DETERMINATION REPORT

CAMCO CARBON RUSSIA LIMITED

DETERMINATION OF THE

INSTALLATION OF THE ALFACOND STEAM CONDENSATION SYSTEMS ON THE TURBINE-GENERATORS OF THE HEAT AND POWER PLANT OF JSC "AVDEEVSKIY COKE-PROCESSING WORKS"

REPORT NO. UKRAINE-DET/0196/2010

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BUREAU VERITAS CERTIFICATION

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Client: Camco Carbon Russia Limited	Client ref.: Arthur Houston

Summary:

Bureau Veritas Certification has made the determination of the "Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC "Avdeevskiy coke-processing works" project of Camco Carbon Russia Limited located in Donetsk region, 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 Action 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/0196/2010	Subject Group: JI
Project title: "Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC "Avdeevskiy coke-processing works"	
Work carried out by: Oleg Skoblyk – Team Leader, Lead Verifier Olena Manziuk – Team member, Verifier Denis Pishchalov – Team member, Financial Specialist	
Work reviewed by: Ivan Sokolov - Internal Technical Reviewer Iuliia Berdnikova – Technical Specialist	
Work approved by: Ivan Sokolov - Operational Manager	
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Indexing terms

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1 INTRODUCTION

Camco Carbon Russia Limited has commissioned Bureau Veritas Certification to determine its JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” (hereafter called “the project”) at Donetsk region, 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 determined in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reduction units (ERUs).

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

1.2 Scope

The determination scope is defined as an independent and objective review of the project design document, 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
Bureau Veritas Certification Climate Change Lead Verifier, Team Leader

Olena Manziuk
Bureau Veritas Certification Climate Change Verifier, Team Member

Denis Pishchalov
Bureau Veritas Certification Financial Specialist

This determination report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification Internal Technical Reviewer

Iuliia Berdnikova
Bureau Veritas Certification Technical Specialist

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 Camco Carbon Russia Limited and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Approved CDM methodology and/or Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Camco Carbon Russia Limited revised the PDD and resubmitted the new version of project design document.

The determination findings presented in this report relate to the project as described in the PDD version 1.0 dated 31/01/2011, the PDD version 1.1 dated 27/04/2011, the PDD version 1.2 dated 21/06/2011, the PDD version 1.3 dated 22/02/2012, PDD version 1.4 dated 07/03/2012, PDD version 1.5 dated 16/03/2012 and PDD version 1.6 dated 23/03/2012, and the PDD version 2.0 dated 04/12/2012.

2.2 Follow-up Interviews

On 10/03/2011 Bureau Veritas Certification during site visit performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of JSC "Avdeevskiy coke-processing works" and Camco Carbon Russia Limited were interviewed (see section 7 References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
JSC "Avdeevskiy coke-processing works"	➢ Implementation schedule ➢ Project management organisation ➢ Environmental Impact Assessment ➢ Project monitoring responsibilities ➢ Measurement equipment ➢ Quality control and quality assurance procedures ➢ Environmental impacts affected ➢ Local authorities and public opinion
Camco Carbon Russia Limited	➢ Applicability of methodology ➢ Baseline and Project scenarios ➢ Barriers analysis ➢ Additionality justification ➢ Common practice analysis ➢ Monitoring plan ➢ Conformity of PDD to JI requirements

2.3 Resolution of Clarification and Corrective Action Requests

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

If the determination team, in assessing the PDD and supporting documents, identifies issues that need to be corrected, clarified or

improved with regard to JI project requirements, it will raise these issues and inform the project participants of these issues in the form of:

(a) Corrective action request (CAR), requesting the project participants to correct a mistake in the published PDD that is not in accordance with the (technical) process used for the project or relevant JI project requirement or that shows any other logical flaw;

(b) Clarification request (CL), requesting the project participants to provide additional information for the determination team to assess compliance with the JI project requirement in question;

(c) Forward action request (FAR), 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.

The determination team will make an objective assessment as to whether the actions taken by the project participants, if any, satisfactorily resolve the issues raised, if any, and should conclude its findings of the determination.

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

3 PROJECT DESCRIPTION

Detailed project description is provided in the project design document. As described, the project envisages installation of the AlfaCond steam condensation systems on the turbine-generators #7and #8 of the Heat and Power plant (HPP) of JSC “Avdeevskiy coke-processing works” (ACPW). As a fact, purpose of the project is improving of turbine-generator efficiency and increasing own electricity generation by ACPW.

KP-540/2 type condensers were installed on turbine-generators (TG) #7 and #8 of the HPP prior the project realization. Insufficient cooling surface of these condensers did not allow turbine-generators to achieve design electricity generation. Furthermore, standard KP condensers with bigger cooling surface can not be placed in the existing installation site.

According to the provided information there is known that steam condensation system AlfaCond has twice cooling ability than old condenser KP-540/2 with the smaller overall dimensions. It was specially designed for ACPW conditions by company Alfa Laval which is the global leader in heat transfer technologies. Installation of Alfa Cond system increases electricity generation by turbine-generator up to 50%.

The situation is as follows: HPP of the ACPW operates using coke-oven gas for steam and electricity production. Surplus amount of coke-oven gas

that is not needed for steam and electricity generation and in-plant use is burned at the special coke-oven gas off-take (flare). Therefore, increase of electricity generation due to the project implementation doesn't increase fuel combustion at the ACPW.

As regarded in the PDD, additional project electricity generation replaces electricity from Integrated Electricity System of Ukraine (IESU) which is produced at the power stations connected to the grid partially with fossil fuel combustion. Thus, the project realization results in greenhouse gases (GHG) emission reductions into the atmosphere.

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 site visit are described in the Determination Protocol in Appendix A.

The Clarification Request 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 twenty six Corrective Action Requests, five Clarification Requests, and one Forward Action Request.

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

4.1 Project approvals by Parties involved (19-20)

After finishing JI project determination report, the PDD and Determination Report will be presented to the State Environmental Investments Agency of Ukraine (SEIA) for receiving the Letter of Approval (LoA).

As a fact, JI project "Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC "Avdeevskiy coke-processing works" has already received Letter of Endorsement (LoE) #1459/23/7 dated 24/09/2010 that issued by the National Environmental Investments Agency of Ukraine.

The identified areas of concern as to Project approvals by Parties involved, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A (refer to CAR01).

4.2 Authorization of project participants by Parties involved (21)

The participation of each of the legal entities listed as project participants in the PDD will be authorized by State Entity of Ukraine through Letter of

Approval that should be issued after determination process. Also, refer to section 4.1 of this report.

The identified areas of concern as to authorization of project participants by Parties involved, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A (refer to CAR01).

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.

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

(a) By listing and describing the following plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one:

a. Preservation of current situation with continuation of usage KP-540/2 condensers on TG #7 and #8;
b. Replacement of KP-540/2 condensers by similar standard condensers with increased cooling surface;
c. Construction of a new gas turbine with recovery boiler at HPP ACPW;
d. Realization of the project, i.e. replacement of condensers on TG #7 and #8 by AlfaCond steam condensation systems without carbon financing.

(b) Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. In this context, the following key factors that affect a baseline are taken into account:

1. There are no regulations that constrain the ACPW from using the fossil fuels to cover own energy demand;
2. The amount of the COG producing at ACPW depends on coke production capacity of the coke battery. The configuration of the proposed project's equipment has been selected due to the amount of COG available at the existing ACPW's coke battery;
3. Installation of AlfaCond steam condensation system is not a common practice for the enterprises of the Ukraine coke industry.

It is the unique equipment in the context of heat transfer intensity and overall dimensions.

As a result of the performed by project developer analysis of the key factors affected the plausible future scenarios, in the PDD there is drawn conclusion that the most plausible future scenario is the plausible future scenario a: Preservation of current situation with continuation of usage KP-540/2 condensers on TG #7 and #8. Chosen scenario represents the usual continuation (business-as-usual situation) of the ACPW HPP operations under the legislation of Ukraine. Thus, the plausible future scenario a, stated above, is the baseline.

For estimation of greenhouse gases emissions according to the baseline project developer used following parameters: baseline hourly production, project hourly production, operating hours of TG #8, operating hours of TG #7, and CO_2 emission factor during power generation in the Integrated Electricity System of Ukraine.

The identified areas of concern as to baseline setting, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A (refer to CAR02, CAR03, CAR08).

4.4 Additionality (27-31)

According to the project design document, JI specific approach was the selected method for identifying the additionality.

