DETERMINATION REPORT

INSTITUTE FOR ENVIRONMENT AND ENERGY CONSERVATION

DETERMINATION OF THE

REVAMPING OF SINTERING AND BLAST-FURNACE PRODUCTION AT OJSC «ALCHEVSK IRON AND STEEL WORKS»

REPORT NO.UKRAINE-DET/0180/2010

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Date of first issue: 01/02/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Institute for Environment and Energy Conservation	Client ref.: Vasyl Vovchak

Summary:

Bureau Veritas Certification has made the determination of the "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" project of Institute for Environment and Energy Conservation located in the city of Alchevsk in Lugansk Oblast, Ukraine, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The determination scope is defined as an independent and objective review of the project design document, the project's baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final determination report and opinion. The overall determination, from Contract Review to Determination Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the determination process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the project proponent revised its project design document.

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies Guidance on criteria for baseline setting and monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.: UKRAINE-DET/0180/2010	Subject Group: JI
Project title: "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works"	
Work carried out by: Team Leader, Lead Verifier: Oleg Skoblyk Team member, Verifier: Iuliia Pylnova Team Member, Lead Verifier: Vera Skitina Team Member, Financial Specialist: Denis Pishchalov	
Work verified by: Ivan Sokolov – Internal technical reviewer	
Work approved by: Flavio Gomes – Operational Manager	

Date of this revision:	Rev. No.:	Number of pages:
22/04/2011	02	96

Indexing terms

Climate Change, Kyoto Protocol, JI, Emission Reductions, Determination

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Abbreviations

AIE	Accredited Independent Entity
BFG	Blast Furnace Gas
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CHP	Combined Heat and Power
CL	Clarification Request
CO_2	Carbon Dioxide
COG	Coke Oven Gas
AISW	OJSC “Alchevsk Iron and Steel Works”
DFP	Designated Focal Point
DVM	Determination and Verification Manual
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
GHG	Green House Gas(es)
GWP	Global Warming Potential
I	Interview
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MP	Monitoring Plan
MoV	Means of Verification
NGO	Non Government Organization
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change

1 INTRODUCTION

Institute for Environment and Energy Conservation has commissioned Bureau Veritas Certification to determine its JI project “Revamping of sintering and blast-furnace production at OJSC “Alchevsk Iron and Steel Works»” (hereafter called “the project”) in the city of Alchevsk, Lugansk oblast, Ukraine.

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

1.1 Objective

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project’s compliance with relevant UNFCCC and host country criteria are 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 a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emissions reductions units (ERUs).

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

1.2 Scope

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

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

1.3 Determination team

The determination team consists of the following personnel:

Oleg Skoblyk
Team Leader, Bureau Veritas Certification Climate Change Lead Verifier

Iuliia Pylnova,
Team member, Bureau Veritas Certification Climate Change Verifier

Vera Skitina
Team Member, Bureau Veritas Certification Climate Change Lead Verifier

Denis Pishchalov
Team Member, Bureau Veritas Certification Financial Specialist

This determination report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification Internal Technical Reviewer

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by Institute for Environment and Energy Conservation and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Approved CDM methodology and/or Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be checked by a Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action, forward action and clarification requests, Institute for Environment and Energy Conservation revised the PDD and resubmitted it as version 2 of 11/01/2011, version 3 of 18/01/2011, and version 4 of 14.04.2011 which is deemed final.

The determination findings presented in this report relate to the project as described in the PDD versions 1, 2, 3, and 4.

2.2 Follow-up Interviews

On 16/12/2010 Bureau Veritas Certification conducted a visit to the project site (OJSC "Alchevsk Iron and Steel Works") and performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Institute for Environment and Energy Conservation and OJSC "Alchevsk Iron and Steel Works" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
OJSC "Alchevsk Iron and Steel Works"	➢ Project history ➢ Project approach ➢ Project boundary ➢ Implementation schedule ➢ Organizational structure ➢ Responsibilities and authorities ➢ Training of personnel ➢ Quality management procedures and technology ➢ Rehabilitation/Implementation of equipment (records) ➢ Metering equipment control ➢ Metering record keeping system, database ➢ Technical documentation ➢ Monitoring plan and procedures ➢ Permits and licenses ➢ Local stakeholder's response.
CONSULTANT: Institute for Environment and Energy Conservation	➢ Baseline methodology ➢ Monitoring plan ➢ Additionality proofs ➢ Calculation of emission reduction.

2.3 Resolution of Clarification, Corrective Action and Forward Action Requests

The objective of this phase of the determination is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the project design.

Corrective Action Requests (CAR) is issued, where:

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
(b) The JI requirements have not been met;
(c) There is a risk that emission reductions cannot be monitored or calculated.

The determination team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable JI requirements have been met.

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

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

3 PROJECT DESCRIPTION

OJSC “Alchevsk Iron and Steel Works” (AISW) is one of the largest integrated iron and steel plants in Ukraine. It is located in the city of Alchevsk in Lugansk Oblast, Eastern Ukraine. It is part of the Industrial Union of Donbass (IUD), an industrial group that is a major shareholder in a number of metallurgical enterprises in Ukraine as well as in Poland and Hungary.

AISW produces agglomerate, pig iron, steel, rolled products. Commodity part of the plants products includes plate steel, construction section bar, square and round billets and continuously cast slabs.

While one of the more modern integrated steel works in Ukraine, AISW was fairly typical of the Ukrainian iron and steel sector up to 2003 in terms of the vintage of technologies. The facilities of the plant were

mainly built in the 1950s and 1960s. The plant has high energy intensity, causing significant emissions into atmosphere of greenhouse and harmful gases as well as dust.

AISW consists of the following main units: sintering shop, blast furnace (BF) shop, open-hearth furnace shop, converter shop, plate and rolling mill shops, slab-casting machines, blooming mill, power plant and auxiliary facilities. Before the project implementation the sintering and blast furnace production at AISW was based on old production facilities such as sinter plant, blast furnace shop and local power plant.

Blast furnaces and sintering machines are operated at the Steel Mill for a long time and have not been changed technologically since their operation start. There were not any legal requirements to replace or reconstruct less effective blast furnaces in the country leaving a decision on their replacement at project owner's discretion.

The greater presence at the market could be achieved by use of old production technologies, virtually without additional investment. However, in May 2003 both enterprise and IUD Corporation have decided to start development of the enterprise by technical revamping of sintering and blast-furnace production (The prior consideration of the project is stated by the Protocol of Technical Council of the plant dated 26th of May, 2003). The main goal was not only to improve performance of the enterprise, but also to solve environmental problems of production process (according to the plan of revamping the amount of harmful emissions had to be reduced by more than 2.2 times).

The proposed Joint Implementation project considers complex resource-saving effect based on introduction of new sinter plant and blast furnace #2, radical reconstruction of blast furnace #1 and gradual reconstruction of the remaining blast furnaces #3, 4 and 5 as well as technological improvements in the process of sintering and pig iron production.

Several project measures and activities have been and would be implemented in AISW pig iron production to reduce consumption of coke and other fuel and materials. Some of these measures involved improvements in preparation of raw materials at Sinter Plant which mainly of technological character and also connected with introduction of the new Sinter Plant that would replace the existing one.

New Sinter Plant would be a state of art metallurgical equipment comprising engineering and design achievements with automatic solutions and would lead to lower fuel consumption and emission levels during sintering process. The same effect will be reached after introduction of new BF#2, which would replace less efficient existing BF production, and radical reconstruction of BF#1.

After implementation of these and other measures of technological character, this would lead to reduction of specific consumption of coke in the blast furnaces and better productivity of blast furnaces.

The sinter plant and blast furnace shop require production of so called secondary energy sources such as compressed air, steam, nitrogen, oxygen etc. These products are produced at the Steel Mill and a major part of them comes from the local power facilities. For a long time the modernization of the energy production has not been done because of absence of incentives into energy saving, uncertainty with market situation, difficulties with mobilizing the credit resources etc.

The implementation of JI project requires the total investment costs of US$ 2,2 billion as described further in this PDD.

The possibility to use Kyoto mechanisms contributed to identification of ways to improve energy-efficiency and environment at the sintering and blast-furnace process. These mechanisms will allow AISW to receive additional financing needed to expand the JI project boundaries and reduce the period of credit payment and thus enhance the attractiveness of the project.

For a long time a realization of such projects was restrained by the absence of proper methodologies and practice on assessment of greenhouse gas emissions into atmosphere, caused by technological processes to be used in iron and steel sector. Only recently first examples of positive developments of similar JI projects have been demonstrated. It has opened the opportunity for the IUD and AISW to realize the similar JI project based on precedent experience.

4 DETERMINATION CONCLUSIONS

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

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

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 21 Corrective Action Requests, 11 Clarification Requests and 1 Forward Action Request (to be addressed during the first verification).

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

4.1 Project approvals by Parties involved (19-20)

The project has already been supported by the Government of the host Party (Ukraine), namely by the National Environmental Investment Agency of Ukraine (09.12.2010 National Environmental Investment Agency of Ukraine was renamed by Order of the President of Ukraine; now, it is

State Environmental Investment Agency of Ukraine), which has issued a Letter of Endorsement for the Project (Letter of Endorsement №1806/23/7 dated 09/11/2010). Bureau Veritas Certification received this letter from the project participants and does not doubt its authenticity.
As for the time being no written approvals of the project by Parties involved are available. After receiving Determination Report from the Accredited Independent Entity the project documentation will be submitted to the Ukrainian Designated Focal Point (DFP) which is State Environmental Investment Agency of Ukraine, for receiving a Letter of Approval. The written approval by another Parties involved will be obtained later on.

As the project has no approvals by the Parties involved, CAR 06 remains pending and will be closed after report finalizing (refer to the Appendix A).

4.2 Authorization of project participants by Parties involved (21)

The official authorization of each legal entity listed as project participant in the PDD by Parties involved will be provided in the written project approvals (refer to 4.1 above).

4.3 Baseline setting (22-26)

The PDD explicitly indicates that using a methodology for baseline setting and monitoring developed in accordance with appendix B of the JI guidelines (hereinafter referred to as JI specific approach) was the selected approach for identifying the baseline. No applicable approved CDM methodologies are available for this project type; however, JI Project “Energy Efficiency measures at the “Public Joint Stock Company Azovstal Iron and Steel Works” has been submitted to the accredited independent entity (AIE) in 2010 and already passed a positive determination and received a letter of approval from the Government of Ukraine. It is assuming implementation of technological measures to improve the energy efficiency of blast furnace production as well as its modernisation. This may be treated as similar to the project “Revamping of sintering and blast furnace production at OJSC “Alchevsk Iron and Steel Works”; therefore its approach can be fully applied to the project in question. Besides, in terms of methodological approach, the project is fully identical to the relevant part of the project registered at UNFCCC with reference number UA1000022, as it covers basically the same assets as in the proposed JI project. It refers to blast furnace shop and sintering machines as well as secondary energy production. It takes into account all emissions of GHGs related to the process of pig iron and sintering production. Therefore the approach is fully applicable for the project.

The PDD provides a detailed theoretical description in a complete and transparent manner, as well as justification, that the baseline is established:

a) Identifying and listing alternatives to the project activity on the basis of conservative assumptions and taking into account uncertainties.

b) Identifying the most plausible alternatives considering relevant sectoral policies and circumstances, such as economic situation in the steel sector in Ukraine and other key factors that may affect the baseline. The baseline is identified by screening of the alternatives based on the technological and economic considerations for the project developer, as well as on the prevailing technologies and practices in Ukrainian steel industry at the time of the investment decision.

The alternatives have been identified based on national practice and reasonable assumptions with regard to the sectoral legislation and reform, economic situation in the country, availability of raw materials and fuel as well as technologies and logistics etc.

Alternative No. 1: Preservation of the situation existing prior to the project: continuation of sinter plant and BFs operation without reconstruction and introduction of new technology. Ukrainian iron and steel production facilities have inherited process equipment installed during the Soviet era. Iron and steel industry is today in need of a sector-wide reform. However innovative development of the nation's iron and steel industry is practically minimal. The reason is that such practical decisions made bumped against lack of reliable financial and institutional support. These reasons have also hampered AISW to initiate and realise modernisation of the Plant.

Therefore, production of pig iron and steel and expansion of market share based on existing process lines, without introduction of new facilities, which envisaged insignificant investment due to maintenance and equipment repair which is within usual practice of the plant, would be business-as usual (BAU) solution fully in line with international steelmaking practices at the time of investment decision, as well as with economy environment of IUD and Ukraine in general. The benefits for the project owner include (i) insignificant capital expenditures due to maintenance and equipment repair, (ii) profit in the short-term perspective amid crisis environment; (iii) no need to secure access to significant financing, mostly required to make up operating capital, due to absent investment requirements and known technology, (iv) no need for capital construction, (v) low technical risk due to historical experience, familiarity and confirmed capacity to build, operate the facilities, and to manage related risks, (vi) availability of trained staff, etc.

In fact, the planned pig iron output could have also been secured with existing older BFs, SP and secondary power generation facilities.

At the moment of the investment decision, as well as currently, there were no regulatory or technical limitations for the operation of the older BFs and other steel facilities. Such limitations will continue to be absent at least until 2012 and even in longer term till 2022 – if there persist current Ukrainian economy conditions and intentions for its reform encouraging to hold back administrative barriers before commercial production activity carried out by private entities. However, in order to ensure conservativeness of the assumptions used for the identification of the baseline alternatives, five previous consecutive years before reconstruction start were have been chosen for establishing the baseline. The average data for the 5-year period should be enough to equal the impact of regular maintenance and working renewal of the steel facilities. Therefore the considered alternative does not face any barriers.

Alternative No. 2: Revamping of sinter plant and all the blast furnaces without carbon financing. The project activity includes reconstruction of all the BFs, SP and secondary power generation facilities at the AISW as well as introduction of the new SP and BFs.

