchase of equipment. All documented evidences applied in this context were reviewed by the determination team. As a result it could be confirmed that the total investment costs were duly calculated. The main documents applied in this context are summarized below: • Justification of Investments prepared by JSC "Chelyabgipromez" • Expenses overview as per the internal financial reports • Estimates for the construction costs made by

			the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel"			"Chelyabgipromez" • Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel" The documented evidences were provided either by internal financial experts of the company or sourced from independent third parties. They were checked by the determination team and found as authentic and reliable. In order to gain further confidence about the reliability of the evidences provided by the internal sources the determination team has interviewed the responsible personnel. The relevant documents were provided mainly by analytical and accounting department of the plant. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The financial assumptions elaborated within the estimates are in line with the values applied in the investment analysis.
Production volume of CCM-5 (before / after project implementation)	1,352,788 / 1,554,830	t	Planned and actual schedule of production used within the investment decisions of individual project measures Assignment for the	/XLS/ /PK/ /PB/ /REFTD/	☒	The volume of production before and after the project is based on the planned and actual calculation of production. It is also based on the planned balance of production of sinter, pig iron, steel and rolled steel i.e. expected after the project implementation. In doing so, the technical characteristics of the plant were taken into account and the most realistic development of production was assumed. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and

			preparation of technical and commercial proposals delivery of the technology, equipment, technical documentation and the "know-how"			accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The increase in production is due to the production of cast billets (continuous cast blooms), which is used in the production of marketable products. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Prices CCM-5 (before/after project implementation)	13,925 / 13,765	Rub./t	The prices of basic and auxiliary materials, energy planning used within the investment decisions of individual project measures Prices for finished goods used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project	/XLS/ /PFG/ /PBM/ /CSTR/	☒	The determination team received the calculation of the average price per tons of products. This calculation is performed based on the prices for finished products, taking into account the prices of particular products obtained by re-cast billet (continuous cast blooms). Within the on-site assessment the Deputy Chief Accountant of the plant was interviewed regarding the applied prices for particular products and the applied assumptions could be reasonably explained and supported by various internal reports. It was observed that all applied internal documents were prepared by the responsible personnel are clearly indexed and archived in due manner. They were reviewed and were assessed as reliable and authentic data source. The figures elaborated within the estimates are in line with the values applied in the investment analysis.

			measures			
Cost of goods sold CCM-5 (before / after project implementation)	13,907 / 13,159	Rub./t	The prices of basic and auxiliary materials, energy planning used within the investment decisions of individual project measures Plants general expenses, commercial activity related expenses used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Expenses overview as per the internal	/XLS/ /PBM/ /WGE/ /CSTR/ /VC/	☒	Information about the costs of production is prepared and provided by the analytical and accounting department of the plant. Cost of goods sold includes all costs related to all steps of the production process. The assumed value takes into account possible changes in cost structure and cost of new materials. The relevant documents used within the calculation of this value were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption as well as the calculation method could be reasonably explained. The forecasts were elaborated also by the analytical and accounting department in a detailed manner by taking into account various production data. The applied assumptions were reviewed by different experts of the plant and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The figures elaborated within the estimates are in line with the values applied in the investment analysis.

			financial reports			
Revenues related to the production from CCM-5 (before / after project implementation)	24,151 / 924,080	Th. Rub.	Planned and actual schedule of production used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Plants general expenses, commercial activity related expenses used within the	/XLS/ /PK/ /PB/ /CSTR/ /PFG/ /WGE7/	☒	The revenues were duly calculated based on the • Production volumes • Price for goods sold and • Costs of goods sold The calculation was checked and found appropriate. The revenues assumed within the investment analysis are plausible with regards to the historical values obtained after project implementation. Further information about the expected revenues related to the production from CCM-5 was provided by the analytical and accounting department. It was demonstrated that the assumed value takes into account possible changes in cost structure and cost of new materials. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts were elaborated by the analytical and accounting department in a detailed manner by taking into account various production data. The applied assumptions were reviewed by different experts of the plant and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The figures elaborated within the estimates are in line with the values applied in the investment analysis.