Allowing for a grace period of eight months when the PDD is submitted for publication on the UNFCCC JI website, the most recent version of the "Tool for the demonstration and assessment of additionality" (version 05.2) approved by the CDM Executive Board was used. All explanations, descriptions and analyses are made in accordance with the selected tool.

The PDD provides a justification of the applicability of the approach with a clear and transparent description, as per item 4.3 above.

Additionality proofs are provided using investment analysis. In the frame of investment analysis the benchmark analysis and sensitivity analysis were applied. As a financial indicator during the benchmark analysis, the internal rate or return (IRR) figure is used. Benchmark equals 15% according to the official order of the Metinvest Holding —On the establishment of the discount rate». Due to calculation results there is known that the project scenario has lower IRR than the benchmark and the activity under the project. So, it can not be considered as financially attractive. Sensitivity analysis was performed varying a couple factors, such as investment expenses', electricity price, and cost level. Sensitivity

analysis results show that the conclusions regarding the project scenario not being the financially attractive and remain true upon changes of the investments' calculation of the main parameters.

Thus, as a result of the performed investment analysis the project developers has shown that the proposal project activity cannot be considered as most financially attractive and this conclusion is robust to reasonable variations in the critical assumptions.

Additionality is demonstrated appropriately as a result of the analysis using the approach chosen.

The identified areas of concern as to additionality, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A (refer to CAR09, CAR10, CAR11, CAR12, CAR13, CAR14, CL04).

4.5 Project boundary (32-33)

As described in the provided documents, JI specific approach are used in the JI project "Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC "Avdeevskiy coke-processing works".

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 CO_2);

(ii) Reasonably attributable to the project (such as CO_2); 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 CO2 equivalent, whichever is lower.

CO_2 emissions due electricity generation by power plants of Integrated Electricity System of Ukraine and emissions due to additional electricity generation as a result of project realization are the main sources of within the project boundaries. According to the situation, emissions due to additional electricity generation as a result of project realization are considered equal to zero since additional electricity generation does not associate with production, transportation and firing of fuel. Thus, CO_2 emissions due to electricity generation by power plants of Integrated Electricity System of Ukraine in baseline scenario is the only emission source in the project.

As per the project design document of JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works”, since the additional electricity generation associates with the new more effective equipment installation but not with production, transportation and firing of additional amount of fuel, project leakages are absent.

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

The identified areas of concern as to project boundary, project participants response and Bureau Veritas Certification’s conclusion are described in Appendix A (refer to CAR15, CL05).

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 14/08/2006, which is after the beginning of 2000.The starting date of regarded JI project relates with the project approval by investment committee of Metinvest.

The PDD states the expected operational lifetime of the joint implementation project in years and months, which is 25 years or 300 months.

The PDD states the length of the crediting period in years and months, which is 14 years and 10 months (178 months): 4 years and 10 months for the 1st commitment period (2008-2012) and 10 years and 0 months for the period following the 1st commitment period (2013-2022). Crediting period start date is considered as 23/02/2008, which is on the date the first emission reductions are generated by the project. The end date of the crediting period is 31/12/2022.

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 (refer to section A.4.3.1 and E.6 of the project design document).

4.7 Monitoring plan (35-39)

The PDD, in its monitoring plan section, explicitly indicates that the project developer used JI-specific approach for establishing the monitoring, since among the approved CDM methodologies for baseline and monitoring there is not a single one that would be associated with the proposed project activity.

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 reporting forms; quality control (QC) and quality assurance (QA) procedures; the operational and management structure that are to 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 electricity generation by turbine – generator #7, electricity generation by turbine – generator #8, operating hours of turbine – generator #7, operating hours of turbine – generator #8, and standardized CO_2 emission factors for the Ukrainian electricity grid.

The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the Joint Implementation Supervisory Committee, as appropriate BE and $EF_{CO2,grid}$, etc.

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 baseline hourly production by the TG #7 and TG#8.

(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 in this JI project.

(iii) Data and parameters that are monitored throughout the crediting period, such as electricity generation by turbine – generator #7,

electricity generation by turbine – generator #8, operating hours of turbine – generator #7, operating hours of turbine – generator #8, and standardized CO_2 emission factors for the Ukrainian electricity grid.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording, such as direct measurement with appropriate metering equipment, calculations based on developed JI specific approach, reporting using special reporting forms, with different recording frequency such as monthly or annually and electronic or paper recording method. For instance, monthly monitoring frequency is approved for the following parameters: electricity generation by turbine – generator #7, electricity generation by turbine – generator #8, operating hours of turbine – generator #7, operating hours of turbine – generator #8; and annually monitoring frequency is stated for the parameter CO_2 emission factors for the Ukrainian electricity grid. The respective information for each monitoring parameter is sufficiently described in the section D and Annex 3 of the project design document.

Based on the provided information and information stated in the project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works”, since the additional electricity generation associates with the new more effective equipment installation but not with production, transportation and firing of additional amount of fuel, project leakages are absent.

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

Baseline emissions

According to the monitoring plan provided in the PDD, baseline emissions are to be calculated upon difference between real annual project electricity generation by TG #7 and TG #8 and baseline electricity generation.

Annual project electricity generation

$$EG_{PJ\ Y} = EG_{TG7\ PJ\ Y} + EG_{TG8\ PJ\ Y}$$

where,

$EG_{TG7\ PJ\ Y}$ - is the annual project electricity generation by TG #7, MWh /year

$EG_{TG8\ PJ\ Y}$ - is the annual project electricity generation by TG #8, MWh /year

Annual baseline electricity generation that established in section B.1 of the project design document

$$EG_{BL\ Y} = P_{BL\ 7} \bullet T_{TG7\ PJ\ Y} + P_{BL\ 8} \bullet T_{TG8\ PJ\ Y}$$

where,

$P_{BL\ 7}$	- is baseline hourly production of the electric power by the TG #7, equals to 5.70 MW, according section B.1 of the PDD
$P_{BL\ 8}$	- is baseline hourly production of the electric power by the TG #8, equals to 6.93 MW, according section B.1 of the PDD
$T_{TG7\ PJ\ Y}$	- is the annual operating hours of TG #7, hour /year
$T_{TG8\ PJ\ Y}$	- is the annual operating hours of TG #8, hour /year

Emission reductions

Annual reductions of CO_2 emissions due to the project realization

$$ER_Y = EF_{CO2\ grid\ Y} \bullet (EG_{PJ\ Y} - EG_{BL\ Y})$$

where,

ER_Y	- is emissions reductions, t CO_2/year
$EF_{CO2\ grid\ Y}$	- is the baseline emission factor during the Integrated Electricity System of Ukraine electricity generation, t CO_2 /MWh
$EG_{PJ\ Y}$	- is the annual project electricity generation, MWh /year
$EG_{BL\ Y}$	- is the annual baseline electricity generation, MWh /year

The monitoring plan presents the quality assurance and control procedures for the monitoring process described in section D.2 of the project design document. This includes information on measurement devices, its calibration and on how records on data and/or method validity and accuracy are kept and made available on request. Furthermore, quality assurance and control procedures includes the procedure in case of expected monitored data for the turbine-generator in any period are unavailable the calculations for this turbine-generator in this period will not be made, in according to principle of conservatism the estimated emission reductions for this boiler-house in this year will be assumed equal to 0.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. As for details, operators of TG #7 and TG #8 register daily electricity meters readings in “Registration journal of the electricity meters readings”; specialist of Chief Power Engineer Office calculates electricity generation by TG #7and TG #8 per month and prepares the report “Detailed breakdown of electricity generation by HPP per month”; Chief Power Engineer justifies the report “Detalied breakdown of electricity generation by HPP per month”; machinist of the central heat post HPP fills operations data of TG #7 and TG #8 in the report “Daily list

of the turbine-generators operations"; monthly operation hours of TG #7 and TG #8 are calculated by Chief of Turbine Shop #2 of ACPW (it is data submission in production and technical department of HPP for cross-check); HPP economist fills operation hours data in the report "Performance figures of HPP per month"; Chief of HPP justifies the report "Performance figures of HPP per month"; the person, responsible for monitoring, ensures the storage of data, needed for the calculation of the emission reduction units, on the electronic and paper, and hands the data over to Camco. As a result of monitoring procedure, based on the methods and algorithms, described above in this section (refer section D.2 of the PDD), Camco makes calculation of the emission reduction units and prepares the report on the project monitoring. Moreover, structure of monitoring system at ACPW is envisaged in the figure D.1 of the project design document.