In 2003, when decision was made, there were, and there still are, no legal or regulatory requirements in Ukraine for the adoption of obligatory reconstruction or modernisation activities in steel making sector. The proposed project is in line with non-mandatory, general government policies, such as the Restructuring Program of the Iron and Steel Sector and with the long-term Energy Strategy for Ukraine (adopted in 2006).

The project activity is itself an integrated energy efficient programme aimed at reduction of energy consumption per tonne of pig iron produced. This can not be done without reconstruction and modernisation of equipment in the Blast Furnace Shop as well in the Sinter Plant and Power Plant that includes other secondary production facilities and therefore without a massive investment programme.

Against the backdrop of the poor economic situation of the AISW at the beginning of the project implementation and moreover the global crisis whose effects were particularly acute for the whole Ukrainian iron and steel sector, a project requiring the total investment of US$ 2 billion would be hard to accomplish, given its current status.

Therefore, considering financial, technical and other barriers, project scenario without the JI component was not the most attractive one, which prevented its further implementation.

Alternative No. 3: Realisation of projects on the not blast-furnace iron-making plants at AISW. In general there is an option to replace blast

furnace production and therefore also influence on sintering production.

This option is related to the construction of industrial plants for production of reduced iron by Midrex or similar technology. However this option is not fully realistic for the AISW because the Steel Mill does not have its own access to iron ore resources and fully relies on market condition. The recent problems with iron ore supply have shown the extreme volatility of such a decision upon market conditions. Additionally such a decision could require a significant portion of investments estimated at around more than US$3 billion. In Ukraine so far no company has been able to overcome such investment barriers. The declared project activity by OJSC “Vorskla Steel” in a construction of Midrex-based furnaces has been suspended for an indefinite time. Moreover new technological decisions like not blast-furnace iron making require a replacement of the established logistical scheme which is additional risk for AISW. Therefore the switch to the new steelmaking technology based on Midrex technology can not be considered as baseline scenario due to a number of mentioned obstacles.

The Alternative #1 is the most likely baseline scenario for a number of reasons, for instance the required quantity and quality of pig iron can be produced without costly and large-scale reconstruction as well as change of historical manufacturing practice and logistics. The above suggests that the Alternative No. 1 would be the most plausible and credible alternative and it represents the baseline scenario for the proposed project activity. For the baseline scenario, the full amount of CO_2 emissions related to this scenario is accounted for; its monitoring is performed as part of detailed monitoring of steelworks processes required for the AISW technical purposes.

Application of the approach chosen

The detailed analysis of the alternatives was given above. Alternative #3 was the least feasible among all 3 alternatives because it required huge investments and complete change of logistical scheme. Alternative #2 presents the project scenario and in comparison with Alternative #1 that is the baseline required significantly more investments. Therefore continuation of existing practice with gradual planned maintenance and repair does not require additional massive investments as well as change of used process technology and is the most plausible and realistic one.

Consistency with mandatory applicable laws and regulations

As it was also mentioned above the 2nd half of the year 2003 was selected as the year when the investment decision was made. All the listed alternatives in the year 2003 were considered to be feasible and did not face any legislative barriers. Moreover even at the date of PDD

preparation situation is still identical. Ukrainian legislation does not regulate CO_2e emissions and does not demand reductions of such emissions. Therefore, the most plausible scenario for the baseline is the Altenative #1.

Conservative assumptions used for baseline emission calculations have been applied:

a) 5 year base period from 1998 to 2002 has been chosen in order to nullify the impact of annual or periodic repair and maintenance of the equipment;

b) timing of baseline period coincides with gradual improvements at the global steel market. At the same time project line faces negative impact of world financial and economic crisis that makes specific energy consumption rate per tonne of pig iron to be more intensive than under normal operation;

c) in the baseline period natural gas was historically cheaper than in the project line that could cause its replacement on coal and coke with higher emission factor during the project activity. This impact was ignored that makes approach a very conservative;

d) AISW faced no difficulties with supply of raw materials such as ore and coal (as is the project period, especially from 2008).

In order to calculate the project emission reduction units the total pig iron production is accepted as equal to the project production.

All explanations, descriptions and analyses pertaining to the baseline in the PDD were found adequate and the baseline is identified appropriately.

4.4 Additionality (27-31)

The most recent version of the “Tool for the demonstration and assessment of additionality” approved by the CDM Executive Board was used, in accordance with the JI specific approach, defined in paragraph 2 (c) of the annex I to the “Guidance on criteria for baseline setting and monitoring”. All explanations, descriptions and analyses are made in accordance with the selected tool.

The PDD provides a justification of the applicability of the approach. Due to the fact that there is no approved CDM baseline and monitoring methodology which is applicable to the project type, the Additionality Tool is applied which is considered as a good practice for additionality justification.

Additionality proofs are provided. Three alternative scenarios to the project activity were identified and proven to be in compliance with mandatory legislation and regulations taking into account the enforcement in the region and Ukraine. The credible barriers, such as investment (adverse financial situation of AISW, Backwardness of the Ukrainian Domestic Financial Market, IUD Low Credit Rating) and technological barriers, which would hinder project scenario implementation without additional revenue from Kyoto benefits. No barriers exist to the baseline alternative, the continuation of the situation prior to the implementation of the project activity.
The proposed joint implementation project is not common practice. To-date, a similar project but to incomparable lower scale has been implemented only at Azovstal (some measures related to technological improvements of BFs operation and reconstruction of BF shop components of the proposed JI project) within the framework of one of the mechanisms provided by the Kyoto protocol to UNFCCC. Pursuant to the Tool for the Demonstration and Assessment of Additionality, a project registered under Kyoto mechanism is excluded from common practice analysis, which makes the proposed project the only one of its kind for Ukraine.
So, the program of revamping of sintering and blast-furnace production planned to be implemented at AISW is an integrated program that has no predecessors in Ukraine and could not be considered as a common practice. Thus, the overall conclusion is that the project activity meets all additionality criteria, is not the baseline scenario and is additional.
Additionality is demonstrated appropriately as a result of the analysis using the approach chosen.

4.5 Project boundary (32-33)

The project boundary defined in the way to cover all emissions of GHGs related to the project. With respect to organizational structure of AISW, project boundary includes directly sinter plant and blast-furnace shop together with all auxiliary power facilities of the plant. Power grid, natural gas supply network and material supplies such as coke were not included in the project boundary directly; however Ukraine's typical greenhouse gas emission factors for production and/or supply of electricity and gas consumed under baseline and project scenarios have been factored in emission calculations. Thus all CO_2 emissions related to project and baseline cases have been taken into account.

N_2O emissions from steelmaking process are unlikely to be significant IPCC does not provide a methodology to calculate N_2O emissions. They will not typically change from baseline to project case. CH_4 emissions are related to sinter and coke production in this type of project and are very minor in comparison with CO_2e emissions. Both types of emissions are excluded from the quantification of baseline and project emissions. The

exclusion of CH_4 represents a conservative approach as more sinter and coke is consumed in absolute terms in the baseline in comparison with the project.

Therefore, the project boundary defined in the PDD encompasses all anthropogenic emissions by sources of greenhouse gases (GHGs) that are:

(i) Under the control of the project participants, such as fuels used in the project and baseline, material flow as part of production process;

(ii) Reasonably attributable to the project such as electricity used under the project and baseline scenarios; and

(iii) Significant, i.e., as a rule of thumb, would by each source account on average per year over the crediting period for more than 1 per cent of the annual average anthropogenic emissions by sources of GHGs, or exceed an amount of 2,000 tonnes of CO_2 equivalent, whichever is lower.

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD. Based on the above assessment, the AIE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began, and the starting date is 01/07/2003, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 20 years and 240 months.

The PDD states the length of the crediting period in years and months, which is 16 years and 9 months (3 years and 9 months for the period before the first commitment period, 5 years for the first commitment period and 8 years for the period following the first commitment period), and its starting date as 01/04/2004, which is on the date the first emission reductions are generated by the project.

The PDD states that the crediting period for the issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project.

The PDD states that the extension of its crediting period beyond 2012 is subject to the host Party approval, and the estimates of emission reductions are presented separately for those until 2012 and those after 2012 in all relevant sections of the PDD.

4.7 Monitoring plan (35-39)

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

The monitoring plan describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance, such as statistics reporting forms; quality control (QC) and quality assurance (QA) procedures; the operational and management structure that will be applied in implementing the monitoring plan.

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. be clearly connected with the effect to be measured), and that provide a transparent picture of the emission reductions to be monitored such as total pig iron output, quantity of each fuel used in making pig iron, emission factor for fuel consumption, electricity consumed in producing pig iron, emission factor for electricity consumption, quantity of fuel used in sintering process, electricity consumed in sintering process, quantity of reducing agents, emission factor of each reducing agent, quantity of each other input in pig iron production, emission factor of each other inpur, quantity of fuel used for balance of process needs, and electricity consumed for balance of process needs.

The monitoring plan explicitly and clearly distinguishes:

(i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as emission factor for fuel consumption, emission factor for electricity consumption, emission factor of each reducing agent, and emission factor of each other input.

(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, which are absent.

(iii) Data and parameters that are monitored throughout the crediting period, such as quantity of fuel used in making pig iron, electricity consumed in producing pig iron, quantity of fuel used in sintering process, electricity consumed in sintering process, quantity of each reducing agent in pig iron production, electricity consumed for balance of process needs.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording, such as direct measurement with scales; gas, water, steam and electricity meters; calculations with different recording frequency such as continuously or monthly, quarterly, yearly and electronic or paper recording method. The respective information for each monitoring parameter is sufficiently described in the section D of the PDD.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate.

Baseline emissions:

$BE = TCPTPIPb \times TPIIp_{,i}$,

where:
$TCPTPIP_b$ – total CO_2e emissions per 1 tonne of pig iron produced, t CO_2e
$TPII_{p,i}$ – total pig iron production during the particular project period, tonnes
$_i$ = regular data registration interval
$_p$ = project case
$_b$ = baseline

$TCPTPIP_b$ – total CO_2e emissions per 1 tonne of pig iron produced in the baseline scenario (historical data of AISW operation regarding pig iron production during the period of 1998 – 2002) – includes total embodied CO_2e from Pig Iron production and total CO_2e in the balance of production processes, which are divided by total volume of pig iron production in the baseline scenario (historical pig iron production at AISW during the period of 1998 – 2002).

$TCPTPIP_b = (TCPI_b + TCBPN_b) / TPII_b$,

where:

$TCPI_b$ = total embodied CO_2e from Pig Iron production, t CO_2e
$TCBPN_b$ = total CO_2e in the balance of production processes, t CO_2e
$TPII_b$ = total pig iron production during the baseline period, tonnes
The approach includes 2 clear steps determining the CO_2e emissions from Pig Iron production (Step 1) and emissions from balance of process needs (Step 2) required estimate total CO_2e emissions per 1 tonne of pig iron produced in the baseline scenario.
The equations capture the entire CO_2e impacts of all material and energy flows into the baseline. Therefore the approach is both transparent and justifiable. All the changes, e.g. the potential energy efficiency measures will be directly reflected in the baseline emissions further supporting the conservativeness of the baseline approach.

Step 1.Pig Iron Production

CO_2e due to the production of Pig Iron ($TCPI_b$) comes from three sources: fuel (natural gas), electricity, and material inputs, such as coke, anthracite, coal, limestone, dolomite, pellets, etc.

$TCPI_b = (TCFCPI_b + TCEPI_b + TCIPI_b)$,

where:
$TCFCPI_b$ - total CO_2e from fuel consumption in producing Pig Iron, t CO_2e
$TCEPI_b$ - total CO_2e from electricity consumption in producing Pig Iron, t CO_2e
$TCIPI_b$ - total CO_2e from Inputs into Pig Iron, t CO_2e
Total CO_2e from fuel consumption in producing Pig Iron ($TCFCPI_b$) is the quantity of fuel multiplied by the emission factor of the fuel:

$$TCFCPI_b = \sum_{1}^{fpi} \left(Q_{fpi,b} \times EF_{fpi,b} \right),$$

where:
fpi_b - number of fuels used in making pig iron
Q_b - quantity of fuel fpi used (1000 m^3)
EF_b - tonnes of CO_2e per 1000 m^3 of fuel fpi

Emission factor for fuel in this case is based on fixed net calorific value. During the monitoring report development emission factor will be modified by taking into account actual net calorific value of fuel.

Total CO_2e from electricity consumption in producing Pig Iron ($TCEPI_b$) is the quantity of electricity multiplied by the emission factor of electricity:

$TCEPI_{b,i} = ECPI_{b,i} \times EF_{e,b}$,

where:
$ECPI_{b,i}$ = electricity consumed in producing pig iron, MWh
$EF_{e,b}$ = emission factor for electricity, t CO_2e/MWh in the relevant period

$TCIPI_b$ – the total CO_2e emissions from the material inputs into pig iron – include the CO_2e from fuel and electricity used to prepare iron ore, the total CO_2e from the reducing agents (coke, coal etc.) and the total CO2e from limestone, dolomite, pellets etc.

$TCIPI_{b,i} = TCFIO_{b,i} + TCEIO_{b,i} + TCRAPI_{b,i} + TCOIPI_{b,i}$,

where:
$TCFIO_{b,i}$ = total CO_2e from fuel used for Sinter production, t CO_2e
$TCEIO_{b,i}$ = total CO_2e from electricity consumption for Sinter production, t CO_2e
$TCRAPI_{b,i}$ = total CO_2e from reducing agents, t CO_2e
$TCOIPI_{b,i}$ = total CO_2e from the other consumed inputs, t CO_2e

Total CO_2e from fuel used for Sinter production ($TCFIO_{b,i}$) is the quantity of fuel multiplied by the emission factor of this fuel:

$$TCFIO_{b,i} = \sum_{1}^{fio} \left(Q_{fio,b,i} \times EF_{f,b} \right)$$

where:
$fiob,i$ = fuel used for Sinter production
$Q_{b,i}$ = quantity of fuel $_{fio}$ used (1000 m³)
$EF_{f,b}$ = tonnes of CO_2e per 1000 m³ of fuel

Emission factor for fuel in this case is based on fixed net calorific value. During the monitoring report development emission factor will be modified by taking into account actual net calorific value of fuel.