			investment decisions of individual project measures			
NPV (calculated)	- 1 683.7	Mio Rub.	Investment analysis	/XLS/	☒	The NPV was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
IRR (calculated)	0,0%	%	Investment analysis	/XLS/	☒	The IRR was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
Benchmark	20	%	Acceptable Internal Rate of Return	/Bench/	☒	The "*Acceptable Internal Rate of Return*" was used as a benchmark. The Acceptable Internal Rate of Return was confirmed by Protocol of Investment Committee of the Mechel company/Bench/. Provided documented evidence was accepted because the relevant document specifies company internal financial benchmark for any investments. As already noted that project activity can only be implemented by other project developers. Therefore the company internal benchmark is applicable parameter to assess the financial viability of the project. The PP was able to demonstrate that this financial benchmark has been consistently used in the past, i.e. that project activities under similar conditions used the same financial benchmark. As a result it could be confirmed that the benchmark value is suitable for the project activity. As evident from the comparison the IRR of the considered project measure is below the company internal benchmark. Therefore it was duly concluded that the considered project measure is financially not attractive and, hence would have been not implemented in absence of additional benefits from JI registration.

Construction of CCM-3, LF-2 (ladle furnace) at the oxygen-converter plant						
Production volume CCM-3 (before / after project implementation)	1,000	Th. t/year	Planned and actual schedule of production used within the investment decisions of individual project measures The planned balance of production of sinter, pig iron, steel and rolled steel used within the investment decisions of individual project measures Assignment for the preparation of technical and commercial proposals delivery of the technology, equipment, technical documentation and the "know-how"	/XLS/ /PK/ /PB/ /REFTD/	☒	The volume of production before and after the project is based on the planned and actual calculation of production. It is also based on the planned balance of production of sinter, pig iron, steel and rolled steel i.e. expected after the project implementation. In doing so, the technical characteristics of the plant were taken into account and the most realistic development of production was assumed. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The increase in production is due to the production of cast billets (continuous cast blooms), which is used in the production of marketable products. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Cost decrease CCM-3 (before /	535,645	Th. Rub / year	Planned and actual schedule of	/XLS/	☒	Cost reduction was calculated by taking into account the reduced amount of waste, reduction of the cost of steel production,

after project implementation)			production used within the investment decisions of individual project measures The planned balance of production of sinter, pig iron, steel and rolled steel used within the investment decisions of individual project measures Assignment for the preparation of technical and commercial proposals delivery of the technology, equipment, technical documentation and the "know-how" Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel",	/PK/ /PB/ /REFTD/ /ORD/		reducing of the cost of redistribution in the blooming mill. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The increase in production due to the production of cast billets (continuous cast blooms), which is later used in the production of marketable products. The figures elaborated within the estimates are in line with the values applied in the investment analysis..

			"Mechel"			
Economic effect (Impact on costs and expenses CCM-3 (after project implementation))	332,440	Th. Rub / year	Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel" Estimates for the construction costs made by "Chelyabgipromez"	/ORD/ /BFC/ /XLS/	☒	The economic effect is calculated as the difference between cost reduction and the cost of transportation of liquid steel. The value of the assumed economic impact could be verified based on the documents submitted and reviewed in the course of the determination. The estimates were also supported by the estimations made by the independent third party source - Estimates for the construction costs made by "Chelyabgipromez".
Investment costs, CCM-3	1,585.7	Mio Rub.	Justification of Investments prepared by JSC "Chelyabgipromez" Expenses overview as per the internal financial reports Estimates for the construction costs made by "Chelyabgipromez" Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC	/XLS/ /ORD/ /VC/ /IF/ /BFC/ /BJD/	☒	The investment costs were duly elaborated based on the different cost components related to the design works, construction and installation works, purchase of equipment. All documented evidences applied in this context were reviewed by the determination team. As a result it could be confirmed that the total investment costs were duly calculated. The most important documents applied in this context are summarized below: • Justification of Investments prepared by JSC "Chelyabgipromez" • Expenses overview as per the internal financial reports • Estimates for the construction costs made by "Chelyabgipromez" • Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel"

			"Mechel-Steel", "Mechel"			The documented evidences were provided either by internal financial experts of the company or sourced from independent third parties. They were checked by the determination team and found as authentic and reliable. In order to gain further confidence about the reliability of the evidences provided by the internal sources the determination team has interviewed the responsible personnel. The relevant documents were provided mainly by analytical and accounting department of the plant. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The financial assumptions elaborated within the estimates are in line with the values applied in the investment analysis.
NPV	- 163,3	Mio Rub.	Investment analysis	/XLS/	☒	The NPV was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
IRR	3,9	%	Investment analysis	/XLS/	☒	The IRR was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
Benchmark	7	%	Discount rate	/cbr/	☒	At the time of the investment decision related to the project measure the PP had no documented official internal procedures for benchmark determination. As applied benchmarks the PP used the discount rates as published by the Russia's Central Bank. The applied Central bank discount rate is in line with the information published by the Central Bank.