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 documents and proprietary estimated data etc.) but not including data that are calculated with equations.

The identified areas of concern as to the monitoring plan, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A (refer to CAR16, CAR26, CAR17, CAR18, CAR19, CAR20, CAR21, CL01, CL02, FAR01).

4.8 Leakage (40-41)

The project design document of the JI project "Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC "Avdeevskiy coke-processing works" describes with arguments the situation about project leakage as following: since the additional electricity generation associates with the new more effective equipment installation but not with production, transportation and firing of additional amount of fuel, project leakages are absent.

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

The estimation of emission reduction provided in the PDD based on JI specific approach, developed for regarded JI project activity. The PDD indicates direct assessment of emission reductions as the approach chosen to estimate the emission reductions generated by the project.

The PDD provides the ex ante estimates of:

(a) Emission reductions from the project (within the project boundary), which are 215 549 tons of CO_2 equivalent for the first crediting period 2008-2012 and 749 250 tons of CO_2 equivalent for the following crediting period 2013-2022;

(b) Leakage is considered in the PDD as zero tons of CO_2 equivalent;

(c) Emission reductions adjusted by leakage (based on (a)-(b) above), which are 215 549 tons of CO_2 equivalent for the first crediting period 2008-2012 and 749 250 tons of CO_2 equivalent for the following crediting period 2013-2022.

The estimates referred to above are given:

(a) On a annually basis;

(b) From 23/02/2008 to 31/12/2022, covering the whole crediting period;

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

(d) For each GHG gas, which are 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;

As described in section E of the project design document, baseline emissions are calculated upon difference between project and baseline electricity generation by TG #7 and #8. In the PDD there were used a list of formulae such as:

Project electricity generation

$$EG_{PJ\ Y} = P_{TG7\ PJ\ Y} \bullet T_{TG7\ PJ\ Y} + P_{TG8\ PJ\ Y} \bullet T_{TG8\ PJ\ Y}$$

where,

$P_{TG7\ PJ\ Y}$ - is the project electricity hourly production by TG#7, estimated in section B.2 (Table B.6) of the PDD, MW

$P_{TG8\ PJ\ Y}$ - is the project electricity hourly production by TG#8, estimated in section B.2 (Table B.6) of the PDD, MW

$T_{TG7\ PJ\ Y}$ - is the annual operating hours of TG #7, estimated in section B.2 (Table B.7) of the PDD, hour /year

$T_{TG8\ PJ\ Y}$ - is the annual operating hours of TG #8, estimated in section B.2 (Table B.7)of the PDD, hour /year

Baseline electricity generation

$EG_{BL\ Y} = P_{TG7\ BL\ Y} \bullet T_{TG7\ BL\ Y} + P_{TG8\ BL\ Y} \bullet T_{TG8\ BL\ Y}$

where,

$P_{TG7\ BL\ Y}$ - is the baseline electricity hourly production by TG#7, estimated in section B.2 of the PDD, MW

$P_{TG8\ BL\ Y}$ - is the baseline electricity hourly production by TG#8, estimated in section B.2 of the PDD, MW

$T_{TG7\ BL\ Y}$ - is the annual operating hours of TG #7, estimated in section B.2 (Table B.7) of the PDD, hour /year

$T_{TG8\ BL\ Y}$ - is the annual operating hours of TG #8, estimated in section B.2 (Table B.7) of the PDD, hour /year

Baseline emission

$BE_Y = EF_{CO2\ grid\ Y} \bullet (EG_{PJ\ Y} - EG_{BL\ Y})$

where,

BE_Y - is CO_2 baseline emission, t CO_2/year

$EF_{CO2\ grid\ Y}$ - is the baseline emission factor during the IESU electricity generation, t CO_2 /MWh

$EG_{PJ\ Y}$ - is the annual project electricity generation, MWh /year

$EG_{BL\ Y}$ - is the annual baseline electricity generation, MWh /year

Emission reduction

$ER_Y = BE_Y$

where,

ER_Y - is CO_2 emission reductions, t CO_2/year

BE_Y - is CO_2 baseline emissions, t CO_2/year

The formula used for calculating the estimates referred above are consistent throughout the section E of the PDD.

For calculating the estimates referred to above, key factors, e.g. electricity generation and CO_2 emission factor during the IESU electricity generation 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.

Data sources used for calculating the estimates referred to above, such as monitoring data registration journal and official documents, etc. are clearly identified, reliable and transparent.

Emission factors, such as CO_2 emission factor during the IESU electricity generation, were selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

The estimation referred to above is based on conservative assumptions and the most plausible scenarios in a transparent manner.

The estimates referred to above are consistent throughout the project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works”.

The annual average of estimated emission reductions over the crediting period is 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.

The PDD version 1.4 includes an illustrative ex ante emission reduction due to the JI project activity.

The identified areas of concern as to estimation of emission reductions, project participants response and Bureau Veritas Certification’s conclusion are described in Appendix A (refer to CAR04, CAR05, CAR06, CAR07, CAR22, CAR23, CAR25, CL03).

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 (refer to section F of the PDD).

As for national requirements, necessity of the conduct and procedure of Environmental Impact Assessment (EIA) for investment project are defined in the following laws: (a) Envoronmental Law” #1264-XII dated 25.06.1991; (b) “Law on the ecological expertise” #45/95-BP dated 09.02.1995; (c) “Law on the investment activity” №1560-XII dated 18.09.1991. However carrying out of Environmental Impact Assessment is not mandatory in case of equipment replacement without changes of technical parameters which can result in negative impact on the environment. It is states by Cabinet of Ministers Resolution #1269 “About procedure of the investment projects approval and state expertise” dated 31.10.2007. In this case only sanitary and epidemiological expertise should be provided. As a result of sanitary and epidemiological expertise, ACPW obtains the positive opinion letter on the project of AlfaCond system installation on the TG#8 from Donetsk sanitary and

epidemiological station. According to the letter, the condensation process does not attend by contaminant emission and does not have the impact on the quality and quantity of plant emission into atmosphere and water sources. As described in the PDD, in the nearest future the same letter is planned to obtain for Alfa Cond system installation on the TG#7.

As for transboundary impact, Ukraine has ratified three Protocols to the UN Convention on Long-range Transboundary Air Pollution. Two of these Protocols are directly related to the reduction and control over the hazardous substances emissions (refer to section F.1 of the PDD).

Based on consideration of environmental impact due to the JI project, the project is fully in accordance with the commitments of Ukraine under the UN Convention on Long-range Transboundary Air Pollution.

The identified areas of concern as to environmental impacts, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A (refer to CAR24).

4.11 Stakeholder consultation (49)

Stakeholder consultation was not undertaken as it is not required by the host Party of the regarded JI project. Nevertheless, during the project realization the local public community was informed via the mass-media and ACPW newspaper "Zavodchanin". As a result, no comments on the project were received.

4.12 Determination regarding small scale projects (50-57)

Not applicable.

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

Not applicable.

4.14 Determination regarding programmes of activities (65-73)

Not applicable.

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 Joint Implementation Guidelines, were received.

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” at Donetsk region, 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 participants used the latest tool for demonstration of the additionality allowing for a grace period of eight months when the PDD is submitted for publication. In line with this tool, the PDD investment analysis, barrier analysis, and common practice analysis were used 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 issues related to the current determination stage of the project: the written approval of the project is not issued. 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 2.0 dated 04/12/2012 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (version 2.0) 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 Camco Carbon Russia Limited that relate directly to the GHG components of the project.