Total CO_2e from electricity consumption for Sinter production ($TCEIO_{b,i}$) is the quantity of electricity multiplied by the emission factor of electricity:

$TCEIO_{b,i} = ECIO_{b,i} * EF_{e,b}$

where:
$ECIO_{b,i}$ = electricity consumed for Sinter production, MWh
$EFe,_b$ = emission factor for electricity, t CO_2e/MWh in the relevant period

Total CO_2e from reducing agents in pig iron production $TCRAPI_{b,i}$ is the quantity of each reducing agent multiplied by the emission factor for the reducing agent:

$$TCRAPI_{b,i} = \sum_{1}^{rapi} \left(Q_{rapi,b,i} \times EF_{ra,b} \right)$$

where:
$_{rapib,i}$ = number of reducing agents in pig iron production
$Q_{rapi,b,i}$ = quantity of each reducing agent $_{rapi}$ used (tonnes)
$EF_{ra,b}$ = emission factor for reducing agent, t CO_2e/tonne in the relevant period

The PDD is using default factors for coke (emission factor 3.66 t CO_2e/tonne, which includes the default factor for coke burning (3.1 t CO_2e/tonne) and the default factor for coke production (0.56 t CO_2e/tonne)), coal (default emission factor 2.5 t CO_2e/tonne). If other reducing agents are to be used, their default emission factors will be applied. In case if actual data on carbon content and the net calorific value of coke and coal are available, the emission factor for these parameters will be recalculated and these data would prevail over PDD estimations.

Total CO_2e from the other inputs such as limestone, dolomite, pellets etc. in pig iron production $TCOIPI_{b,i}$ is the quantity of each other input multiplied by the emission factor for that input:

$$TCOIPI_{b,i} = \sum_{1}^{oipi} \left(Q_{oipi,b,i} \times EF_{oi,b} \right)$$

where:
$_{oipib,i}$ = number of the other inputs in pig iron production
$Q_{oipi,b,i}$ = quantity of each other input $_{oipi}$ used (tonnes)
$EF_{oi,,b}$ = emission factor for the other inputs, t CO_2e/tonne in the relevant period

Step 2. Balance of process needs

Total tonnes of CO_2 related to the balance of process needs of the project, namely production of secondary energy at the CHP (that produces blast-furnace blowing, chemically treated water and heat), as well as processes to produce compressed air, steam, oxygen, nitrogen, argon , water, air-free water and treated gas together with its transportation. The relevant parameters are calculated based on the amounts of fuel and electricity consumed by the said processes:

$TCBPN_{b,i}$ = total tonnes of CO_2 related to the balance of process needs, which is the sum of CO_2 emissions from fuel and electricity consumed:

$TCBPN_{b,i} = TCFCBPN_{b,i} + TCEBPN_{b,i}$,

where:
$TCFCBPN_{b,i}$ = total CO_2e from fuel consumption for balance of process needs, t CO_2e:

$$TCFCBPN_{b,i} = \sum_{1}^{fbpn} Q_{fbpn,b,i} \times EF_{f,b}$$

where:
$_{fbpnb,i}$ = fuel used in producing secondary energy used for balance of process needs
$Q_{b,i}$ = quantity of fuel $_{fbpn}$ used (1000 m³)
$EF_{f,b}$ = tonnes of CO_2e per 1000 m³ of fuel

Emission factor for fuel in this case is based on fixed net calorific value. During the monitoring report development emission factor will be modified by taking into account actual net calorific value of fuel.

$TCEBPN_{b,i}$ = total CO_2e from electricity consumption for balance of process needs, t CO_2e:

$$TCEBPN_{b,i} = ECBPN_{b,i} * EF_{e,p,}$$

where:
$ECBPN_{b,i}$ = electricity used for production of secondary energy used for the balance of process needs (MWh)
$EF_{e,p}$ = emission factor for electricity, t CO_2e/MWh in the relevant period

Project emissions:

Project emissions will equal the total tonnes of CO_2e from the Pig Iron Process and Sintering (Sinter production) added to the total tonnes of CO_2e from the energy consumed for the balance of process needs. The data will be measured regularly. Equations capture the entire CO_2e impact from all material and energy flows into the project. Therefore the approach is both transparent and justifiable. Monitoring approach captures also potential changes in project design.

$$PE_i = TCPI_{p,i} + TCBPN_{p,i},$$

where:
$TCPI_{p,i}$ = total embodied CO_2e from Pig Iron production, t CO_2e (project case)
$TCBPN_{p,i}$ = total CO_2e in the balance of production processes, t CO_2e (project case)

$_i$ = regular data registration interval

To calculate project emissions, equations 1-12 are applied.

The approach includes 2 clear steps determining the CO_2e emissions from Pig Iron production (Step 1) and emissions from balance of process needs (Step 2) required estimate total CO_2e emissions in the projectline scenario.

The equations capture the entire CO_2e impacts of all material and energy flows into the projectline. Therefore the approach is both transparent and justifiable. All the changes, e.g. the potential energy efficiency measures will be directly reflected in the projectline emissions further supporting the conservativeness of the projectline approach.

Step 1. Pig iron production

CO_2e due to the production of Pig Iron (TCPIp,i) comes from three sources: fuel (natural gas), electricity, and material inputs, such as coke, coal, limestone, dolomite, pellets, etc.

$TCPI_{p,i} = (TCFCPI_{p,i} + TCEPI_{p,i} + TCIPI_{p,i})$,

where:

$TCFCPI_{p,i}$ = total CO_2e from fuel consumption in producing Pig Iron, t CO_2e
$TCEPI_{p,i}$ = total CO_2e from electricity consumption in producing Pig Iron, t CO_2e
$TCIPI_{p,i}$ = total CO_2e from Inputs into Pig Iron, t CO_2e

Total CO_2e from fuel consumption in producing Pig Iron ($TCFCPI_{p,i}$) is the quantity of fuel multiplied by the emission factor of the fuel:

$$TCFCPI_{p,i} = \sum_{1}^{fpi} \left(Q_{fpi,p,i} \times EF_{f,p} \right),$$

where:
$_{fpip,i}$ = fuel used in making pig iron
$Q_{p,i}$ = quantity of fuel $_{fpi}$ used (1000 m³)
$EF_{f,p}$ = tonnes of CO_2e per 1000 m³ of fuel

Emission factor for fuel in this case is based on fixed net calorific value. During the monitoring report development emission factor will be modified by taking into account actual net calorific value of fuel.

Total CO_2e from electricity consumption in producing Pig Iron ($TCEPI_{p,i}$) is the quantity of electricity multiplied by the emission factor of electricity:

$TCEPI_{p,i} = ECPI_{p,i} \times EF_{e,p}$,

where:
$ECPI_{p,i}$ = electricity consumed in producing pig iron, MWh
$EF_{e,p}$ = emission factor for electricity, t CO_2e/MWh in the relevant period

$TCIPI_{p,i}$ – the total CO_2e emissions from the material inputs into pig iron – include the CO_2e from fuel and electricity used to prepare iron ore, the total CO_2e from the reducing agents (coke, coal etc.) and the total CO_2e from limestone, dolomite, pellets etc.

$TCIPI_{p,i} = TCFIO_{p,i} + TCEIO_{p,i} + TCRAPI_{p,i} + TCOIPI_{p,i}$,

where:
$TCFIO_{p,i}$ = total CO_2e from fuel used to prepare iron ore, t CO_2e
$TCEIO_{p,i}$ = total CO_2e from electricity consumption in preparing iron ore, t CO_2e
$TCRAPI_{p,i}$ = total CO_2e from reducing agents, t CO_2e
$TCOIPI_{p,i}$ = total CO2e from the other consumed inputs, t CO_2e

Total CO_2e from fuel used for Sinter production ($TCFIO_{p,i}$) is the quantity of fuel multiplied by the emission factor of this fuel:

$$TCFIO_{p,i} = \sum_{1}^{fio} \left(Q_{fio,p,i} \times EF_{f,p} \right)$$

where:
$fiop,i$ = fuel used for Sinter production
$Q_{p,i}$ = quantity of fuel fio used (1000 m³)
$EF_{f,p}$ = tonnes of CO2e per 1000 m³ of fuel

Emission factor for fuel in this case is based on fixed net calorific value. During the monitoring report development emission factor will be modified by taking into account actual net calorific value of fuel.

Total CO_2e from electricity consumption for Sinter production ($TCEIO_{p,i}$) is the quantity of electricity multiplied by the emission factor of electricity:

$TCEIO_{p,i} = ECIO_{p,i} * EF_{e,p}$

where:
$ECIO_{p,i}$ = electricity consumed for Sinter production, MWh
$EF_{e,p}$ = emission factor for electricity, t CO2e/MWh in the relevant period

Total CO_2e from reducing agents in pig iron production $TCRAPI_{p,i}$ is the quantity of each reducing agent multiplied by the emission factor for the reducing agent:

$$TCRAPI_{p,i} = \sum_{1}^{rapi} \left(Q_{rapi,p,i} \times EF_{ra,p} \right)$$

where:

$_{rapip,i}$ = number of reducing agents in pig iron production
$Q_{rapi,p,i}$ = quantity of each reducing agent rapi used (tonnes)
$EF_{ra,p}$ = emission factor for reducing agent, t CO_2e/tonne in the relevant period

The PDD is using default factors for coke (emission factor 3.66 t CO_2e/tonne, which includes the default factor for coke burning (3.1 t CO_2e/tonne) and the default factor for coke production (0.56 t CO_2e/tonne)), coal (default emission factor 2.5 t CO_2e/tonne). If other reducing agents are to be used, their default emission factors will be applied. In case if actual data on carbon content and the net calorific value of coke and coal are available, the emission factor for these parameters will be recalculated and these data would prevail over PDD estimations.

Total CO_2e from the other inputs such as limestone, dolomite, pellets etc. in pig iron production $TCOIPI_{p,i}$ is the quantity of each other input multiplied by the emission factor for that input:

$$TCOIPI_{p,i} = \sum_{1}^{oipi} \left(Q_{oipi,p,i} \times EF_{oi,p} \right),$$

where:

$_{oipip,i}$ = number of the other inputs in pig iron production
$Q_{oipi,p,i}$ = quantity of each other input $_{oipi}$ used (tonnes)
$EF_{oi,,p}$ = emission factor for the other inputs, t CO_2e/tonne in the relevant period

Step 2. Balance of process needs

Total tonnes of CO_2 related to the balance of process needs of the project, namely production of secondary energy at the CHP (that produces blast-furnace blowing, chemically treated water and heat), as well as processes to produce compressed air, steam, oxygen, nitrogen, argon , water, air-free water and treated gas together with its transportation. The relevant parameters are calculated based on the amounts of fuel and electricity consumed by the said processes:

$TCBPN_{p,i}$ = total tonnes of CO_2 related to the balance of process needs, which is the sum of CO_2 emissions from fuel and electricity consumed:

$TCBPN_{p,i} = TCFCBPN_{p,i} + TCEBPN_{p,i}$,

where:
$TCFCBPN_{p,i}$ = total CO_2e from fuel consumption for balance of process needs, t CO_2e:

$$TCFCBPN_{p,i} = \sum_{1}^{fbpn} Q_{fbpn,p,i} \times EF_{f,p}$$

where:
$_{fbpnp,i}$ = fuel used in producing secondary energy used for balance of process needs
$Q_{p,i}$ = quantity of fuel fbpn used (1000 m³)
$EF_{f,p}$ = tonnes of CO_2e per 1000 m³ of fuel

Emission factor for fuel in this case is based on fixed net calorific value. During the monitoring report development emission factor will be modified by taking into account actual net calorific value of fuel.

$TCEBPN_{p,i}$ = total CO_2e from electricity consumption for balance of process needs, t CO_2e:

$TCEBPN_{p,i} = ECBPN_{p,i} * EF_{e,p}$,

where:
$ECBPN_{p,i}$ = electricity used for production of secondary energy used for the balance of process needs (MWh)
$EF_{e,p}$ = emission factor for electricity, t CO_2e/MWh in the relevant period

Emission reductions are calculated using the equation:

$ER_i = BE_i – (PE_i + LE_i)$

where:
ER_i = Emission Reductions
BE_i = Baseline Emissions
PE_i = Project Emissions
LE_i = Leakages of GHG's
$_i$ = regular data registration interval

The monitoring plan presents the quality assurance and control procedures for the monitoring process which are described in the section D.2 of the PDD. This includes, as appropriate, information on calibration

and on how records on data and/or method validity and accuracy are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities.
The Chief Metrological Specialist of the OJSC “AISW” is in charge for maintenance of the facilities and monitoring equipment as well as for their accuracy required by Regulation PP 229-Э-056-863/02-2005 of “Metrological services of the metallurgical mills” and by “Guiding Metrological Instructions”. In case of defect, discovered in the monitoring equipment, the actions of the staff are determined in Guiding Metrological Instructions. The measurements are conducted constantly in automatic regime.
Data are collected in the electronic database of OJSC “AISW” and in printed documents. Also data are systematized in the documents of the daily, monthly and annually registration. All those documents are saved in the planning-economic department.
The measurement results are being used by the Chief power-engineering specialist department, by the following services and technical staff of the Steel Mill. They are reflected in the technological instructions of production processes regime and also in the “Guiding Metrological Instructions” revised versions. The monitoring data reports and calculations are under the competence of the Chief power-engineering specialist assistant in accordance to the interior orders of the Steel Mill.