						As evident from the comparison the IRR of the considered project measure is below the benchmark. Therefore it was duly concluded that the considered project measure is financially not attractive and, hence would have been not implemented in absence of additional benefits from JI registration.
Renewal of CCM-2, installation of LF-2 and vacuum vessel at arc-furnace plant #6.						
Production volumes (before / after project implementation)	215,446 / 749,508	Th. t/year	Planned and actual schedule of production used within the investment decisions of individual project measures The planned balance of production of sinter, pig iron, steel and rolled steel used within the investment decisions of individual project measures Assignment for the preparation of technical and commercial proposals delivery of the technology, equipment, technical	/XLS/ /PK/ /PB/ /REFTD/	☒	The volume of production before and after the project is based on the planned and actual calculation of production. It is also based on the planned balance of production of sinter, pig iron, steel and rolled steel i.e. expected after the project implementation. In doing so, the technical characteristics of the plant were taken into account and the most realistic development of production was assumed. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The increase in production is due to the production of cast billets (continuous cast blooms), which is used in the production of marketable products. The figures elaborated within the estimates are in line with the values applied in the investment analysis.

			documentation and the "know-how"			
Prices (before / after project implementation)	10,032 / 10,982	Rub / t.	The prices of basic and auxiliary materials, energy planning used within the investment decisions of individual project measures Prices for finished goods used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures	/XLS/ /PFG/ /PBM/ /CSTR/	☒	The determination team received the calculation of the average price per tons of products. This calculation is performed based on the prices for finished products, taking into account the price of the product obtained by re-cast billet (continuous cast blooms). Within the on-site assessment the Deputy Chief Accountant of the plant was interviewed regarding this issue and the applied assumptions could be reasonably explained and supported by various internal reports. It was observed that all applied internal documents are archived in due manner. They were reviewed and were assessed as reliable and authentic data source. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Costs of goods sold (before / after project implementation)	9,090 / 9,176	Rub./t	The prices of basic and auxiliary materials, energy planning used	/XLS/ /PBM/ /WGE/	☒	Information about the costs of production is prepared and provided by the analytical and accounting department of the plant. Cost of goods sold includes all costs related to all steps of the production process. The assumed value takes into account

			within the investment decisions of individual project measures Plants general expenses, commercial activity related expenses used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Expenses overview as per the internal financial reports	/CSTR/ /VC/		possible changes in cost structure and cost of new materials. The relevant documents used within the calculation of this value were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption as well as the calculation method could be reasonably explained. The forecasts were elaborated also by the analytical and accounting department in a detailed manner by taking into account various production data. The applied assumptions were reviewed by different experts of the plant and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Revenues (before / after project implementation)	202,917 / 1,354,280	Th. Rub.	Planned and actual schedule of production used within the investment	/XLS/ /PK/ /PB/	☒	The revenues were duly calculated based on the • Production volumes • Price for goods sold and

			decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Plants general expenses, commercial activity related expenses used within the investment decisions of individual project measures	/CSTR/ /PFG/ /WGE7/		• Costs of goods sold The calculation was checked and found appropriate. The revenues assumed within the investment analysis are plausible with regards to the historical values obtained after project implementation. Further information about the expected revenues related to the production from CCM-5 was provided by the analytical and accounting department. It was demonstrated that the assumed value takes into account possible changes in cost structure and cost of new materials. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts were elaborated by the analytical and accounting department in a detailed manner by taking into account various production data. The applied assumptions were reviewed by different experts of the plant and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Investment costs	2,867.9	Mio Rub.	Justification of Investments prepared by JSC	/XLS/ /ORD/	☒	The investment costs were duly elaborated based on the different cost components related to the design works, construction and