/1/ Project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” version 1.0 dated 31/01/2011

/2/ Project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” version 1.1 dated 27/04/2011

/3/ Project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” version 1.2 dated 21/06/2011

/4/ Project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” version 1.3 dated 22/02/2012

/5/ Project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” version 1.4 dated 07/03/2012

/6/ Project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” version 1.5 dated 16/03/2012

/7/ Project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” version 1.6 dated 23/03/2012

/8/ Letter of Endorsement #1459/23/7 dated 24/09/2010 of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” that was issued by National Environmental Investment Agency of Ukraine

/9/ Project design document of the JI project “Installation of the AlfaCond steam condensation systems on the turbine-generators of the Heat and Power Plant of JSC “Avdeevskiy coke-processing works” version 2.0 dated 04/12/2012

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

/1/ Report note #740/23a/387 dated 18/01/2010 on Annual form #2-TP (air)
/2/ Air protection report for 2009, Annual form #2-TP (air)
/3/ Air protection report for 2010, Annual form #2-TP (air)
/4/ Permit # 1 410 200 000 – 18 of 18/02/2009 on pollutant emissions into the air by stationary sources, issued by Donetsk Region Environmental Protection State Administration, valid from 18/02/2009 till 18/02/2014
/5/ Attestation certificate #ВЛ-355/2010 dated 26/03/2010, valid till 26/03/2014, issued by Donetsk Scientific and Production Centre of Standardization, Metrology and Certification SE
/6/ Expert opinion #631 dated 26/07/2010, issued to JSC "Avdeevskiy coke-processing works" general director H. Vlasov, head of Project and Consult department H. Kyhel (turbine-generator #7)
/7/ Expert opinion #14.-01.-15.-2157.10 dated 24/06/2010 concerning compliance of project documents to requirements of legal acts on labour protection and industrial safety (Turbine-generator #7 Technical Upgrade with Alfa Cond 800 Steam Condensation System Working Project)
/8/ Equipment acceptance act #3 dated 26/02/2008 of turbine-generator #8
/9/ Acceptance-transferring statement #568 of repaired, reconstructed and modernized objects approved on 23/06/2008
/10/ Order #258 dated 03/04/2008 on commissioning of turbine-generator PT-12-35/10M at central heating and power plant workshop
/11/ Measurement equipment passport dated 16.08.2007 on 3-phase active meter, serial #111923
/12/ Measurement equipment passport dated 16/08/2007 on 3-phase reactive meter, serial #598427
/13/ Measurement equipment passport dated 13/11/2007 on 3-phase reactive meter, serial #097060
/14/ Measurement equipment passport dated 15/04/2008 on 3-phase active meter, serial #143327
/15/ Protocol #741 dated 14/11/2007 of power meter (serial #097060) calibration
/16/ Protocol #487 dated 23/04/2008 of power meter (serial #143327) calibration
/17/ Protocol #631 dated 22/08/2007 of power meter (serial #143327) calibration
/18/ Performance data of main equipment at turbine workshop #2 on January 2011 (TG #7, TG #8)
/19/ Main equipment of heat and power plant running hours logbook on

2004, 2005, 2006, 2007, 2008

/20/ Power meters data logbook, started on 01/01/2007

/21/ Request #74 dated 01/02/2008 on production and technical courses (Alfa Cond condensation unit operation training of personnel of heat and power plant turbine workshop #2)

/22/ Protocol #19 dated 20/02/2008 on knowledge assessment of personnel who underwent training on Alfa Cond 800-WFM operation

/23/ Order #24 dated 01/02/2008 of chief engineer on heat and power plant personnel training on special education courses

/24/ Expert opinion #67 dated 19/02/2008, issued to JSC "Avdeevskiy coke-processing works" chief engineer S. Kaufman (turbine-generator #8)

/25/ State sanitary and epidemiological expertise conclusion #336/031 dated 15/02/2008 (Turbine-generator #8 Technical Upgrade with Alfa Cond 800 Steam Condensation System Working Project)

/26/ Protocol №336/031 dated 15/02/2008 of state sanitary and epidemiological expertise (Turbine-generator #8 Technical Upgrade with Alfa Cond 800 Steam Condensation System Working Project)

/27/ Expert opinion #14-02-3237.08 dated 26/05/2008 on equipment conformity to requirements of legal acts concerning labour protection and production safety, issued to JSC "Avdeevskiy coke-processing works" general director H. Vlasov (Alfa Cond 800 Steam Condensation System)

/28/ Expert opinion #14-01-3237.08 dated 27/03/2008 on equipment conformity to requirements of legal acts concerning labour protection and production safety, issued to JSC "Avdeevskiy coke-processing works" general director H. Vlasov (Alfa Cond 800 Steam Condensation System, turbine-generator #8)

/29/ Alfa Cond 800 Steam Condensation System Operation Manual, approved on 14/02/2008

/30/ Alfa Cond 800 Steam Condensation System Technical Specification dated 24/11/2004

/31/ Heat and power plant turbine-generator #8

/32/ 3-phase active meter, serial #111923, 3-phase reactive meter, serial #598427 (turbine-generator #7)

/33/ 3-phase reactive meter, serial #097060, 3-phase active meter, serial #143327 (turbine-generator #8)

/34/ Turbine workshop #2 energy production and consumption logbook

/35/ Protocol #14 dated 14/07/2006 on technical council committee concerning investment projects

/36/ Protocol #2 dated 14/08/2006 of Investment Committee Meeting

/37/ Note to the head of the investment department V. Kalnytskyi on average frequency of energy production by turbine-generator #8

/38/ Technical progress serves JSC "Avdeevskiy coke-processing works"/ Zavodchanyn magazine #13 (599) dated 13/03/2007

/39/ Unique equipment for JSC “Avdeevskiy coke-processing works”/ Zavodchanyn magazine #12 (2554) dated 21/03/2008
/40/ Order #13 dated 25/07/2006 on discounting rate determination
/41/ Energy audit report and recommendations for JSC “Avdeevskiy coke-processing works”, Energy and steam combined production, improvement of energy efficiency at JSC “Avdeevskiy coke-processing works”, May 1998, American State Pacific North-Western Laboratory, Reasonable Energy and Ecology Consumption Agency, Ukraine
/42/ Protocol #14 of technical council of agreement of investment projects dated 14/07/2006.
/43/ Order #13 dated 25/07/2007 of determination of discount rate
/44/ Staff reports of OJSC “ACPW” of information providing.
/45/ Technical report 25643. Operation test of turret cooling towers #1 and #2 of CHP run-around cycle at OJSC “ACPW”
/46/ Staff report #02-2/30/719 dated 22/04/2011 of audit information of OJSC “ACPW”
/47/ Estimates of production cost of CHP of OJSC “Avdeevskiy coke-processing works” for first half-year 2006 (actual data)
/48/ Letter # 02-1/07/50-1052 about modernization works of JSC “Avdeevskiy coke-processing works” dated 01/02/2012

Persons interviewed:

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

/1/ V. Kirbaba – Deputy chief engineer of environmental protection of JSC “Avdeevskiy coke-processing works”
/2/ V. Shevtsova – Chief of laboratory of JSC “Avdeevskiy coke-processing works”
/3/ S. Shmalko – Chief of the HPP shop at JSC “Avdeevskiy coke-processing works”
/4/ M. Iavorskyi – Plant methrologist of JSC “Avdeevskiy coke-processing works”
/5/ Y. Maliar – Plant power engineering specialist of JSC “Avdeevskiy coke-processing works”
/6/ V. Skarshevskii – Deputy director of Directorate of energy programs of Metinvest Holding LLC
/7/ O. Ryumin – JI/CDM manager of “Camco Carbon Russia Limited”

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APPENDIX A: DETERMINATION PROTOCOL