Specialists Responsible for Monitoring:
Chief Engineer is responsible for the overall project performance,
Chief Energy Specialist is responsible for the overall Monitoring report preparation,
Deputy Chief Engineer for blast-furnace production and staff is responsible for monitoring of data for blast furnaces,
Deputy Head of Sinter Shop and staff is responsible for monitoring of data for sinter plant.
Chief of CHP, Deputy Chief Energy Specialist and staff is responsible for monitoring of data for balance of process needs.

On the whole, the monitoring plan reflects good monitoring practices appropriate to the project type.

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources (e.g. official statistics, expert judgment, proprietary data, IPCC, commercial and scientific literature).

The monitoring plan (see section D.1 of the PDD) indicates that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project.

4.8 Leakage (40-41)

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.

Taking into account that the project boundary of the JI project “Installation of a new waste heat recovery system at Alchevsk Coke Plant, Ukraine” (UA1000130 - registered under Track 1) includes blast-furnaces of AISW with respect to particular volumes of consumed dry blast-furnace coke, the CO_2e emission reductions that are generated due to component three (3) of mentioned above JI project will be attributed to the leakages of GHG’s and which will be subtracted from the total volume of emission reductions associated with this project during the specific monitoring period.
Leakages are generated starting from the 1st of October 2007 when the CDQ facility was launched and the first volumes of dry blast-furnace coke were consumed at the blast-furnaces of AISW. Leakages during the period of 2007 – 2009 are equal to emission reductions (generated by the component 3), which where already verified by IAE. All leakages generated starting from the 1st of January 2010 are equal to emission reductions estimations which are provided in the PDD for a mentioned above JI project. During the monitoring process leakages will always be equal to the actual volume of generated emission reductions (by the component 3) during the specific monitoring period.
There should be no other leakages except the mentioned ones. The emissions from installing the new equipment will not be significant. The emissions from transport of materials will not be significantly higher for the baseline; however this will not be taken into account to secure conservativeness of the analysis.

4.9 Estimation of emission reductions or enhancements of net removals (42-47)

The PDD indicates assessment of emissions in the baseline scenario and in the project scenario as the approach chosen to estimate the emission reductions generated by the project.

The PDD provides the ex ante estimates of:

(a) Emissions for the project scenario (within the project boundary), which are 29 691 466 tons of CO_2eq for 01.04.2004 – 31.12.2007,

47 055 167 tons of CO_2eq for 2008-2012, and 87 252 764 tons of CO_2eq for 2013-2020;

(b) Estimated leakage for the baseline scenario, which is considered equal zero tons of CO_2eq. Estimated leakage for the project scenario which is 27 814 tons of CO_2eq for 01.04.2004 – 31.12.2007 (more precisely, for the year 2007), 597 100 tons of CO_2eq for 2008-2012, and 123 104 tons of CO_2eq for 2013-2020.

(c) Emissions for the baseline scenario (within the project boundary), which are 36 202 454 tons of CO_2eq for 01.04.2004 – 31.12.2007, 55 334 624 tons of CO_2eq for 2008-2012, and 101 434 061 tons of CO_2eq for 2013-2020.

(d) Emission reductions adjusted by leakage, which are 6 483 194 tons of CO_2eq for 01.04.2004 – 31.12.2007, 7 682 357 tons of CO_2eq for 2008-2012, and 12 196 464 tons of CO_2eq for 2013-2020.

The estimates referred to above are given:

(a) On an annual basis;

(b) From 01/04/2004 to 31/12/2020, covering the whole crediting period;

(c) On a source-by-source basis;

(d) For each GHG gas, which is, in this case, CO_2;

(e) In tonnes of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol;

The formulas used for calculating the estimates referred above are the same as those used for project monitoring and described in the section 4.7 above. All formulas are consistent throughout the PDD.

For calculating the estimates referred to above, key factors, e.g. fuel prices and availability, expected market development, etc., influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating the estimates referred to above, such as feasibility studies, production forecasts, actual historical monitored data, IPCC etc. are clearly identified, reliable and transparent.

Emission factors (such as emission factor for each fuel consumption, emission factor for electricity consumption, emission factor for each reducing agents, and emission factor of each other input) were selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

Concerning data sources of emission factors, the carbon emission factor for electricity consumption before year 2010 is based on Annex 2 of Ukraine – Assessment of new calculation of CEF, assessed by TÜV SÜD, 2007 starting from year 2010 the carbon emission factor for electricity consumption is based on the Decree of the National Environmental Investment Agency of Ukraine #43 dated 28th of March 2011.
Decree #43 of NEIA from March 28, 2011 sets specific carbon dioxide emissions values for 2010 which was calculated and approved in accordance with the Methodology for specific carbon dioxide emissions calculation from electricity generation by thermal power plants and its consumption.

Starting from year 2010 the CO_2 emission factor for electricity consumption from the grid is in accordance with mentioned above decree issued by NEIA for the 1st – class electricity consumers and is equal to 1,093 kgCO_2/kWh. The use of the emission factor for the 1st-class electricity consumers is justified by the resolution of National Electricity Regulatory Commission of Ukraine № 1052 of 13 August 1998 , according to the resolution the 1st – class electricity consumers are the consumers, who:

1) receive electricity from electricity supplier at the point of sale of electricity with the degree of voltage 27.5 kV and above;

2) connected to the power rails of power plants (except hydroelectric, which produce electricity periodically), as well as to power rails of substations of the electricity grid with voltage of 220 kV and above, regardless voltage level at the point of sale of electricity by the power supplier to consumer;

3) is the industrial enterprise with average monthly rate of electricity consumption - 150 million kWh and above for the technological needs of production, regardless of the voltage level at the point of sale of electricity by the power supplier to consumer.

The annual average of estimated emission reductions over the crediting period is calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period, and multiplying by twelve.

4.10 Environmental impacts (48)

The PDD lists and attaches documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party (in line with

the Laws of Ukraine *"On Protection of Environment"*, *"On Environmental Due Diligence"*, *"On Protection of Atmospheric Air"*, *"On Wastes"*, *"On Ensuring Sanitary and Epidemic Welfare of the Population"*, *"On Local Councils of People's Deputies"* and *"On Local Governance in Ukraine"*, as well as in line with effective versions of Water Code, Land Code, Forest Code, and Ukraine's State Code of Civil Practice DBN A.2.2-1-2003 etc.), such as EIAs (Environmental Impact Assessments) for such activities as: introduction of BF # 2; installation of the oxygen units # 7 and # 8; installation of PCI facilities at BFs # 1, 2, 3, 4, 5 and reconstruction of BF # 1. EIAs were developed by Ukrainian State Steelworks Design Institute (Ukrdipromez). The documents provide assessment of impact of the project activity on various components of natural, social, and manmade environment.

The modernization of project measures will have a positive environmental impact. The general environmental impact opinion via the procedure endorsed by the Ukrainian government is that the project will have a positive environmental impact and its foreseeable emergency negative impacts will be insignificant and easily repaired.

It may generally be stated that the project activity is in line with the EU best available technology principle. Project activity will cause no harmful transboundary impacts.

The PDD provides conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party.

4.11 Stakeholder consultation (49)

Law of Ukraine on environmental expertise defines the procedure of participation of citizens and public organizations in the public environmental expertise.
Public has been informed about the planned economic activities with the goal to identify public attitudes and take opinion in account during environmental impact assessment process.
Public was informed about the project, especially about the following information:

· project name, goals and site;
· legal name and address of project owner and its representative;
· approximate dates of EIAs procedures;
· deadline and formats of submission of public comments;
· when and where EIA documents can be retrieved.

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

All information on stakeholders' comments is included in the EIAs as a part of FSs completed in accordance with Ukrainian statutory requirements.

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

No comments, pursuant to paragraph 32 of the JI Guidelines, were received.

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" Project in Ukraine. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant/s used the latest tool for demonstration of the additionality. In line with this tool, the PDD provides barrier and common practice analysis to determine that the project activity itself is not the baseline scenario.

Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity. Given that the project is implemented and maintained as designed, the project is likely to achieve the estimated amount of emission reductions.

The determination revealed pending issue related to the current determination stage of the project: the issue of the written approval of the project and of the authorization of the project participant by the host Party. If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 4 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (version 4) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated

criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

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

7 REFERENCES

Category 1 Documents:
Documents provided by Institute for Environment and Energy Conservation that relate directly to the GHG components of the project.

/1/ PDD "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works", version 1 dated 03/11/2010
/2/ PDD "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works", version 2 dated 11/01/2011
/3/ PDD "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works", version 3 dated 18/01/2011
/4/ PDD "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works", version 4 dated 14/04/2011
/5/ Decree of Cabinet of Ministers of Ukraine #206, dated 22/02/2006
/6/ Guidelines for Users of the Join Implementation Project Design Document Form, version 04, JISC
/7/ Joint Implementation Project Design Document Form, version 01
/8/ Glossary of JI terms, version 03, JISC.
/9/ Guidance on Criteria for Baseline Setting and Monitoring, version 02, JISC.
/10/ Tool for the demonstration and assessment of additionality, Version 05.2
/11/ JISC "Clarification regarding the public availability of documents under the verification procedure under the Joint Implementation Supervisory Committee." Version 03
/12/ Letter of Endorsement № 1806/23/7 on the JI project "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works" dated November, 09, 2011 issued by National Environmental Investment Agency of Ukraine.
/13/ Order #43 on approval of indexes of specific carbon dioxide emissions in the year 2010 issued by NEIA dated 28.03.2011.
/14/ Resolution of National Electricity Regulatory Commission of Ukraine № 1052 of 13 August 1998.

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ Passport. Car mechanical scales. Reg.No0084(0202). Verification dated 25.03.2010
/2/ Passport. Car electronic tensometric scales. Reg.No215(0228). Verification dated 25.03.2010
/3/ Passport No 081. Conveyor tensometric scales/ Reg No67. Calibration dated 08.07.2010
/4/ Passport No 034. Car scales. Reg No1. Calibration dated 13.12.2010
/5/ Passport. No 037. Car scales. Calibration dated 15.12.2010
/6/ Passport. Car scales. Reg No 18. Dated 5.06.2000
/7/ Passport. Car scales. Reg No 12
/8/ Passport No 184. Technological scales. Reg No 07050. Calibration dated 29.01.2010
/9/ Passport No 185. Technological scales. Reg No 07053. Calibration dated 29.01.2010
/10/ Passport No 186. Technological scales. Reg No 07054. Calibration dated 29.01.2010
/11/ Passport. Car tensometric scales. Reg.No 08001(0233). Verification dated 26.03.2010
/12/ Passport. Car tensometric scales. Reg.No 08002(0232). Verification dated 26.03.2010
/13/ Passport. Car tensometric scales. Reg.No 61(0231). Verification dated 24.09.2010
/14/ Passport. Car tensometric scales. Reg.No 15(0227). Verification dated 24.09.2010
/15/ Passport. Car tensometric scales. Reg.No 213(0226). Verification dated 09.12.2010
/16/ Passport. Car electronic tensometric scales. Reg.No 16. Verification dated 09.07.2010
/17/ Provision No 229-056-3186/02-2008 about metrological service of the plant dated 06.06.2008
/18/ Certificate of approval No 06544-5-2-26-ГОМС dated 21.04.2008. Reg. No 06544-2-4-12-КЛ
/19/ Conclusion No 15/1 -05.02.09 of state ecological assessment dated 01.07.2009
/20/ Conclusion No 382 of state ecological assessment dated 07.08.06
/21/ Statement of committee about bringing basic funds dated 30.12.2009
/22/ Certificate for the successful start-up of coal grinding and drying plant for BF1 with Oxy Coal Injection dated 09/06/2009
/23/ Certificate of completion of erection of coal grinding and drying plant for BF1 with Oxy Coal Injection dated 09/06/2009

/24/ Statement about ecological consequences of projecting activity in technical retooling of oxygen production of OJSC "Alchevsk Iron and Steel Works".
/25/ Statement about ecological consequences of projecting activity of converter plant of OJSC "Alchevsk Iron and Steel Works"
/26/ Protocol No 128 of skilled committee session dated 05.02.2008
/27/ Protocol No 88 of skilled committee session dated 24.01.2008
/28/ Protocol No 1309 of skilled committee session dated 26.12.2007
/29/ Protocol No 1121 of skilled committee session dated 29.09.2008
/30/ Protocol No 736 of skilled committee session dated 14.10.2010
/31/ Protocol No 170 of skilled committee session dated 25.03.2010
/32/ Protocol No 427 of skilled committee session dated 17.12.2009
/33/ Collection of working educational designs for speciality "gasman" dated 17.12.2009
/34/ Collection of working educational designs for speciality "maintance man" dated 22.08.2009
/35/ Order No 955 about training of personnel in 2010 dated 31.12.2009
/36/ Parameters of production, consumption of oxygen, nitrogen and argon dated 15.12.2010
/37/ Parameters of production, consumption of oxygen, nitrogen and argon dated 15.11.2010
/38/ Protocol No 5 of plant technical council session dated 26.05.2003
/39/ Report on atmosphere air protection in II quarter 2010
/40/ Report on atmosphere air protection in III quarter 2010
/41/ Measurement instrumentation data dated 15.12.2010
/42/ Certificate ISO 9001:2008 Reg.No 75 100 60044 dated 20.06.2010
/43/ Certificate of management systems acceptance ISO 14001:2004 Reg No TIC 15 104 10706
/44/ Technical specification Red.6 for delivery for OJSC "Alchevsk Iron and Steel Works"
/45/ Passport. Measuring channel that measures natural gas flow. Reg.№18869 (378300) dated 08.08.2003. Verification dated 02.08.2010
/46/ Passport. Boiler 2. Reg.№378300 dated 01.2009. Verification dated 02.08.2010
/47/ Passport. Measuring-converting instrument of differential pressure. Reg.№159056 (93029). Calibration dated 18.05.2010
/48/ Passport. Measuring channel that measures furnace gas flow. Reg.№93029 (159056). Verification dated 12.05.2010
/49/ Passport. Measuring channel that measures natural gas flow. Reg.№09942204 (52206). Calibration dated 16.09.2010
/50/ Passport. Measuring channel that measures gas flow. Reg.№52206 (09942204). Verification dated 16.09.10
/51/ Passport. Measuring channel that measures gas flow. Reg.№266668 (2039). Verification dated 11.03.10
/52/ Passport. Measuring channel that measures gas flow. Reg.№18360 (84998) dated 04.2009. Verification dated 20.04.10