			"Chelyabgipromez" Expenses overview as per the internal financial reports Estimates for the construction costs made by "Chelyabgipromez" Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel"	/VC/ /IF/ /BFC/ /BJD/		installation works, purchase of equipment. All documented evidences applied in this context were reviewed by the determination team. As a result it could be confirmed that the total investment costs were duly calculated. The most important documents applied in this context are summarized below: • Justification of Investments prepared by JSC "Chelyabgipromez" • Expenses overview as per the internal financial reports • Estimates for the construction costs made by "Chelyabgipromez" • Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel" The documented evidences were provided either by internal financial experts of the company or sourced from independent third parties. They were checked by the determination team and found as authentic and reliable. In order to gain further confidence about the reliability of the evidences provided by the internal sources the determination team has interviewed the responsible personnel. The relevant documents were provided mainly by analytical and accounting department of the plant. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The financial assumptions elaborated within the estimates are in

						line with the values applied in the investment analysis.
NPV	416,9	Mio Rub.	Investment analysis	/XLS/	☒	The NPV was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
IRR	16,6	%	Investment analysis	/XLS/	☒	The IRR was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
Benchmark	20	%	Acceptable Internal Rate of Return	/Bench/	☒	The "*Acceptable Internal Rate of Return*" was used as a benchmark. The Acceptable Internal Rate of Return was confirmed by Protocol of Investment Committee of the Mechel company/Bench/. Provided documented evidence was accepted because the relevant document specifies company internal financial benchmark for any investments. As already noted that project activity can only be implemented by other project developers. Therefore the company internal benchmark is applicable parameter to assess the financial viability of the project. The PP was able to demonstrate that this financial benchmark has been consistently used in the past, i.e. that project activities under similar conditions used the same financial benchmark. As a result it could be confirmed that the benchmark value is suitable for the project activity. As evident from the comparison the IRR of the considered project measure is below the company internal benchmark. Therefore it was duly concluded that the considered project measure is financially not attractive and, hence would have been not implemented in absence of additional benefits from JI registration.
Construction of CCM-5, LF-4 and vacuum vessel at the oxygen-converter plant						

Additional expenses per charge (before / after project implementation)	10,316,370 / 11,142,788	Th. Rub	Plants general expenses, commercial activity related expenses used within the investment decisions of individual project measures Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel" Expenses overview as per the internal financial reports	/WGE/ /ORD/ /VC/	☒	The investment analysis took into account the additional cost of charge arising from the manufacture of metal casters CCM-5. The cost increase confirmed by calculations based on data used within the feasibility assessments of the project measure. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Expenses for further processing(before / after project implementation)	202,3824 / 268,719	Th. Rub	Plants general expenses, commercial activity related expenses used within the investment decisions of individual project measures	/WGE/ /ORD/ /VC/	☒	The determination team received the calculation of the expenses for further processing. The calculation was checked and found appropriate. The assumed values are in line with the assumptions made within the investment analysis.

			Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel" Expenses overview as per the internal financial reports			
Production volumes (before / after project implementation)	1,954,615 / 2,158,458	Th. t/year	Planned and actual schedule of production used within the investment decisions of individual project measures The planned balance of production of sinter, pig iron, steel and rolled steel used within the investment decisions of individual project measures Assignment for the preparation of	/XLS/ /PK/ /PB/ /REFTD/	☒	The volume of production before and after the project is based on the planned and actual calculation of production. It is also based on the planned balance of production of sinter, pig iron, steel and rolled steel i.e. expected after the project implementation. In doing so, the technical characteristics of the plant were taken into account and the most realistic development of production was assumed. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The increase in production is due to the production of cast billets (continuous cast blooms), which is used in the production of marketable products. The figures elaborated within the estimates are in line with the values applied in the investment analysis.

			technical and commercial proposals delivery of the technology, equipment, technical documentation and the "know-how"			
Prices (before / after project implementation)	6,600 / 6,600	Rub./t.	The prices of basic and auxiliary materials, energy planning used within the investment decisions of individual project measures Prices for finished goods used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures	/XLS/ /PFG/ /PBM/ /CSTR/	☒	The determination team received the calculation of the average price per tons of products. This calculation is performed based on the prices for finished products, taking into account the prices of particular products obtained by re-cast billet (continuous cast blooms). Within the on-site assessment the Deputy Chief Accountant of the plant was interviewed regarding the applied prices for particular products and the applied assumptions could be reasonably explained and supported by various internal reports. It was observed that all applied internal documents were prepared by the responsible personnel are clearly indexed and archived in due manner. They were reviewed and were assessed as reliable and authentic data source. The figures elaborated within the estimates are in line with the values applied in the investment analysis.