Table 1 Check list for determination, according JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
General description of the project				
Title of the project				
-	Is the title of the project presented?	The title of project is "Installation of AlfaCond steam condensation systems on turbine-generators of the Heat and Power Plant of JSC "Avdeevskiy coke-processing works".	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Sectoral scope of the project is (1) Energy industries (renewable/non-renewable sources).	OK	OK
-	Is the current version number of the document presented?	The current version number of the presented PDD is 1.0 dated 31/01/2011.	OK	OK
-	Is the date when the document was completed presented?	The date when the PDD version 1.0 was completed is 31/01/2011.	OK	OK
Description of the project				
-	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and	The purpose of the JI project is improving of turbine-generator efficiency and increasing own electricity generation by "Avdeevskiy coke-processing works" (ACPW) due to installation of the AlfaCond steam condensation systems on the turbine-generators #7 and #8 of the Heat and		OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	c) Project scenario (expected outcome, including a technical description)?	Power Plant of ACPW. Situation existing before project equipment installation is described in section A.2 of the PDD. According to the described information, KP-540/2 type condensers were installed on turbine-generators (TG) #7,8 of the HPP prior the project realization. Insufficient cooling surface of these condensers did not allow turbine-generators to achieve design electricity generation. Furthermore, the heat power plant used coke oven gas as the fuel. Now, new dry coke quenching equipment has been installed, so steam boiler shop has large quantity of free steam. This steam may be used for producing electricity by turbo-generators #7 and #8; but existing condensers KP-540/2 has twice lower cooling ability than required if all the steam would be going to condenser. Project scenario envisages installation new AlfaCond steam condensation systems at the turbine-generators # 7,8, instead of KP-540/2 condensers. Average production of turbine-generators # 7,8 will be increased, with constant fuel consumption level. Additional project electricity replaced electricity from the Ukraine grid. Corrective Action Request 02 (CAR02). Please,	CAR02	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		briefly summarize chosen baseline scenario in section A.2 of the PDD.		
-	Is the history of the project (incl. its JI component) briefly summarized?	The history of the project is briefly summarised in the section A.2 of the PDD. Preliminary works at project started in 2006, with consideration given to the opportunity of using Kyoto protocol mechanisms during project realisation. Based on the documents, condensing system on turbine-generator #8 was commissioned in February 2008. Delivery contract for condensing system on turbine-generator #7 was signed in October 2010 and it is planned to begin operate in February 2011. As a fact, turbine-generator #7 was commissioned in March 2011. Corrective Action Request 03 (CAR03). Please, summarize the history of the JI project including its JI component and provide references to the documented evidence.	CAR03	OK
Project participants				
-	Are project participants and Party(ies) involved in the project listed?	Yes, project participants such as JSC “Avdeevskiy coke-processing work” and Metinvest International S.A. and Parties involved such as Ukraine and the Switzerland are listed in the PDD.	OK	OK
-	Is the data of the project participants presented in tabular format?	In the PDD information about project participants is presented in tabular format.	OK	OK
-	Is contact information provided in	Contact information of participants (JSC	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	Annex 1 of the PDD?	"Avdeevskiy coke-processing work" and Metinvest International S.A.) is provided in Annex 1 of the PDD.		
-	Is it indicated, if it is the case, if the Party involved is a host Party?	Yes, Ukraine is indicated as host Party.	OK	OK
Technical description of the project				
Location of the project				
-	Host Party(ies)	Ukraine	OK	OK
-	Region/State/Province etc.	Donetskiy region	OK	OK
-	City/Town/Community etc.	Avdeevka town	OK	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	The project has been implemented at JSC "Avdeevskiy Coke-Processing Work", located in Avdeevka in Donetsk region of Ukraine. Its coordinates are 48º09' N, 37º44' N. The section of location of the project is not exceed one page.	OK	OK
Technologies to be employed, or measures, operations or actions to be implemented by the project				
-	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?	Project developer described in section A.4.2 of the PDD main characteristics and parameters of condenser type KP-540/2 and steam condensation system type AlfaCond. Also, there is presented the schedule of the JI project realization. Clarification Request 01 (CL01). Please, provide data of steam consumption by condenser type KP-540/2 and the AlfaCond steam condensation	CL01	OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		system (e.g. daily, monthly or yearly average data). Clarification Request 02 (CL02). Please, clarify in the PDD why turbine-generators #7 and #8 were chosen for JI project implementation.	CL02	OK
Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances				
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	As stated in the PDD, reduction of GHG emission will be achieved at heat power plant of JSC "Avdeevka Coke-processing work" as a result of new AlfaCond steam condensation systems installation. As a result of the JI project implementation, additional amount of electricity generation is used instead of electricity from Ukrainian grid. Therefore, there are achieved the decrease of electricity consumption from Ukrainian grid and GHG emission reductions. Corrective Action Request 04 (CAR04). Please, make information of increasing electricity generation value consistent throughout the PDD (section A.2 and section A.4.3). Corrective Action Request 05 (CAR05).Please, prove with evidences in section A.4.3 why replacement of the standard condensers in HPP by steam condensation systems is not common	CAR04 CAR05	OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		practice for Ukraine coke producers or provide reference to section B.2, where this item is regarded.		
-	Is it provided the estimation of emission reductions over the crediting period?	In section A.4.3.1. of the PDD there is provided estimation of emission reduction over the crediting period 2008-2012 (181 251 tCO_2 equivalent). Also, provided estimation of emission reductions over the crediting period 2013-2022 (629 420 tCO2 equivalent).	OK	OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO2e?	It's presented the estimated annual reduction for the credit period (2008-2022) in tCO2equivalent in the project design document.	OK	OK
-	Are the data from questions above presented in tabular format?	The data of estimated emissions reduction provided in tabular format in section A.4.3.1. of the PDD.	OK	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period indicated?	The length of the crediting period is indicated, i.e. crediting period is from 23/02/2008 till 31/12/2012 or 4 years and 10 months. Also, project developer stated the length of the period over the first crediting period for what the estimation of emission reductions was calculated, i.e. 2013-2022 (10 years). Corrective Action Request 06 (CAR06). Please, include the period 2013-2022 to section C.3 and consider it as the crediting period; and revise the	CAR06	OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		name of the period in table A.3 of the project design document. Clarification Request 03 (CL03). Please, clarify in section A.4.3.1 of the PDD why 15 years were chosen as the crediting period.	CL03	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided?	All request information consists in section A.4.3.1 of the PDD. Also, refer to sections of the determination protocol above. Corrective Action Request (CAR07). In Table A.2 of the PDD the calculation annual average value of emission reduction during the crediting period is not correct. Please, recalculate mentioned value taking into account that the length of crediting period is not full 5 years.	CAR07	OK
Project approvals by Parties				
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	Project Idea Note had been submitted for review of the National Environmental Investment Agency of Ukraine (NEIA). NEIA issued Letter of Endorsement #1459/23/7 dated 24 September 2010.	OK	OK
19	Does the PDD identify at least the host Party as a "Party involved"?	In the PDD is identified Ukraine as a Host Party, and the Switzerland as a Party involved to the considered JI project.	OK	OK
19	Has the DFP of the host Party issued a written project approval?	Corrective Action Request 01 (CAR01). Please, provide Letter of Approval of the host Party.	CAR01	CAR01 is pending