/53/ Passport. Measuring channel that measures gas flow. Reg.№84998 (161520)(18360) dated 03.2005. Verification dated 12.03.05
/54/ Passport. Measuring channel that measures gas flow. Reg.№18347 (85016) dated 04.2009. Verification dated 20.04.10
/55/ Passport. Measuring channel that measures gas flow. Reg.№85016 (161519)(18347) dated 03.2005. Verification dated 12.03.05
/56/ Passport. Measuring channel that measures gas flow. Reg.№ 916627701 dated 11.01.08. Verification dated 09.02.10
/57/ Passport. Measuring channel that measures natural gas flow. Reg.№ 1104, 916627701, 916627690, 11-1154 Verification dated 21.01.10
/58/ Passport. Measuring channel that measures natural gas flow. Reg.№1059 (3к), 91FC04555, 222932 dated 28.01.2010. Verification dated 28.01.10
/59/ Passport. Flow meter. Reg.№91FC04555. Verification dated 22.01.10
/60/ Passport. Natural gas flow meter. Reg.№463065 dated 11.2008. Verification dated 13.05.10
/61/ Passport. Measuring channel that measures natural gas flow. Reg.№463065, 304879 dated 03.2009. Verification dated 30.07.10
/62/ Passport. Measuring channel that measures natural gas flow. Reg.№10334, 000225. dated 09.2008. Verification dated 23.08.10
/63/ Passport. Measuring channel that measures natural gas flow. Reg.№000225, 10334 dated 09.2008. Verification dated 23.08.10
/64/ Passport. Measuring channel that measures mixture flow. Reg.№18874. dated 12.2008. Verification dated 11.06.10
/65/ Passport. Flow meter. Reg.№105217, 18874 dated 23.08.2001. Verification dated 11.06.2010
/66/ Passport. Flow meter. Reg.№308530, 51236 dated 12.2008. Verification dated 11.03.2010
/67/ Passport. Flow meter. Reg.№51236, 308530. dated 08.02.2006. Verification dated 06.01.2010
/68/ Data on measuring of flow and level of substances.
/69/ Statement of devices transfer for a long-time keeping dated 14.04.2009
/70/ List of measuring instruments that are in operation and should be verified in 2010
/71/ Logbook "Monthly balance of gases". Furnace gas. Coke gas. Natural gas.
/72/ Logbook "Balance of heat-power energy and compressed air" Compressed air. Heat-power energy.
/73/ Logbook "Statistic reporting of 11-МТП". II quarter. III quarter.
/74/ Protocol of technical Council of the plant dated 26th of May, 2003
/75/ Contract #018/163 on electric energy supply dated 30.12.2002.

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

/1/ V.I. Mosolov - deputy Director General

/2/ P.N. Sydorov - chief metrologist of AISW

/3/ I.A. Nikolaev - chief of sintering and blast-furnace laboratory of CRL

/4/ A.V. Skliar. - deputy chief of sintering and blast-furnace laboratory of CRL

/5/ V.V. Pavlonikov - head of technical department of CCD

/6/ A.N. Besshtankin - deputy chief of SBFS on technology

/7/ A.I. Lomakin - senior foreman of converter shop

/8/ T.V. Goncharenko - lead economist PED of AISW management

/9/ V.I. Ageeva - chief of the laboratory analytical control of DEP

/10/ N.N. Medkova - chief of training department

/11/ V.V. Vovchak - director of Institute for Environment and Energy conservation

APPENDIX A: JI PROJECT DETERMINATION PROTOCOL

Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
A.1	Is the title of the project presented?	Title of the project: Revamping of sintering and blast-furnace production at OJSC «Alchevsk Iron and Steel Works».	OK	OK
	Is the sectoral scope to which project pertains presented?	Corrective Action Request (CAR) 18 The project pertains only to the sectoral scope 9 (metallurgy). Please, indicate the sectoral scope correctly.	Due to the corrections made in the PDD, the issue is closed.	OK
	Is the current version number of the document presented?	The current version of the project is presented. See section A.1.	OK	OK
	Is the date when the document was completed presented?	The date of completeness of the current version of the project design document is indicated in the PDD section A.1.	OK	OK
A.2	Is the purpose of the project included with a concise,	In May 2003 OJSC “Alchevsk Iron and Steel Works” (AISW) and IUD Corporation		

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description). Is the history of the project (incl. its JI component) briefly summarized?	have decided to start development of AISW by technical revamping of sintering and blast-furnace production. The main goal was not only to improve performance of the enterprise, but also to solve environmental problems of production process (according to the plan of revamping the amount of harmful emissions had to be reduced by more than 2.2 times). Clarification Request (CL) 10 Please, while describing prior consideration of the project, confirm this information by documentary evidence.	Based on the information added to the PDD, CL 10 is closed.	OK
A.3	Are project participants and Party(ies) involved in the project listed?	Project participants and parties involved are listed in the Table in section A.3. of the PDD. Parties involved: Ukraine (host Party), Japan, the United Kingdom of Great Britain and Northern Ireland, Spain, and the Netherlands. Corrective Action Request (CAR) 01 Please, preserve the format of the table in the PDD section A.3 (combine the cells with the names of the project participants of	Necessary corrections have been made. The issue is closed.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	Is contact information provided in Annex 1 of the PDD?	Ukraine (host Party) as per Guidelines for users of the JI PDD form (ver. 04). Contact information on the project participants is provided in Annex 1 of the PDD. Corrective Action Request (CAR) 19 Please, make the information on the project participants consistent throughout the whole PDD (in the section A.3 and Annex 1).	CAR 19 is closed based on the amendments made in the PDD.	OK
A.4.1	Location of the project	The project is located in the town Alchevsk in Ukraine, 48°28′0″N latitude and 38°48′0″E longitude.	OK	OK
A.4.1.1	Host Party(ies)	Ukraine is a host Party.	OK	OK
A.4.1.2	Region/State/Province etc.	Lugansk Region.	OK	OK
A.4.1.3	City/Town/Community etc.	Alchevsk.	OK	OK
A.4.1.4	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	Alchevsk is a town in Lugansk region subordinate and one of the biggest industrial centers of the Lugansk and Donbas regions. It is situated in the northwest of the Lugansk region, 45 km from the city of Lugansk itself. Alchevsk was founded in 1896. It has a territory of 50 square kilometers and a	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		population of 118 ths. people. See section A.4.1.4 of the PDD.		
A.4.2	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all relevant technical data and the implementation schedule described?	Corrective Action Request (CAR) 02 Time constraints for some measures in the implementation schedule are incorrectly indicated. Also reconstruction of the oxygen unit #4 is not included in the schedule. Please, correct the JI project implementation schedule, and make the information on the scheduled measures consistent throughout the whole PDD.	Due to the amendments made in the PDD, CAR 02 is closed.	OK
A.4.3	Is it explained briefly how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page.)	The objective of the proposed project is to reduce energy and materials, mainly coke, consumption during pig iron production. Coke consumption is associated with two sources of emissions of GHGs: 1. During coke production. IPCC set the value of the emission factor for the coke production at the level 0.56 t CO_2e/t of coke, and 2. Coke processing in the BF. The emission factor for coke processing is 3.1 t CO_2e/t, assuming that default IPCC factor is used. The PDD section A.4.3 shows the measures by which the reduction in coke	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		consumption can be achieved.		
A.4.3.1	Is the length of the crediting period indicated? Are estimates of total as well as annual and average annual emission reductions in tonnes of CO_2 equivalent provided?	The length of crediting period is indicated in the PDD section A.4.3.1. <u>Corrective Action Request (CAR) 03</u> The annual average of estimated emission reductions for the period 2004-2007 is incorrectly calculated. The annual average emission reductions should be calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period and multiplying by twelve. <u>Corrective Action Request (CAR) 04</u> Estimated emission reductions shall be indicated separately for commitment period	<u>Conclusion on response #1 to CAR 03</u> The annual average emission reductions have been recalculated by dividing the total estimated emission reductions over the crediting period by total months of the crediting period and multiplying by twelve. But the total estimated emission reductions over the crediting period (2004-2007) are inaccurately calculated. <u>Conclusion on response #2 to CAR 03</u> The issue is closed based on the corrections made in the PDD. <u>Conclusion on response #1 to CAR 04</u> The estimated emission reductions have been indicated separately for	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		and post-Kyoto period. Corrective Action Request (CAR) 05 Estimated emission reductions indicated in the PDD differs from the same estimations in the Excel files with ER calculations. Please, make appropriate corrections.	the first commitment and the post-Kyoto period. However, the total estimated emission reductions over the first commitment period (2008-2012) are inaccurately calculated. Conclusion on response #2 to CAR 04 The issue is closed due to the corrections made. Conclusion #1 on response #1 to CAR 05 Estimated emission reductions over the post-Kyoto period in the PDD still differ from the same estimations in the Excel files (in the Excel-file for the post-Kyoto period the year 2012 appears). CAR 05 remains open. Also total and the annual average of estimated emission reductions over the post-Kyoto period is still inaccurately calculated.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
			Conclusion on response #2 to CAR 05 Due to the corrections made and necessary information provided, the issue is closed	OK
		Clarification Request (CL) 11 Please, entitle Excel files with emission reductions calculations, and correct the name of the Excel sheets in the files.	The issue is closed due to the amendments made in Excel files with emission reductions calculations.	OK
		Corrective Action Request (CAR) 21 Please, number the tables with information on estimations for post-Kyoto period; also, please, do not divide the tables into two different parts.	Based on the modifications made, CAR 21 is closed.	OK
A.5	Is written project approvals by the Parties involved attached?	Corrective Action Request (CAR) 06 The project has no letters of approval of the Parties involved.	Pending	Pending
		Clarification Request (CL) 01 Please, in the PDD section A.5 specify the name of the DFPs (of Parties involved) which will issue written approvals.	CL 01 is closed due to the amendments made in the PDD.	OK
19	Have the DFPs of all Parties listed as “Parties involved” in the	See CAR 06.	Pending (see the previous section of this table).	Pending

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	PDD provided written project approvals?	Clarification Request (CL) 08 Please, indicate (in the PDD) the number of LoE (Letter of Endorsement) issued by the Government of Ukraine for this project.	Conclusion on the response #1 to CL 08 Information on LoE (Letter of Endorsement) has been added to the PDD; but, please, interpret just the abbreviation "LoE" in the PDD section A.5. Conclusion on the response #1 to CL 08 Issue is closed due to the amendments made in the PDD.	OK
19	Does the PDD identify at least the host Party as a "Party involved"?	Party involved Ukraine is a host Party.	OK	OK
19	Has the DFP of the host Party issued a written project approval?	The host Party (Ukraine) has not issued a written project approval. See CAR 06.	Pending (see section A.5 of this table).	Pending
20	Are all the written project approvals by Parties involved unconditional?	All the written project approvals by Parties involved will be unconditional.	OK	OK
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 1: Ukraine (host Party), legal entities are OJSC "Alchevsk Iron and Steel Works" ("AISW") and Institute for Environment and Energy Conservation. Party involved 2: Japan, legal entity is Sumitomo Corporation.	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?	Party involved 3: the United Kingdom of Great Britain and Northern Ireland, legal entity is CF Carbon Fund II. Party involved 3: Spain, legal entities Endesa Carbono, S.L. and Stichting Carbon Finance (*on behalf of the Spain*). Party involved 4: the Netherlands, legal entity Stichting Carbon Finance (*on behalf of the Netherlands*).		
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 indicates the approach used for establishing the baseline, additionality and monitoring plan (JI specific approach which is fully identical to approach applied to the project registered at UNFCCC with reference number UA1000022). Clarification Request (CL) 02 Please, explain in detail why the approach used for the project UA1000022 also can be applicable in the case of the project "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works".	Conclusion on response #1 to CL 02 Add the information given in response #1 (presented in the next table of this protocol) to the PDD. Conclusion on response #2 to CL 02 The issue is closed due to the information added to the PDD section B.1.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Corrective Action Request (CAR) 07 Please, in the PDD section B.4 provide date of baseline setting in the following format: DD/MM/YYYY.	The PDD section B.4 has been corrected. CAR 07 is closed.	OK
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	The theoretical description is provided in the PDD.	OK	OK
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 the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? − Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors? (d) Taking into account of	The PDD provides justification that the baseline is established by listing and describing plausible future scenarios on the basis of conservative assumption and selecting the most plausible one. Corrective Action Request (CAR) 08 The PDD section B.1 states that the year 2003 is the base year. But on the site-visit it was found that averaged data through the period 1998-2002 had been selected as the baseline data. Please, make necessary corrections in the PDD.	CAR 08 is closed based on the amendments made in the PDD.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	uncertainties and using conservative assumptions? (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure? (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?			
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?	See section 22 of this table. Corrective Action Request (CAR) 09 Please, give references (in the PDD) to the 1996 IPCC Guidelines for National Greenhouse Gas Inventories not to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. For the present, 1996 IPCC Guidelines is the only one approved.	The response to CAR 09 was found satisfactory. CAR 09 is closed.	OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	See the PDD section B.1.	OK	OK
26 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology	N/A	N/A	N/A