Investment costs	2,885.0	Mio Rub.	Justification of Investments prepared by JSC "Chelyabgipromez" Своды затрат Expenses overview as per the internal financial reports Estimates for the construction costs made by "Chelyabgipromez" Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel"	/XLS/ /ORD/ /VC/ /IF/ /BFC/ /BJD/	☒	The investment costs were duly elaborated based on the different cost components related to the design works, construction and installation works, purchase of equipment. All documented evidences applied in this context were reviewed by the determination team. As a result it could be confirmed that the total investment costs were duly calculated. The most important documents applied in this context are summarized below: • Justification of Investments prepared by JSC "Chelyabgipromez" • Expenses overview as per the internal financial reports • Estimates for the construction costs made by "Chelyabgipromez" • Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel" The documented evidences were provided either by internal financial experts of the company or sourced from independent third parties. They were checked by the determination team and found as authentic and reliable. In order to gain further confidence about the reliability of the evidences provided by the internal sources the determination team has interviewed the responsible personnel. The relevant documents were provided mainly by analytical and accounting department of the plant. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and

						finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The financial assumptions elaborated within the estimates are in line with the values applied in the investment analysis.
NPV	-530,6	Mio Rub.	Investment analysis	/XLS/	☒	The NPV was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
IRR	0,0	%	Investment analysis	/XLS/	☒	The IRR was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
Benchmark	20	%	Acceptable Internal Rate of Return	/Bench/	☒	The "*Acceptable Internal Rate of Return*" was used as a benchmark. The Acceptable Internal Rate of Return was confirmed by Protocol of Investment Committee of the Mechel company/Bench/. Provided documented evidence was accepted because the relevant document specifies company internal financial benchmark for any investments. As already noted that project activity can only be implemented by other project developers. Therefore the company internal benchmark is applicable parameter to assess the financial viability of the project. The PP was able to demonstrate that this financial benchmark has been consistently used in the past, i.e. that project activities under similar conditions used the same financial benchmark. As a result it could be confirmed that the benchmark value is suitable for the project activity. As evident from the comparison the IRR of the considered project measure is below the company internal benchmark. Therefore it was duly concluded that the considered project measure is financially not attractive and, hence would have been not

						implemented in absence of additional benefits from JI registration.
CCM-4, LF-3 2nd line						
Production volumes (before / after project implementation)	2,174,859 / 2,293,300	Th. t/year	Planned and actual schedule of production used within the investment decisions of individual project measures The planned balance of production of sinter, pig iron, steel and rolled steel used within the investment decisions of individual project measures Assignment for the preparation of technical and commercial proposals delivery of the technology, equipment, technical documentation and the "know-how"	/XLS/ /PK/ /PB/ /REFTD/	☒	The volume of production before and after the project is based on the planned and actual calculation of production. It is also based on the planned balance of production of sinter, pig iron, steel and rolled steel i.e. expected after the project implementation. In doing so, the technical characteristics of the plant were taken into account and the most realistic development of production was assumed. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The increase in production is due to the production of cast billets (continuous cast blooms), which is used in the production of marketable products. The figures elaborated within the estimates are in line with the values applied in the investment analysis.

Price (before / after project implementation)	11,237 / 11,212	Rub/t.	The prices of basic and auxiliary materials, energy planning used within the investment decisions of individual project measures Prices for finished goods used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures	/XLS/ /PFG/ /PBM/ /CSTR/	☒	The determination team received the calculation of the average price per tons of products. This calculation is performed based on the prices for finished products, taking into account the prices of particular products obtained by re-cast billet (continuous cast blooms). Within the on-site assessment the Deputy Chief Accountant of the plant was interviewed regarding the applied prices for particular products and the applied assumptions could be reasonably explained and supported by various internal reports. It was observed that all applied internal documents were prepared by the responsible personnel are clearly indexed and archived in due manner. They were reviewed and were assessed as reliable and authentic data source. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Cost of goods solds (before / after project implementation)	9,608 / 9,521	Rub./t	The prices of basic and auxiliary materials, energy planning used within the investment decisions of	/XLS/ /PBM/ /WGE/ /CSTR/	☒	Information about the costs of production is prepared and provided by the analytical and accounting department of the plant. Cost of goods sold includes all costs related to all steps of the production process. The assumed value takes into account possible changes in cost structure and cost of new materials. The relevant documents used within the calculation of this value were provided by the analytical and accounting department. The

			individual project measures Plants general expenses, commercial activity related expenses used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Expenses overview as per the internal financial reports	/VC/		personnel of the relevant department were interviewed and the applied assumption as well as the calculation method could be reasonably explained. The forecasts were elaborated also by the analytical and accounting department in a detailed manner by taking into account various production data. The applied assumptions were reviewed by different experts of the plant and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Revenue (before/ after project implementation)	3,544,114 / 3,878,037	Th. Rub.	Planned and actual schedule of production used within the investment decisions of individual project measures	/XLS/ /PK/ /PB/ /CSTR/ /PFG/	☒	The revenues were duly calculated based on the • Production volumes • Price for goods sold and • Costs of goods sold The calculation was checked and found appropriate. The revenues assumed within the investment analysis are plausible

			Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Production expenses -the planned and actual expenses used within the investment decisions of individual project measures Plants general expenses, commercial activity related expenses used within the investment decisions of individual project measures	/WGE7/		with regards to the historical values obtained after project implementation. Further information about the expected revenues related to the production from CCM-5 was provided by the analytical and accounting department. It was demonstrated that the assumed value takes into account possible changes in cost structure and cost of new materials. The relevant evidences were provided by the analytical and accounting department. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts were elaborated by the analytical and accounting department in a detailed manner by taking into account various production data. The applied assumptions were reviewed by different experts of the plant and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The figures elaborated within the estimates are in line with the values applied in the investment analysis.
Investment costs	1,145.4	Mio Rub.	Justification of Investments prepared by JSC "Chelyabgipromez" Expenses overview as per the internal	/XLS/ /ORD/ /VC/ /IF/	☒	The investment costs were duly elaborated based on the different cost components related to the design works, construction and installation works, purchase of equipment. All documented evidences applied in this context were reviewed by the determination team. As a result it could be confirmed that

			financial reports Estimates for the construction costs made by "Chelyabgipromez" Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel"	/BFC/ /BJD/		the total investment costs were duly calculated. The most important documents applied in this context are summarized below: • Justification of Investments prepared by JSC "Chelyabgipromez" • Expenses overview as per the internal financial reports • Estimates for the construction costs made by "Chelyabgipromez" • Proposals, Explanatory Notes, the conclusion of services and specialists of "CMP", JSC "Mechel-Steel", "Mechel" The documented evidences were provided either by internal financial experts of the company or sourced from independent third parties. They were checked by the determination team and found as authentic and reliable. In order to gain further confidence about the reliability of the evidences provided by the internal sources the determination team has interviewed the responsible personnel. The relevant documents were provided mainly by analytical and accounting department of the plant. The personnel of the relevant department were interviewed and the applied assumption could be reasonably explained. The forecasts elaborated by the analytical and accounting department was reviewed by different experts and finally used by the plant management within the investment decision. Therefore provided data source was assessed as reliable and suitable in the specific context of the project activity. The financial assumptions elaborated within the estimates are in line with the values applied in the investment analysis.
NPV	30	Mio Rub.	Investment	/XLS/	☒	The NPV was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation

			analysis			could be confirmed.
IRR	12,9	%	Investment analysis	/XLS/	☒	The IRR was duly calculated in Excel spreadsheet. The applied formulae were checked and the appropriateness of the calculation could be confirmed.
Benchmark	20	%	Acceptable Internal Rate of Return	/Bench/	☒	The "*Acceptable Internal Rate of Return*" was used as a benchmark. The Acceptable Internal Rate of Return was confirmed by Protocol of Investment Committee of the Mechel company/Bench/. Provided documented evidence was accepted because the relevant document specifies company internal financial benchmark for any investments. As already noted that project activity can only be implemented by other project developers. Therefore the company internal benchmark is applicable parameter to assess the financial viability of the project. The PP was able to demonstrate that this financial benchmark has been consistently used in the past, i.e. that project activities under similar conditions used the same financial benchmark. As a result it could be confirmed that the benchmark value is suitable for the project activity. As evident from the comparison the IRR of the considered project measure is below the company internal benchmark. Therefore it was duly concluded that the considered project measure is financially not attractive and, hence would have been not implemented in absence of additional benefits from JI registration.

ANNEX 4: ASSESSMENT OF BARRIER ANALYSIS

Table A-4: Assessment of Barrier Analysis

☒	No barrier parameters are used for additionality justification
☐	Assessment of barriers see below

Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of determination team	
			Appropriateness of information source	Explanation of final result
			☐	

ANNEX 5: OUTCOME OF THE GSCP

Table A-5: Outcome of the Global Stakeholder Consultation Process

☒	No comments were received during the global stakeholder consultation period
☐	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the determination team are presented below:

Comment No.:	Comment by:	Inserted on:	Subject	Comment *)	Response determination team *)	Conclusion (incl. CARs CLs or FARs)

*) In case clarifications have been requested by the determination team corresponding rows shall be added