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
20	Are all the written project approvals by Parties involved unconditional?	See section 19 above.	-	-
Authorization of project participants by Parties involved				
21	Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: − A written project approval by a Party involved, explicitly indicating the name of the legal entity? or − Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	After finishing of project determination report, the PDD with supporting documents and Determination Report will be presented to State Environmental Agency of Ukraine for receiving the Letter of Approval that will authorized project participants. Also, see section 19 and section 20 of this protocol above.	-	-
Baseline setting				
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline? − JI specific approach − Approved CDM methodology approach	In PDD explicitly indicated that JI specific approach is used for identifying the baseline, since among the methodologies approved by the CDM Executive Board there is none fully matching the proposed JI project.	OK	OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	PDD provides detailed description four plausible future scenarios. This information is considered in section B.1 of the PDD.	OK	OK
23	Does the PDD provide justification that	According to the information stated in the project		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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 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?	design document, four plausible future scenarios presented in a complete and transparent manner. First plausible future scenario was chosen as baseline. Identified possible scenarios were analysed taking into account key factors of national and/or sectoral policies that affect the implementation of the regarded scenarios. Also, in section B.1 all baseline data and parameters are presented in a tabular format with detailed explanation of each ones. Corrective Action Request 08 (CAR08). In the table of parameter of baseline hourly electricity production there is indicated 2010; as a matter of fact, data of the last three years prior to devices commissioning were used. Please, make amendments in the table of section B.1 in the PDD.	CAR08	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	As stated in the PDD, any CDM methodologies don't use for choice, justification and setting of baseline; because among the methodologies approved by the CDM Executive Board there is none fully matching the proposed JI project.	OK	OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	For this project there is used Carbon Emission Factor for power generation in the Integrated Electricity System of Ukraine, which is assessed by State Environmental Investment Agency of Ukraine for JI projects developed in Ukraine.	OK	OK
Approved CDM methodology approach only				
26 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	Not applicable	OK	OK
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)?	Not applicable	OK	OK
26 (b)	Does the PDD provide a description of why the approved CDM methodology is	Not applicable	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	applicable to the project?			
26 (c)	Are all explanations, descriptions and analyses pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?	Not applicable	OK	OK
26 (d)	Is the baseline identified appropriately as a result?	Not applicable	OK	OK
Additionality				
JI specific approach only				
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 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)	As indicated in the project design document, the approved "Tool for demonstration assessment and additionality" version 05.2 was used for demonstration of additionality. As presented in previous sentence, the latest version of the tool was used. Consideration that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions were performed by project developer and provided in section B.2 of the PDD.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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".			
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	Corrective Action Request 09 (CAR09). Taking into account that developer is introducing the internal benchmark, according to the Additionality Tool it shall be "demonstrated that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark". Please, provide the official order of the Metinvest Holding "On the establishment of the discount rate» mentioned in the PDD and confirmation that this order has been consistently followed during the project decision period and before. Corrective Action Request 10 (CAR10). Please, adjust the cash flows for 2016 and 2017 for expected inflation index as it is done for previous years.	CAR09 CAR10	OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Corrective Action Request 11 (CAR11). Please, note that the Guidance article 4 requires the fair value of the project assets at the end of the assessment period to be included in the cash flow for the final year. The book value or potential selling price (scrap value) may be used for this purpose.	CAR11	OK
		Corrective Action Request 12 (CAR12). Please, note that in order to calculate the income the energy selling tariffs are currently used. Taking into account the data provided in PDD showing that the project is aimed to reduce the procurement of electricity from the grid, the electricity purchase tariffs shall be used for calculations. Please, indicate the reputable source of the tariff data as well.	CAR12	OK
		Clarification Request 04 (CL04). On page 2 of the PDD the developer states: “Therefore increase of electricity generation due to the project implementation doesn’t increase fuel combustion at the ACPW”. Taking into account that the project certainly will not lead to any increase in service and maintenance costs of the coke-oven gas capturing equipment and turbogenerator units besides probably some minor additional expenses for servicing the new heat exchangers, where	CL04	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		substantial additional direct operational expenses shown in investment analysis come from? Please, clarify this issue and provide detailed break-down. Corrective Action Request 13 (CAR13). The additional electric power generation values used in financial analysis differ substantially from the relevant figures indicated in the table E1 on the page 36 of the PDD. Please, correct whichever is wrong. Corrective Action Request 14 (CAR14). Please, remove any protection of the formulas now present in Excel file as required by the Guidance for the Assessment of Investment analysis.	CAR13 CAR14	OK OK
29 (b)	Are additionality proofs provided?	Additionality proofs are regarded in the PDD. Refer to 29 (a) above.	-	-
29 (c)	Is the additionality demonstrated appropriately as a result?	Additionality of given JI project are justified in the PDD. Also, please, see section 29 (a) and section 29 (b) of this determination protocol.	-	-
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	"Tool for demonstration assessment and additionality" version 05.2 is followed by the JI project developer during additionality proofs.	OK	OK
Approved CDM methodology approach only				
31 (a)	Does the PDD provide the title, reference number and version of the	Not applicable	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	approved CDM methodology used?			
31 (b)	Does the PDD provide a description of why and how the referenced approved CDM methodology is applicable to the project?	Not applicable	N/A	N/A
31 (c)	Are all explanations, descriptions and analyses with regard to additionality made in accordance with the selected methodology?	Not applicable	N/A	N/A
31 (d)	Are additionality proofs provided?	Not applicable	N/A	N/A
31 (e)	Is the additionality demonstrated appropriately as a result?	Not applicable	N/A	N/A
Project boundary (applicable except for JI LULUCF projects)				
JI specific approach only				
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 boundaries are defined in the PDD; and anthropogenic sources of emissions were determined. Furthermore, emission sources within the project boundary are demonstrated in Figure B.1 of the PDD section B.3. Clarification Request 05 (CL05). Please, divide the emission sources for three groups, i.e. which are under the control of the JI project participants, reasonably attributable to the project, and significant to the JI project and clarify these information in section B.3 of the PDD.	CL05	OK
32 (b)	Is the project boundary defined on the	See section 32 (a) of this table.	-	-