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	used?			
26 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	N/A	N/A
26 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	N/A	N/A
26 (c)	Are all explanations, descriptions and analyses pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?	N/A	N/A	N/A
26 (d)	Is the baseline identified appropriately as a result?	N/A	N/A	N/A
28	Does the PDD indicate which of the following approaches for demonstrating additionality is used? (a) Provision of traceable and transparent information showing the baseline was identified on the	The PDD section B.2 includes analysis of project additionality and is intended to demonstrate that the project scenario is not part of the identified baseline scenario and that the project will lead to reductions of GHG emissions in comparison to the baseline. The analysis is performed based	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals; (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board".	on the latest version (version 05.2) of the Tool for the Demonstration and Assessment of Additionality approved by CDM Executive Council and accordingly may be fully applied to Joint Implementation Projects.		
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	See section 22 of this table.	See section 22 of this table.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
29 (b)	Are additionality proofs provided?	Corrective Action Request (CAR) 10 The developer in general provides extensive information regarding inferior investment background in Ukraine. At the same time the PDD section B.2 lacks data regarding the barriers facing this particular project. Please, make necessary amendments in the PDD.	CAR 10 is closed based on the information added to the PDD.	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	See section 29 (b) of this table.	See section 29 (b) of this table.	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	Yes. See section B.2 of the PDD.	OK	OK
31 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
31 (b)	Does the PDD provide a description of why and how the referenced approved CDM methodology is applicable to the project?	N/A	N/A	N/A
31 (c)	Are all explanations, descriptions and analyses with regard to additionality made in accordance	N/A	N/A	N/A

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	with the selected methodology?			
31 (d)	Are additionality proofs provided?	N/A	N/A	N/A
31 (e)	Is the additionality demonstrated appropriately as a result?	N/A	N/A	N/A
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: (i) Under the control of the project participants? (ii) Reasonably attributable to the project? (iii) Significant?	The project's spatial boundaries are defined in the PDD. See section B.3.	OK	OK
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	See section 32 (a) of this table.	OK	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	The delineation of the project boundary and the gases and sources included described in the PDD by using flow chart.	OK	OK
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related	Clarification Request (CL) 03 Please, revise the name of the fourth column of the table 4 (the PDD section	Based on the amendments made, CL 03 is closed.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	to the baseline or the project are appropriately justified?	B.3). It is better to replace the name "Included?" by more appropriate "Inclusion/Exclusion".		
33	Is the project boundary defined in accordance with the approved CDM methodology?	N/A	N/A	N/A
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?	According to the Guidelines for Users of the JI PDD form (ver. 04), the starting date of the JI project is the date on which the implementation or construction or real action of the project begins. Corrective Action Request (CAR) 11 In the PDD section C.1, please, give evidence proving the starting date of the project.	CAR 11 is closed based on the information added to the PDD.	OK
34 (a)	Is the starting date after the beginning of 2000?	The starting date after the beginning of 2000 (according to the Meeting Minutes of the Technical Board of OJSC "Alchevsk Iron and Steel Works", the starting date of the project is 26/05/2003).	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	The operational lifetime of the project is at least 20 years.	OK	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	See section C.3 of the PDD. Corrective Action Request (CAR) 12 Please, state the length of crediting period	All the corrections required have	

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		not only in years, but also in months (as per Guidelines for Users of JI PDD form); and clearly indicate the time constraints of the post-Kyoto period. Also please, take into account that 1 January 2008 – 31 December 2012 is the length of the first commitment period (it is only the part of the crediting period), but not the length of the whole period.	been made. The issue is closed.	OK
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	Yes. The starting date of the crediting period is after the date of the first emission reductions.	OK	OK
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?	Yes. According to the PDD the crediting period for issuance of ERUs does not extend beyond operational lifetime of the project.	OK	OK
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of	For the period from 01.04.2004 – 31.12.2007 Early Credits will be claimed to be transferred through Article 17 of the Kyoto Protocol. 01/01/2008 – 31/12/2012 is the crediting period, prolongation: January 2013 -	See the conclusions on the responses to CARs 03, 04, 05.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	net removals presented separately for those until 2012 and those after 2012?	December 2020. The estimated emission reductions are provided in the table of the PDD section A.4.3.1. See CARs 03, 04, 05.		
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	JI specific approach is used for baseline setting, additionality justification, monitoring plan; but it is not clearly explained in the PDD (see CL 02).	See the conclusion on the response to CL 02.	OK
36 (a)	Does the monitoring plan describe: − All relevant factors and key characteristics that will be monitored? − The period in which they will be monitored? − All decisive factors for the control and reporting of project performance?	This Monitoring Plan is identical to the relevant part of Monitoring Plan used for the "Revamping and Modernisation of the Alchevsk Steel Mill" Joint Implementation Project, Project Registration Number UA 100002254. This means the complete correlation between project and baseline scenarios of the proposed project and the said JI Project in Alchevsk. The monitoring approach developed for this specific project is consistent with the assumptions and procedures adopted in the baseline approach. This monitoring approach requires monitoring and measurement of variables and parameters necessary to quantify the baseline		

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		emissions and project emissions in a conservative and transparent way. <u>Clarification Request (CL) 06</u> Please, indicate the justification of parameter choice for all the parameters used.	Based on the information added to the PDD, CL 06 is closed.	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	The monitoring plan specifies variables used. It provides transparent picture of the emission reductions.	OK	OK
36 (b)	If default values are used: − Are accuracy and reasonableness carefully balanced in their selection? − Do the default values originate from recognized sources? − Are the default values supported by statistical analyses providing reasonable confidence levels? − Are the default values presented in a transparent manner?	Please, give references (in the PDD) to the 1996 IPCC Guidelines for National Greenhouse Gas Inventories not to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. For the present, 1996 IPCC Guidelines is the only one approved. See CAR 09. See section 36 (b) of this table.	See the conclusion on the response to CAR 09.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	The monitoring plan indicates how the values are to be selected and justified.	OK	OK
36 (b) (ii)	For other values, − Does the monitoring plan clearly indicate the precise references from which these values are taken? − Is the conservativeness of the values provided justified?	See CAR 09. The conservativeness of the values provided is justified.	See the conclusion on the response to CAR 09.	OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	See section D of the PDD. Clarification Request (CL) 04 Please, note (in the PDD) that data to be monitored and required for determination are to be kept for two years after the last transfer of ERUs for the project. See FAR 01.	Conclusion on response #1 to CL 04 In the case of this project 5 years is not enough for keeping all the data to be monitored and required for determination. Please, indicate it in the PDD. Forward Action Request (FAR) 01 The order concerning the procedure for keeping monitoring data should be issued by OJSC “Alchevsk Iron and Steel Works”.	The issue will be checked on the first verification.

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
			Conclusion on response #2 to CL 04 Based on the amendments made in the PDD section D.1, the issue is closed.	OK
36 (b) (iv)	Are International System Unit (SI units) used?	SI units are used. Also there are data units used in accordance with the applied JI specific approach.	OK	OK
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	See section B.1 of the PDD.	OK	OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	The use of parameters, coefficients and variables are consistent between the baseline and monitoring plan. Establishing of baseline and the monitoring plan is based on the approach which is fully identical to the relevant part of the project registered at UNFCCC with reference number UA1000022.	OK	OK
36 (c)	Does the monitoring plan draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	The monitoring plan is established taking into account "Guidance on criteria for baseline setting and monitoring".	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (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? (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? (iii) Data and parameters that are monitored throughout the crediting period?	See the PDD section D.1. The data and parameters that are monitored throughout the crediting period are clearly indicated in the PDD (section D.1. and Annex 3).	OK	OK
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	In the table of the PDD section D.1.1 the time of monitoring (frequency) and the source of data to be used are indicated for all the monitored parameters and data.	OK	OK
36 (f)	Does the monitoring plan	All algorithms and formulae used for the		

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/ removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	estimation of baseline and project emissions are indicated and explained in the PDD. Corrective Action Request (CAR) 17 Please, fill the PDD section D.1.1 with the tables of key information and data used for project case identification.	Conclusion on response #1 to CAR 17 It is stated (in the section D.1.1.3) that table "Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be achieved" is not applicable in the case of this project. But it is not true. Please, make necessary amendments in the PDD taking into account the aforesaid information. Also, please, provide in the section D.1.1.2 formulas to calculate project emissions. Conclusion on response #2 to CAR 17 Based on the amendments made in the PDD and the information added, the issue is closed.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Clarification Request (CL) 07 Please, describe balance of process needs (step 2 in the PDD section D.1.1.4) specifically for the case of this project; and exactly indicate (in the PDD section D) the parameters used for monitoring of CO_2 emissions related to the balance of process needs.	CL 07 is closed based on the explanation received.	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	See section 36 (f) of this table.	See the conclusions on the responses to CAR 17 and CL 07.	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Corrective Action Request (CAR) 13 In the calculations presented in the PDD developers use the emission factor for electricity consumption which has never been used for calculations in any approved JI project. Please, provide justification of application of the emission factor for electricity consumption in the case of this project.	Conclusion on response #1 The explanation was received and examined. Nevertheless, 28th of March 2011, new carbon emission factor for electricity consumption was approved by the Order of National Environmental Investment Agency of Ukraine #43 dated. Please, revise the usage of carbon emission factor for electricity consumption. Conclusion on response #2 The corrections made in the PDD were found appropriate. However,	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
			please, justify that OJSC "AISW" is an electricity consumer of the 1st type). Conclusion on response #3 The issue is closed due to the amendments made in the PDD.	
36 (f) (iii)	Are all equations numbered?	All equations are numbered. Corrective Action Request (CAR) 20 Please, make the numeration of equations consistent throughout the whole PDD	Necessary amendments were made. The issue is closed.	OK
36 (f) (iv)	Are all variables, with units indicated defined?	Yes. See section D of the PDD.	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	The conservativeness of the algorithms/procedure is indicated in the PDD.	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	Uncertainty level of data is indicated in the table of Quality control and quality assurance (QA) procedures undertaken for the data monitored (see section D.2 of the PDD). Corrective Action Request (CAR) 14 Please, indicate the uncertainty level of the monitoring parameters .	Conclusion on response #1 to CAR 14 The level of uncertainty for some parameters has been indicated. Nevertheless, for the parameters P-22, P-25; B-22, B-25 uncertainty level is not stated. Please, make necessary amendments. Conclusion on response #2 to CAR 14 Based on the information added to the PDD, the issue is closed.	OK
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?	See section B of the PDD.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident	The formulae used in the PDD are sufficiently described.	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	explained?			
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	Relevant national and/or sectoral policies and circumstances are taken into account in the project.	OK	OK
36 (f) (vii)	Are references provided as necessary?	Please, give references (in the PDD) to the 1996 IPCC Guidelines for National Greenhouse Gas Inventories not to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. For the present, 1996 IPCC Guidelines is the only one approved. See CAR 09.	See the conclusion on the response to CAR 09.	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Key assumptions are indicated in the PDD.	OK	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	See section 36 (f) (v) of this table.	See the conclusion on the response to CAR #14.	OK
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	See section 36 (f) (v) of this table.	See the conclusion on the response to CAR #14.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reductions or enhancements of net removals provided?			
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project? Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?	Relevant national and/or sectoral policies and circumstances are taken into account while developing the monitoring plan for this project.	OK	OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	See section D of the PDD.	OK	OK
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?	Uncertainty level of data is indicated in the table of Quality control and quality assurance (QA) procedures undertaken for the data monitored. Also, in the PDD it is indicated that AISW uses the accredited system of quality regulation according to the requirements of the ISO 9001:2008 standard. The Guiding	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Metrological Instructions were developed in accordance with ISO 9001:2008. They secure required level of accuracy by using monitoring equipment and by the possibility to crosscheck the data adequacy. Information on calibration procedures were checked during site-visit and found satisfactory.		
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	The measurement results are being used by the Chief power-engineering specialist department, by the following services and technical staff of the Steel Mill. They are reflected in the technological instructions of production processes regime and also in the "Guiding Metrological Instructions" revised versions. The monitoring data reports and calculations are under the competence of the Chief power-engineering specialist assistant in accordance to the interior orders of the Steel Mill. <u>Corrective Action Request (CAR) 15</u> The PDD section D.1 states that responsibilities of monitoring are defined in Table 6; but in fact, it is not true. Please, revise and make necessary amendments.	CAR 15 is closed due to the corrections made in the PDD.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	The monitoring plan presented in the PDD reflects good monitoring practices appropriate to the project type.	OK	OK
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?	Corrective Action Request (CAR) 16 Section D.1.5. of the PDD requires from the PPs data on the collection and archiving information on environmental impacts of the project and references to the host Party regulations. Please, take it into account in the PDD.	The issue is closed based on the amendments made in the PDD section D.1.5.	OK
36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	Please, note (in the PDD) that data to be monitored and required for determination are to be kept for two years after the last transfer of ERUs for the project. See CL 04.	See the conclusions on the responses to CL 04.	OK
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination,	See section D of the PDD.	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	together with elements supplementary developed by the project participants in line with 36 above?			
38 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	N/A	N/A
38 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	N/A	N/A
38 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	N/A	N/A
38 (c)	Are all explanations, descriptions and analyses pertaining to monitoring in the PDD made in accordance with the referenced approved CDM methodology?	N/A	N/A	N/A
38 (d)	Is the monitoring plan established appropriately as a result?	N/A	N/A	N/A