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?			
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 sources included are described in the PDD by using figure B.1 Emission sources located within the project boundary.	OK	OK
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	In section B.3 of the PDD all gases and sources included are explicitly stated; the information presented in table B.3.1. Corrective Action Request 15 (CAR15). Please, justify the exclusion of gases indicated in table B.3.1 of the PDD.	CAR15	OK
Approved CDM methodology approach only				
33	Is the project boundary defined in accordance with the approved CDM methodology?	Not applicable	N/A	N/A
Crediting period				
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?	The starting date of project is 14/08/2006. This date is a date of project approval by Metinvest investment committee. The document that justified this date was provided during site visit. Project commissioning and start-up date is 23/02/2008.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
34 (a)	Is the starting date after the beginning of 2000?	Concerned JI project started in 2006.	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	Expected operational lifetime provided in PDD is 25 years or 300 months.	OK	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	The length of the crediting period is provided in years and months, namely 4 years and 10 month or 58 month (from 23/02/2008 till 31/12/2012). Please, see CAR06 in the determination protocol as well.	-	-
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?	In the PDD there is provided information that the starting date of the crediting period is before the date of the first emission reductions generated by the JI project.	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?	In the PDD stated that the crediting period has began after the beginning 2008, i.e. 23/02/2008.	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 net	The estimation of emission reduction due to the JI project is provided for the period 2008-2022. As a fact, in the PDD the values of emission reductions during the period 2008-2012 are presented in table A.2. In addition, the values of emission reductions for the period 2012-2022 are	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	removals presented separately for those until 2012 and those after 2012?	presented separately in table A.3 of the PDD.		
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	The project developer uses JI specific approach for monitoring plan establishing in accordance with "Guidance on criteria for baseline settings and monitoring". Among approved CDM methodologies for baseline setting and monitoring there is not a single one than would be associated with the proposed JI project.	OK	OK
JI specific approach only				
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?	The monitoring plan describes factor and parameters to be monitored, such as generation of electricity by generators #7and #8; operational time of these generators; carbon emission factor for Ukraine electricity grid. (see section D.2 of PDD). Corrective Action Request 16 (CAR16). Please, specify the recording frequency of monitoring parameters in table of section D (e.g. monthly, yearly, etc).	CAR16	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	There is no constants and indicators used by project developer regarding considered JI project	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	reductions or enhancements of net removals to be monitored?			
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?	In monitoring plan carbon emission factor for Ukrainian electricity grid is used as default value. Corrective Action Request 26 (CAR26). NEIA issued Order #43, Order #62, and Order #63 that approved new Grid Emission Factor. Please, use for calculation the recent values of Grid Emission Factor, and make corrections in the PDD.	CAR26	OK
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?	EF of CO2 for Ukrainian electricity grid is assessed by TÜV SÜD Industrie Service GmbH for JI projects in Ukraine. The value of EF_{CO2} has already been used by JI projects since 2008.	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?	The monitoring plan clearly indicates the source from which monitoring data that needed for calculations are taken. As a matter of fact, it is Detailed breakdown of electricity generation by HPP per month for electricity generation monitoring data and Performance figures of HPP per month for operating hours monitoring data. Moreover, there are presented first primary sources of monitoring data of this JI project (e.g.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		refer to Figure D.1 Diagram of CO2 emission monitoring system at ACPW provided in the PDD).		
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	Corrective Action Request 17 (CAR17). Please, specify the procedures to be followed if expected monitoring data are unavailable.	CAR17	OK
36 (b) (iv)	Are International System Unit (SI units) used?	All values through the PDD are not presented in accordance to International System Units, but some of them are used.	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?	The monitoring plan doesn't note any parameters, coefficients, variables, etc that are to be obtained though monitoring in order to calculate baseline emissions.	OK	OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	According to the information from the monitoring plan of JI project and project design document, the use of parameters and variables are consistent between the baseline and monitoring plan.	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 the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring". For instance, Carbon Emission Factor for electricity (EF_{CO2}) is used in given JI project.	OK	OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish:	Corrective Action Request 18 (CAR18). Please, clearly indicate in the monitoring plan of the PDD	CAR18	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(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?	division of the parameters into three groups, such as: (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. If any group is not applicable to parameters and data of given JI project, please, state so in the PDD.		
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	Yes, methods for data monitoring and establish frequency of the last ones are specified in the monitoring plan described in the PDD. According to the PDD, there is performed direct monitoring of emission reduction from the JI project.	OK	OK
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline	Monitoring plan elaborates the formulae used for calculation and estimation of baseline emissions and emission reductions due to the JI project		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	implementation. Furthermore, the PDD states following: since additional electricity generation due to the project realization is not connected with increasing of fossil fuel combustion, the project emissions are equal to zero. Corrective Action Request 19 (CAR19). Please, reconsider the formulae in section D and section E; and explain in more details conditions for usage of all formulae needed for calculation of emissions and emissions reduction due to the JI project in section E.	CAR19	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	The underlying rationale for the formulae is presented.	OK	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	All variables and equation formats are consistent and used in appropriately way.	OK	OK
36 (f) (iii)	Are all equations numbered?	Equations needed for calculations described in section D and section E of the PDD. All equations are numbered.	OK	OK
36 (f) (iv)	Are all variables, with units indicated defined?	Units are provided for each variable from the formulae.	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	The conservativeness of procedures are justified.	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	Uncertainty level in key parameters identified as low in table D.2 “Quality control and quality assurance procedures undertaken for data monitored”.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	There is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions of the baseline scenario.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	Please, see CAR of this determination protocol.	-	-
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	In the PDD project developer describes the monitoring procedure that is in compliance with technical procedure at JSC “Avdeevskiy coke-processing works.	OK	OK
36 (f) (vii)	Are references provided as necessary?	In section D of the PDD there are provided references to the national environmental legislation in relevant sectors.	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Key assumptions are explained 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?	In the project design document there is not stated any information about significant uncertainty level of assumptions and procedures.	OK	OK
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence	In the PDD project developer described the uncertainty level of key parameters. Uncertainty level of concerned data was assessed as low.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	Measuring devices for monitoring of key parameters are calibrated/verified in compliance with the state regulation, JSC ACPW standards and approved methodologies in order to assure quality control of monitoring data.		
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?	No national or international monitoring standard are used for monitoring of the JI project implementation.	OK	OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	Not applicable for given JI project.	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?	In monitoring plan section D.2 and D.3 of the quality assurance and control procedures, including information about calibration and how monitoring data are to be recorded and collected. Corrective Action Request 20 (CAR20). Please, provide Calibration plan of JI project measurement equipments.	CAR20	OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	Monitoring plan identified the responsible departments and persons regarding monitoring activities of the JI project in section D.2 and section D.3 of the PDD.	OK	OK
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?	According to the section B.2 of the PDD, no similar activity to this project not identified in Ukraine, so good monitoring practice to this type project is unavailable. Corrective Action Request 21 (CAR21). In section D.3 of the PDD stated that considered JI project is the SSC-JI project. Please, correct.	CAR21	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?	Presented in the PDD monitoring plan provides 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. Data connected with baseline scenario and emission reduction calculation are stated in tabular format in section D of the PDD.	OK	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?	Forward Action Request 01 (FAR01). Please, provide document that confirms that the monitoring data are to be saved during crediting period and two years after last transfer of ER's for the JI project.	FAR01	FAR01 should be checked during next verification
37	If selected elements or combinations of approved CDM methodologies or	The approved CDM methodologies for baseline setting and monitoring are not used for	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	consideration of this JI project monitoring plan, because among the approved CDM methodologies there is none fully matching the considered JI project.		
Approved CDM methodology approach only				
38 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	Not applicable	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)?	Not applicable	N/A	N/A
38 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	Not applicable	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?	Not applicable	N/A	N/A
38 (d)	Is the monitoring plan established	Not applicable	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	appropriately as a result?			
Applicable to both JI specific approach and approved CDM methodology approach				
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 defined project components, justify its need and state	Not applicable	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	how the conditions mentioned in (a)-(c) are met?			
Leakage				
JI specific approach only				
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?	As developers of project design document regard, the project activity doesn't relate with transportation, firing, or production, so additional amount of fuel is not needed. Thus, project leakage is absent. Please, see CAR15 of this protocol above.	-	-
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	According to the information and justification stated in the PDD, leakage is absent. Please, refer to section B.3 of the PDD.	OK	OK
Approved CDM methodology approach only				
41	Are the leakage and the procedure for its estimation defined in accordance with the approved CDM methodology?	Not applicable	OK	OK
Estimation of emission reductions or enhancements of net removals				
42	Does the PDD indicate which of the following approaches it chooses? (a) Assessment of emissions or net removals in the baseline scenario and in the project scenario (b) Direct assessment of emission reductions	As indicated in the PDD, direct assessment of emission reductions is performed during the JI project implementation.	OK	OK
43	If the approach (a) in 42 is chosen,	See section 42 of this protocol.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?			
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?	The estimated emission reductions are provided ex ante in PDD. As for leakage, it is considered as absent, because additional electricity generation by the AlfaCond steam condensation systems that does not concern with production, transportation and firing of additional amount of fuel at the JSC ACPW.	OK	OK
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 estimation of baseline emissions and emission reduction are made on a periodic basis from beginning to the end of the crediting period for each year.		OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the end of the crediting period? (iii) On a source-by-source/sink-by-sink basis? (iv) For each GHG? (v) In tones of CO2 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 formula used for calculating the estimates in 43 or 44 consistent throughout the PDD? (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	Estimations of emission reductions are carried out for CO_2 as greenhouse gas. Calculations are regarded in t CO_2 equivalent. Formulae used for calculating the estimates concerning in section D and section E are consistent throughout the PDD and calculation Excel spreadsheets. As there was already mentioned above, data sources used for calculating the estimates are clearly identified. Among key factors influencing the baseline emissions or the activity level of the project as well as risks associated with the project Carbon Emission Factor for electricity is taken into account. The emission factor of Ukrainian grid that used for calculation the estimates in the JI project are selected for usage with appropriate accuracy. Choice of emission factor is justified in the project design documents. Conservative assumptions are taken into account while estimating emission reduction. In the PDD there are provided tables with calculation results of CO2 emission reductions. As a fact, estimated total value of CO2 emission reductions for the first crediting period is 181 251 t CO2 equivalent; moreover, estimated total value of		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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 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?	CO2 emission reductions for the period 2013-2022 is 629 420 t CO2 equivalent. Corrective Action Request 25 (CAR25). Please, revise value of electricity generation by TG#7 for 2009 and the value of electricity generation by TG#8 for 2010 that indicated in the PDD and Excel file and correct as well as supporting calculations. Corrective Action Request 22 (CAR22). Please, state in the title of table E.3 and table E.4 the periods for what ERs are estimated. Corrective Action Request 23 (CAR23). Please, provide in table E.3 and table E.4 the annual average value of CO2 emission reductions.	CAR25 CAR22 CAR23	OK OK OK
46	If the calculation of the baseline emissions or net removals is to be performed ex post, does the PDD include an illustrative ex ante emissions or net removals calculation?	The calculations of the baseline emissions are to be performed ex post. Also, in the PDD there are provided ex ante calculation of emissions. All estimated values are presented in section E of the PDD and Excel spreadsheets.	OK	OK
Approved CDM methodology approach only				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
47 (a)	Is the estimation of emission reductions or enhancements of net removals made in accordance with the approved CDM methodology?	Not applicable	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 CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? − 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	Not applicable	N/A	N/A

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?			
Environmental impacts				
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?	The project design document includes description of the environmental impact assessment of the JI project that performed in accordance with procedure determined in Ukraine. Referenced environmental documents are listed in section F.1 of the PDD. Based on information from the provided documents, installed AlfaCond steam condensation system does not lead to negative impact on the environment. Positive opinion letter #336/031 dated 15/02/2008 of the AlfaCond system installation on the turbine-generator #8 issued by Donetsk sanitary and epidemiological station has been obtained. Corrective Action Request 24 (CAR24). Please, regard the transboundary impacts as a result of the JI project implementation in section F of the PDD.	CAR24	OK
48 (b)	If the analysis in 48 (a) indicates that	Please, refer to section F of the PDD and section	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	48(a) above.		
Stakeholder consultation				
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 have been received, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?	The Host Party doesn't require stakeholder consultation process for the JI project. During the project realization, the local public community was informed via the mass-media and ACPW newspaper "Zavodchanin" (published articles of the ACPW newspaper "Zavodchanin" were provided during site visit). No comments connected with JI project implementation were received. Also, stakeholder's comments will be collected during determination procedure.	OK	OK
Determination regarding small-scale projects (additional elements for assessment)				
Applicable to bundled JI SSC projects only				
Applicable to all JI SSC projects				
Determination regarding land use, land-use change and forestry projects (additional/alternative elements for assessment)				
Determination regarding programmes of activities (additional/alternative elements for assessment)				

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Determination team conclusion
Corrective Action Request 01 (CAR01). Please, provide Letter of Approval of the host Party.	Table 1, 19	In accordance with the "Requirements for the Joint Implementation Projects preparation" (Order #33 from 25th of June, 2008) issued by National Environmental Investment Agency of Ukraine (NEIA) to receive a Letter of Approval for the JI project the project owner should provide to the NEIA the determination report of the proposed project. Thus the project approval (Letter of Approval) will be attached to the final version of PDD and will be provided to verifier after completion of the determination report.	To be pending.
Corrective Action Request 02 (CAR02). Please, briefly summarize chosen baseline scenario in section A.2 of the PDD.	Table 1	Brief description of the chosen baseline scenario is added to Section A.2. Please see the PDD, p.2	The additional information was added to the PDD. Issue is closed.