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
39	If the monitoring plan indicates overlapping monitoring periods during the crediting period: (a) Is the underlying project composed of clearly identifiable components for which emission reductions or enhancements of removals can be calculated independently? (b) Can monitoring be performed independently for each of these components (i.e. the data/parameters monitored for one component are not dependent on/effect data/parameters to be monitored for another component)? (c) Does the monitoring plan ensure that monitoring is performed for all components and that in these cases all the requirements of the JI guidelines and further guidance by the JISC regarding monitoring are met? (d) Does the monitoring plan explicitly provide for overlapping monitoring periods of clearly	Monitoring plan is an integral part of the project documentation. This Monitoring Plan is identical to the relevant part of Monitoring Plan used for the "Revamping and Modernisation of the Alchevsk Steel Mill" Joint Implementation Project, Project Registration Number UA 1000022. This means the complete correlation between project and baseline scenarios of the proposed project and the said JI Project in Alchevsk. See the PDD sections B and D of the PDD.	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	defined project components, justify its need and state how the conditions mentioned in (a)-(c) are met?			
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?	Clarification Request (CL) 09 Please, explain how the value of LE_i from the formulae $ER_i = BE_i – (PE_i + LE_i)$ will be estimated; and include this information in the PDD. Also, please, complete the PDD section D.1.3.1.	Conclusion on the response #1 to CL 09 Please, complete the PDD section D.1.3.1 with the information required. Conclusion on the response #2 to CL 09 The issue is closed due to the information added to the PDD.	OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	See the section 40 (a) of this table.	OK	OK
41	Are the leakage and the procedure for its estimation defined in accordance with the approved CDM methodology?	N/A	N/A	N/A
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	In the PDD indicated the approach of assessment of emissions in the baseline scenario and in the project scenario.	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(b) Direct assessment of emission reductions			
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	Estimated baseline emissions are indicated in the PDD section E.4.	OK	OK
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	N/A	N/A	N/A

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
45	For both approaches in 42 (a) Are the estimates in 43 or 44 given: (i) On a periodic basis? (ii) At least from the beginning until the end of the crediting period? (iii) On a source-by-source/sink-by-sink basis? (iv) For each GHG? (v) In tones of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? (b) Are the formulas used for calculating the estimates in 43 or 44 consistent throughout the PDD?	The estimates are given on the periodic basis (from the beginning until the end of crediting period). Estimates of CO_2 emission reductions are based on source-by-source basis. The estimates of emission reductions for each year are indicated in tones of CO_2 equivalent. $ER_i = BE_i – (PE_i + LE_i)$ is a formula used for calculating estimations of emission reductions (where: ER_i - Emission Reductions BE_i - Baseline Emissions PE_i - Project Emissions LE_i - Leakages of GHGs $_i$ = regular data registration interval).	See the conclusions on the responses to CARs 03, 05, 09, 13.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(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? (d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent? (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? (f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner? (g) Are the estimates in 43 or 44	See the PDD section E.1 and tables 27 and 28 of the PDD Annex 3. See CAR 09. See CAR 13 in section 36 (f) (ii) of this table. Conservative assumptions are taken into account while estimating emission reductions. Estimated emission reductions indicated in the PDD differs from the same estimations	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	consistent throughout the PDD? (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?	in the Excel files with ER calculations. Please, make appropriate corrections. See CAR 05. The annual average of estimated emission reductions for the period 2004-2007 is incorrectly calculated. The annual average emission reductions should be calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period and multiplying by twelve. See CAR 03.	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	Baseline emissions are estimated on the basis of the JI specific approach which is fully identical to approach applied to the project registered at UNFCCC with reference number UA1000022.	OK	OK
47 (a)	Is the estimation of emission reductions or enhancements of net removals made in accordance with the approved CDM methodology?	N/A	N/A	N/A
47 (b)	Is the estimation of emission reductions or enhancements of net removals presented in the PDD: − On a periodic basis? − At least from the beginning until the end of the crediting period? − On a source-by-source/sink-by-sink basis? − For each GHG? − In tones of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol?	N/A	N/A	N/A

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− Are the formula used for calculating the estimates consistent throughout the PDD? − Are the estimates consistent throughout the PDD? − 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?			
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?	Yes. For more detailed information, please, see section F.1 of the PDD. Furthermore, project activity will cause no harmful transboundary impacts (See section F.2 of the PDD).	OK	OK
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide	In terms of potential environmental impact, the project activities can be divided into two further groups. The first one does not require a preparation of an environmental impact assessment	OK	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	(EIA). The activities of the first group are of technological character that involves specific improvements in pig iron and sintering processes. The second group requires EIAs and contains activities related to introduction of new steel facilities or the reconstructions of old ones. According to the Ukrainian legislation EIAs are developed as a part of mandatory feasibility studies (FSs). Because of the reason that some project activities should be completed in the next few years, EIAs for such measures will be developed parallel to the realization of the project activities. As for today, FSs have been completed together with EIAs for such activities as: introduction of BF # 2; installation of the oxygen units # 7 and # 8; installation of PCI facilities at BFs # 1, 2, 3, 4, 5 and reconstruction of BF # 1. A number of studies have been prepared as a part of official FS for a new sinter plant. However, EIA has not been completed yet because FS is at its final stage of completion and expected to be formulized in 2012. EIA for such measures as		

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		reconstruction of BF # 3, # 4, # 5 will be developed during the process of preparation of FS of BF reconstruction. EIAs together with FSs that are not developed till this time will be developed during 2011-2012 years. All formal EIAs were undertaken in accordance with the applicable legislation and regulations of Ukraine. These include: the Laws of Ukraine "On Protection of Environment", "On Environmental Due Diligence", "On Protection of Atmospheric Air", "On Wastes", "On Ensuring Sanitary and Epidemic Welfare of the Population", "On Local Councils of People's Deputies" and "On Local Governance in Ukraine", as well as in line with effective versions of Water Code, Land Code, Forest Code, and Ukraine's State Code of Civil Practice DBN A.2.2-1-2003 etc.		
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide: (a) A list of stakeholders from whom comments on the projects	Law of Ukraine on environmental expertise defines the procedure of participation of citizens and public organizations in the public environmental expertise. Public has been informed about the planned economic activities with the goal to identify public attitudes and take opinion in		

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	have been received, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	account during environmental impact assessment process. Public was informed about the project, especially about the following information: · project name, goals and site; · legal name and address of project owner and its representative; · approximate dates of EIAs procedures; · deadline and formats of submission of public comments; · when and where EIA documents can be retrieved. No negative comments from the public were received within the deadlines indicated in these publications. Public hearings have not been organized, because the project site lies within the AISW territory and public did not express any interest in the planned activities. All information on stakeholders' comments is included in the EIAs as a part of FSs completed in accordance with Ukrainian statutory requirements. <u>Clarification Request (CL) 05</u> Please, give more specific (detailed) information (in the PDD section G.1) on publications of the statement of intention	Based on the explanation received, CL 05 is closed.	OK

Guidelines for JI PDD Form Users or DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		and the statement of environmental implications which have been published in local newspapers at the stage of EIA of the project.		

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
Corrective Action Request (CAR) 01 Please, preserve the format of the table in the PDD section A.3 (combine the cells with the names of the project participants of Ukraine (host Party) as per Guidelines for users of the JI PDD form (ver. 04).	A.3	The format of the table in the PDD section A.3. was corrected in the PDD ver.4 dated 14/04/2011.	Necessary corrections have been made. The issue is closed.
Corrective Action Request (CAR) 02 Time constraints for some measures in the implementation schedule are incorrectly indicated. Also reconstruction of the oxygen unit #4 is not included in the schedule. Please, correct the JI project implementation schedule, and make the information on the scheduled measures consistent throughout the whole PDD.	A.4.2	Corrections were done to the JI project implementation schedule and the information on the scheduled measures is now consistent throughout the whole PDD version 4 dated 14/04/2011.	Due to the amendments made in the PDD, CAR 02 is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
Corrective Action Request (CAR) 03 The annual average of estimated emission reductions for the period 2003-2007 is incorrectly calculated. The annual average emission reductions should be calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period and multiplying by twelve.	A.4.3.1	Response #1 The annual average of estimated emission reductions for the period 2004-2007 is now calculated correctly in the PDD ver.2 dated 11/01/2011. Response #2 Total estimated emission reductions over the crediting period (2004-2007) are now calculated correctly. Such text is now included in modified PDD: “Project emissions, baseline emissions together with emission reductions (which are provided in this section) are rounded to the whole figure (1t) and are based on calculations which are demonstrated in attached excel file. This file is provided to the verifier”. Please see PDD version 4 dated 14/04/2011.	Conclusion on response #1 The annual average emission reductions have been recalculated by dividing the total estimated emission reductions over the crediting period by total months of the crediting period and multiplying by twelve. But the total estimated emission reductions over the crediting period (2004-2007) are inaccurately calculated. Conclusion on response #2 The issue is closed based on the corrections made in the PDD.

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
Corrective Action Request (CAR) 04 Estimated emission reductions shall be indicated separately for the first commitment period and post-Kyoto period.	A.4.3.1	Response #1 The estimated emission reductions are now indicated separately for commitment period and post-Kyoto period in the PDD ver.2 dated 11/01/2011. Response #2 Taking into account that such text "Project emissions, baseline emissions together with emission reductions (which are provided in this section) are rounded to the whole figure (1t) and are based on calculations which are demonstrated in attached excel file. This file is provided to the verifier" is now included in modified PDD (Section A.4.3.1), emission reductions over the first commitment period (2008-2012) are calculated correctly. Please see PDD version 4 dated 14/04/2011.	Conclusion on response #1 The estimated emission reductions have been indicated separately for the first commitment and the post-Kyoto period. However, the total estimated emission reductions over the first commitment period (2008-2012) are inaccurately calculated. Conclusion on response #2 The issue is closed due to the corrections made.
Corrective Action Request (CAR) 05 Estimated emission reductions indicated in the PDD differs from the same estimations in the Excel files with ER calculations. Please, make appropriate corrections.	A.4.3.1	Response #1 PDD is now modified with correct emission reductions estimations (Please see modified PDD, version 2 dated 11/01/2011).	Conclusion on response #1 Estimated emission reductions over the post-Kyoto period in the PDD still differ from the same estimations in the Excel files (in the Excel-file for the post-Kyoto period the year 2012

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
		Response #2 Emission reductions for year 2012 are now excluded from post-Kyoto excel-file. Modified excel-file is now provided to the verifier. Also, please, see additional responses on CAR04 and CAR05 to close all open issues.	appears). CAR 05 remains open. Also total and the annual average of estimated emission reductions over the post-Kyoto period is still inaccurately calculated. Conclusion on response #2 Due to the corrections made and necessary information provided, the issue is closed.
Corrective Action Request (CAR) 06 The project has no letters of approval of the Parties involved.	A.5	The project has already received LoE from the Government of Ukraine #1806/23/7 of 09.11.2010 issued by the National Environmental Investment Agency of Ukraine. The final version of the Project Design Document shall be submitted to the State Environmental Investment Agency of Ukraine along with a positive determination report for the Letter of Approval (LoA), which is usually expected within 30 days. The LoA of a foreign government is usually provided within 30 days along with a positive determination report. It is expected that LoA of a foreign government will be provided either by the Government of Japan (The Liaison Committee for the Utilization of the Kyoto Mechanisms), by the Government of Spain (Ministerio de Medio Ambiente, Medio Rural y Marino Oficina Española de Cambio Climático),	Pending.

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		by the Government of the Netherlands (Ministry of Economic Affairs), or by the Government of the United Kingdom of Great Britain and Northern Ireland (Department of Energy and Climate Change (DECC).	
Corrective Action Request (CAR) 07 Please, in the PDD section B.4 provide date of baseline setting in the following format: DD/MM/YYYY.	22	The format of the date of baseline setting was corrected in the PDD ver. 4 dated 14/04/2011.	The PDD section B.4 has been corrected. CAR 07 is closed.
Corrective Action Request (CAR) 08 The PDD section B.1 states that the year 2003 is the base year. But on the site-visit it was found that averaged data through the period 1998 - 2002 had been selected as the baseline data. Please, make necessary corrections in the PDD.	23	The requested corrections are now included in the modified PDD version 4 dated 14/04/2011.	CAR 08 is closed based on the amendments made in the PDD.
Corrective Action Request (CAR) 09 Please, give references (in the PDD) to the 1996 IPCC Guidelines for National Greenhouse Gas Inventories not to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. For the present, 1996 IPCC Guidelines is the only one approved.	24	Carbon emission factors from coke, coal, natural gas, limestone, and dolomite combustion are now modified in accordance with Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC 1996). Please see modified PDD, version 2 dated 11/01/2011. Apart from this, IPCC 1996 and National Greenhouse Gas Inventory for Ukraine have a lack of data regarding the project parameters that are used in PDD. Therefore, in case of data absence in IPCC 1996 some parameters are	The response to CAR 09 was found satisfactory. CAR 09 is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
		covered by IPCC 2006 Guidelines for National Greenhouse Gas Inventories (IPCC 2006), because it is developed more precisely and considered to be more conservative. Together with this, 2 JI projects are using emission factors for different fuel and energy resources production which are based on IPCC 2006 guidelines in their calculations. Alternatively, we believe that that the mentioned above emission factors can be calculated based on actual production data from coke and pellets producers in Ukraine, but it is too complicated to conduct this process. Accordingly and taking into account that IPCC 1996 does not have any data concerning CO_2 emissions from different fuel and energy resources production, it is decided to use emission factors from coke and pellets production based on IPCC 2006 guidelines.	
Corrective Action Request (CAR) 10 The developer in general provides extensive information regarding inferior investment background in Ukraine. At the same time the PDD section B.2 lacks data regarding the barriers facing this particular project. Please, make necessary amendments in the PDD.	29 (b)	The CAR was taking into the account. The additional information regarding the barriers facing this particular project were added to the PDD version 4 of 14/04/2011 as follows: Furthermore, the impact of global economic crisis influenced significantly on possibility of AISW to continue and accomplish the project. During the years 2008-2009 AISW experienced net loss in	CAR 10 is closed based on the information added to the PDD.

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		amount of UAH 1 240,5 mln. and also had negative EBIT – UAH -455.9 mln.	
Corrective Action Request (CAR) 11 In the PDD section C.1, please, give evidence proving the starting date of the project.	34 (a)	The Protocol of technical Council of the plant dated 26th of May, 2003 is an evidence of the starting date of the project. The protocol is attached with the determination protocol.	CAR 11 is closed based on the information added to the PDD.
Corrective Action Request (CAR) 12 Please, state the length of crediting period not only in years, but also in months (as per Guidelines for Users of JI PDD form); and clearly indicate the time constraints of the post-Kyoto period. Also please, take into account that 1 January 2008 – 31 December 2012 is the length of the first commitment period (it is only the part of the crediting period), but not the length of the whole period.	34 (c)	The requested modifications were done in the PDD version 4 dated 14/04/2011.	All the corrections required have been made. The issue is closed.
Corrective Action Request (CAR) 13 In the calculations presented in the PDD developers use the emission factor for electricity consumption which has never been used for calculations in any approved JI project. Please, provide justification of application of the emission factor for electricity consumption in the case of this project.	36 (f) (ii)	Response #1 Till 2009 estimated emission reductions are based on already approved carbon emission factor for electricity consumption (0,896 tCO_{2e}/MWh). Taking into account that the document "Development of the electricity carbon emission factors for Ukraine" that was developed by Lahmeyer International upon request of European Bank for Development and Reconstruction	Conclusion on response #1 The explanation was received and examined. Nevertheless, 28th of March 2011, new carbon emission factor for electricity consumption was approved by the Order of National Environmental Investment Agency of Ukraine #43. Please, revise the usage of carbon emission

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
		(EBRD) includes more updated carbon emission factor for electricity consumption, was already approved by TÜV SÜD on 15 October 2010. Response #2 The usage of carbon emission factor for electricity consumption was revised according to the latest Order of National Environmental Agency (Order on approval of indexes of specific carbon dioxide emissions in the year 2010 issued by NEIA dated 28.03.2011). Response #3 Necessary justification now is provided in the PDD.	factor for electricity consumption. Conclusion on response #2 The corrections made in the PDD were found appropriate. However, please, justify that OJSC "AISW" is an electricity consumer of the 1st type). Conclusion on response #3 The issue is closed due to the qamendments made in the PDD.
Corrective Action Request (CAR) 14 Please, indicate the uncertainty level for the monitoring parameters.	36 (f) (v)	Response #1 Description of uncertainty level now is included in the PDD (Please, see modified PDD version 2 dated 11/01/2011.) Response #2 Necessary amendments are now made in the modified PDD (version 4 dated 14/04/2011).	Conclusion on response #1 to CAR 14 The level of uncertainty for some parameters has been indicated. Nevertheless, for the parameters P-22, P-25; B-22, B-25 uncertainty level is not stated. Please, make necessary amendments. Conclusion on response #2 to CAR 14 Based on the information added to the PDD, the issue is closed.
Corrective Action Request (CAR) 15	36 (j)	Mistake is now corrected. (Please, see modified	CAR 15 is closed due to the

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
The PDD section D.1 states that responsibilities of monitoring are defined in Table 6; but in fact, it is not true. Please, revise and make necessary amendments.		PDD version 4 dated 14/04/2011).	corrections made in the PDD.
Corrective Action Request (CAR) 16 Section D.1.5. of the PDD requires from the PPs data on the collection and archiving information on environmental impacts of the project and references to the host Party regulations. Please, take it into account in the PDD.	36 (I)	Section D.1.5. of the PDD version 4 dated 14/04/2011 was modified as follows: The environmental management standard ISO 14001 has been implemented and certified at AISW. The standard determines the procedures related to collection and archiving of data on environmental impacts within activity of the plant and, accordingly, the proposed project activity. Within AISW's structure there is a special environmental department (SED) which is in charge of the monitoring for various kinds of environmental impacts within the plant activity, data collection, analysis and archiving, which is a routine activity of AISW. It shall be noted that the project activity does not lead to aggravation of environmental situation, but rather opposite - reduces load on environment. Overall environmental influence is under manageable control and fully in compliance with national and local regulations. The monitoring frequency is in accordance with approved graphs of analytical and departmental control.	The issue is closed based on the amendments made in the PDD section D.1.5.

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
Corrective Action Request (CAR) 17 Please, fill the PDD section D.1.1 with the tables of key information and data used for project case identification.	36 (f)	Response #1 The tables of key information and data used for project case identification are now included in section D.1.1 (Please see modified PDD, version 4 dated 14/04/2011). Response #2 Necessary amendments are now made in the modified PDD (version 4 dated 14/04/2011).	Conclusion on response #1 It is stated (in the section D.1.1.3) that table "Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be achieved" is not applicable in the case of this project. But it is not true. Please, make necessary amendments in the PDD taking into account the aforesaid information. Also, please, provide in the section D.1.1.2 formulas to calculate project emissions. Conclusion on response #2 Based on the amendments made in the PDD and the information added, the issue is closed.
Corrective Action Request (CAR) 18 The project pertains only to the sectoral scope 9 (metallurgy). Please, indicate the sectoral scope correctly.	A.1	The sectoral scope of the project was modified in the PDD.	Due to the corrections made in the PDD, the issue is closed.
Corrective Action Request (CAR) 19	A.3	According to the request the information on the	CAR 19 is closed based on the

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
Please, make the information on the project participants consistent throughout the whole PDD (in the section A.3 and Annex 1).		project participants was made consistent throughout the whole PDD.	amendments made in the PDD.
Corrective Action Request (CAR) 20 Please, make the numeration of equations consistent throughout the whole PDD (see the PDD pages 63, 82, etc.)	36 (f) (iii)	The numeration of equations was made consistent throughout the whole PDD.	Necessary amendments were made. The issue is closed.
Corrective Action Request (CAR) 21 Please, number the tables with information on estimations for post-Kyoto period; also, please, do not divide the tables into two different parts.	A.4.3.1	The modifications were done in the PDD.	Based on the modifications made, CAR 21 is closed.
Forward Action Request (FAR) 01 The order concerning the procedure for keeping monitoring data should be issued by OJSC "Alchevsk Iron and Steel Works".	36 (b) (iii)	The issue will be resolved till the stage of the first verification.	The issue will be checked on the first verification.
Clarification Request (CL) 01 Please, in the PDD section A.5 specify the name of the DFPs (of Parties involved) which will issue written approvals.	A.5	The name of DFPs was specified in the PDD version 4 of 14/04/2011 as follows: LoA of a foreign government will be provided either by the Government of Japan (The Liaison Committee for the Utilization of the Kyoto Mechanisms), by the Government of Spain (Ministerio de Medio Ambiente, Medio Rural y Marino Oficina Española de Cambio Climático), by the Government of the Netherlands (Ministry of Economic Affairs), or by the Government of the United Kingdom of Great Britain and Northern Ireland (Department of Energy and Climate Change (DECC).	CL 01 is closed due to the amendments made in the PDD.

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Clarification Request (CL) 02 Please, explain in detail why the approach used for the project UA1000022 also can be applicable in the case of the project "Revamping of sintering and blast-furnace production at OJSC "Alchevsk Iron and Steel Works".	22	Response #1 The approach used in the registered JI project UA1000022 covers basically the same assets as in the proposed JI project. It refers to blast furnace shop and sintering machines as well as secondary energy production. It takes into account all emissions of GHGs related to the process of pig iron and sintering production. Therefore the approach is fully applicable for the proposed project. However, in the project UA1000022 the specific energy consumption by all assets that are also covered by the proposed project is the same in order to avoid double counting of the ERs. Response #2 The information was added to the modified PDD (version 4 dated 14/04/2011).	Conclusion on response #1 Add the information (given in response #1) to the PDD. Conclusion on response #2 The issue is closed due to the information added to the PDD section B.1.
Clarification Request (CL) 03 Please, revise the name of the fourth column of the table 4 (the PDD section B.3). It is better to replace the name "Included?" by more appropriate "Inclusion/Exclusion".	32 (d)	The name of the fourth column of the table 4 was revised in the PDD version 4 dated 14/04/2011.	Based on the amendments made, CL 03 is closed.
Clarification Request (CL) 04 Please, note (in the PDD) that data to be monitored and required for determination are to be kept for two years after the last transfer of	36 (b) (iii)	Response #1 According to Ukrainian legislation and regulations all monitored data are to be kept for at least	Conclusion on response #1 In the case of this project 5 years is not enough for keeping all the data to

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
ERUs for the project.		5 years (the proving documents are submitted to the verifier). Response #2 Based on the request of the verifier the project owner will issue the appropriate decree regarding data monitored and required for determination storage. The will be shown to the verifier during verification. Also, the following sentence was added to the PDD (version 4 dated 14/04/2011): "Data monitored and required for determination will be stored at AISW during the whole crediting period and also during two years after the last transfer of ERU's".	be monitored and required for determination. Please, indicate it in the PDD. Forward Action Request (FAR) 01 The order concerning the procedure for keeping monitoring data should be issued by OJSC "Alchevsk Iron and Steel Works". This issue will be checked during the first verification. Conclusion on response #2 Based on the amendments made in the PDD section D.1, the issue is closed.
Clarification Request (CL) 05 Please, give more specific (detailed) information (in the PDD section G.1) on publications of the statement of intention and the statement of environmental implications which have been published in local newspapers at the stage of EIA of the project.	49	At the stage of FSs preparation the publications of the statement of intention and the statement of environmental implications were done. The mentioned statements were shown to the verifier during site-visit. Without these publications FS cannot be completed according to Ukrainian	Based on the explanation received, CL 05 is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
		legislation.	
Clarification Request (CL) 06 Please, indicate the justification of parameter choice for all the parameters used.	36 (a)	Justification of parameter choice is now included in the PDD (Please see modified PDD version 4 dated 14/04/2011).	Based on the information added to the PDD, CL 06 is closed.
Clarification Request (CL) 07 Please, describe balance of process needs (step 2 in the PDD section D.1.1.4) specifically for the case of this project; and exactly indicate (in the PDD section D) the parameters used for monitoring of CO_2 emissions related to the balance of process needs.	36 (f)	Step 2 “Balance of process needs” of chosen JI specific approach in PDD implies CO_2e emissions from such facilities as: CHP (that produces blast-furnace blowing, heat and chemically treated water), Oxygen Plant (that produces oxygen, nitrogen and argon), Compressed Air Shop that produces compressed air and other facilities that produce secondary heat power, air-free water, treated gas. These facilities consume fuel-and energy resources to ensure supply of all secondary energy resources to the technological process. Double counting is avoided. This information is now included in the text of PDD (version 4 dated 14/04/2011).	CL 07 is closed based on the explanation received.
Clarification Request (CL) 08 Please, indicate (in the PDD) the number of LoE (Letter of Endorsement) issued by the Government of Ukraine for this project.	19	Response #1 Information is now included in the PDD. Please see modified PDD version 2 dated 11/01/2011. Response #2 The abbreviation “LoE” in the PDD section A.5.	Conclusion on response #1 Information on LoE (Letter of Endorsement) has been added to the PDD; but, please, interpret just the abbreviation “LoE” in the PDD section A.5. Conclusion on response #2 Issue is closed due to the

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
		was interpreted (version 4 dated 14/04/2011).	amendments made in the PDD.
Clarification Request (CL) 09 Please, explain how the value of LEi from the formulae ERi = BEi – (PEi + LEi) will be estimated; and include this information in the PDD. Also, please, complete the PDD section D.1.3.1.	40 (a)	Response #1 Taking into account that the project boundary of the JI project "Installation of a new waste heat recovery system at Alchevsk Coke Plant, Ukraine" (UA1000130 - registered under Track 1) includes blast-furnaces of AISW with respect to particular volumes of consumed dry blast-furnace coke, the CO_{2e} emission reductions that are generated due to component three (3) of mentioned above JI project will be attributed to the leakages of GHG's and which will be subtracted from the total volume of emission reductions associated with this project during the specific monitoring period. Leakages are generated starting from the 1st of October 2007 when the CDQ facility was launched and the first volumes of dry blast-furnace coke were consumed at the blast-furnaces of AISW. Leakages during the period of 2007 – 2009 are equal to emission reductions (generated by the component 3), which where already verified by IAE. All leakages generated starting from the 1st of January 2010 are equal to emission reductions estimations which are provided in the PDD for a mentioned above JI project. During the monitoring process leakages will always be equal to the actual volume of generated	Conclusion on response #1 Please, complete the PDD section D.1.3.1 with the information required.

Draft report clarifications and corrective action requests by determination team	Ref. to check-list question in the table	Summary of project owner response	Determination team conclusion
		emission reductions (by the component 3) during the specific monitoring period. Such information is now included in the modified PDD. Please, see PDD version 4 dated 14/04/2011. <u>Response #2</u> Necessary information was added to the PDD section D.1.3.1.	<u>Conclusion on response #2</u> The issue is closed due to the information added to the PDD.
<u>Clarification Request (CL) 10</u> Please, while describing prior consideration of the project, confirm this information by documentary evidence.	A.2	The documentary evidence was added to the description of prior consideration of the project.	Based on the information added to the PDD, CL 10 is closed.
<u>Clarification Request (CL) 11</u> Please, entitle Excel files with emission reductions calculations, and correct the name of the Excel sheets in the files.	A.4.3.1	The requested changes regarding Excel files with emission reductions calculations were done.	The issue is closed due to the amendments made in Excel files with emission reductions calculations.