Corrective Action Request 03 (CAR03). Please, summarize the history of the JI project including its JI component and provide references to the documented evidence.	Table 1	The history of the JI project including its JI component is summarized in Section A.2. Documented evidence is provided to determinator. Please see the PDD, p.2 Please see file "1. Protocol of the JI consideration"	The documented evidence was provided and requested information was represented in the project design document. Issue is closed.
Corrective Action Request 04 (CAR04). Please, make information of increasing electricity generation value consistent throughout the PDD (section A.2 and section A.4.3).	Table 1	Actually electricity generation increasing due to Alfa Cond system installation on the turbine-generator #8 is 50%. Appropriate change is made in Section A.4.3. Please see the PDD, p.10.	According to the clarification, issue is closed.
Corrective Action Request 05 (CAR05).Please, prove with evidences in section A.4.3 why replacement of the standard condensers in HPP by steam condensation systems is not common practice for Ukraine coke producers or provide reference to section B.2, where this item is regarded.	Table 1	Link to the common practice analysis in Section B.2 is added to the Section A.4.3. Please see the PDD, p.10.	Issue is closed based on additional information provided in the PDD.
Corrective Action Request 06 (CAR06). Please, include the period 2013-2022 to section C.3 and consider it as the crediting period; and revise the name of the period in table A.3 of the project design document.	Table 1	The period 2013-2022 is included to section C.3 and the name of Table A.3 is revised. Please see the PDD, p.11, 26.	Issue is closed.

Corrective Action Request (CAR07). In Table A.2 of the PDD the calculation annual average value of emission reduction during the crediting period is not correct. Please, recalculate mentioned value taking into account that the length of crediting period is not full 5 years.	Table 1	Annual average value of emission reductions during the crediting period is recalculated taking into account that the length of crediting period is 4 years and 10 months. Please see the PDD, Table A.2, p.11.	Appropriate amendment was made, thus, issue is closed.
Corrective Action Request 08 (CAR08). In the table of parameter of baseline hourly electricity production there is indicated 2010; as a matter of fact, data of the last three years prior to devices commissioning were used. Please, make amendments in the table of section B.1 in the PDD.	Table 1, 23	Baseline hourly electricity production is based on data of the last three years prior to devices commissioning. For TG#8 are used 2004-2006 data, for TG#7 – 2008-2010. Appropriate changes are made in Section B.1. Please see the PDD, p.16.	The information was clarified in the PDD. Issue is closed.

Corrective Action Request 09 (CAR09). Taking into account that developer is introducing the internal benchmark, according to the Additionality Tool it shall be "demonstrated that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark". Please, provide the official order of the Metinvest Holding "On the establishment of the discount rate» mentioned in the PDD and confirmation that this order has been consistently followed during the project decision period and before.	Table 1, 29 (a)	Response 1. Official order of the Metinvest Holding "On the establishment of the discount rate» dd 26.07.2006 and information about a project which used the same discount rate are provided to determinator. Please see files: "2. Order 'On the establishment of the discount rate" "3. 'Reconstruction of the benzol shop' Project" "4. 'Modernization of scale' Project" Response 2. JSK "ACPW" joined to the Metinvest in 2006 and hadn't used benchmark analysis of investment projects in the previous years. Presentation and investment calculations for the project "Recycling of off-size scrap in the drop-hammer plant of Azovstal" dated 2004 is used as an additional evidence of internal benchmark appliance in the metallurgical enterprises of Metinvest Holding.	Conclusion 1. Please note that the Guidance on the Assessment of Investment Analysis p13 required that the developer shall demonstrate consistent application of the internal benchmark for the similar projects for at least three years preceding project decision. The order of the Metinvest Holding "On the establishment of the discount rate» is dated 25/07/2006 and the project start date is 14.08.2006. Thereby we need additional evidence for the internal benchmark appliance for the period of 2003-2006. Final conclusion. OK. The issue is closed

		In the Azovstal investment calculations benchmark was set equal to 22%. This is more than benchmark used in the ACPW project. Therefore 15%-benchmark is appropriate for the proposed Project. Please see file "12. Azovstal project" p.7	
Corrective Action Request 10 (CAR10). Please, adjust the cash flows for 2016 and 2017 for expected inflation index as it is done for previous years.	Table 1, 29 (a)	Cash flows for 2016 and 2017 are recalculated taking into account inflation index. Please see file "Avdeevka investment calculation ver.2"	OK. The issue is closed.

Corrective Action Request 11 (CAR11). Please, note that the Guidance article 4 requires the fair value of the project assets at the end of the assessment period to be included in the cash flow for the final year. The book value or potential selling price (scrap value) may be used for this purpose.	Table 1, 29 (a)	Response 1. Fair value of the project assets at the end of the assessment period is included in the cash flow for the final year. Please see files: "5. Cost of scrap", " 6. Weight of Alfa Cond system", "Avdeevka investment calculation ver.2" Response 2. Liquidating value is included as a positive cash flow for 2017. References to this input are presented on sheet "Исх. данные". Results of investment analisys is renewed in the PDD (p.22). Please see file "Avdeevka investment calculation ver.3"	Conclusion 1. I recommend to account for liquidating value while calculating IRR of the project not only NPV. For example you may indicate negative investment expenses for 2017 (cell T22 on sheet «Денежные потоки». Unfortunately now any reference to this input is missing. Final conclusion. OK. The issue is closed.

Corrective Action Request 12 (CAR12). Please, note that in order to calculate the income the energy selling tariffs are currently used. Taking into account the data provided in PDD showing that the project is aimed to reduce the procurement of electricity from the grid, the electricity purchase tariffs shall be used for calculations. Please, indicate the reputable source of the tariff data as well.	Table 1, 29 (a)	In line with CDM Methodological Tool "Tool for the demonstration and assessment of additionality" (Version 05.2) input values used in investment analysis should be valid and applicable at the time of the investment decision taken by the project participant. According to the data presented in the Table B.1 balance of delivery-purchasing of electricity by ACPW was positive in 2005 and the company sold electricity to the external consumers. So, at the moment of investment analysis preparation (at the beginning of 2006) specialists of ACPW investment department used energy selling tariffs as applicable value for the calculation of income. They couldn't predict further change of the ACPW electricity balance at that moment. Economical department of ACPW is the source of energy selling tariffs data. Please see file "7. Electricity tariff"	OK. The issue is closed.

Corrective Action Request 13 (CAR13). The additional electric power generation values used in financial analysis differ substantially from the relevant figures indicated in the table E1 on the page 36 of the PDD. Please, correct whichever is wrong.	Table 1, 29 (a)	Response 1. Alfa Cond steam condensation system was specially designed for ACPW conditions and it is unique. Therefore at the moment of investment analisys preparation project owner has not reliable forecast regarding increasing of hourly production of turbine-generators due to the project realization. For the investment calculation this parameter was estimated on the basis of technical report "Operational tests of cooling towers #1 and #2 of HPP recirculation system" by "Production and technical enterprise "UkrEnergochermet". According to the report increasing of the cooling area of condensators is equivalent of the vacuum changing in the cooling system from 0.6-0.65 kgf/sm^2 up to 0.9 kgf/sm^2. Results of test showed that in this case increasing of the hourly production of the turbine-generators would be 1.0-1.5 MW. This data is used as the basis for estimation of the electric power generation during investment analysis.	Conclusion 1. Formally it is OK as the financial analysis is based on the information available for the project start.

		Please see file "9.Forecast of the hourly production"	
Corrective Action Request 14 (CAR14). Please, remove any protection of the formulas now present in Excel file as required by the Guidance for the Assessment of Investment analysis.	Table 1, 29 (a)	Protection of the formulas in the Excel file with the investment analisys is removed. Please see file "Avdeevka investment calculation ver.2"	OK. The issue is closed.
Corrective Action Request 15 (CAR15). Please, justify the exclusion of gases indicated in table B.3.1 of the PDD.	Table 1, 32 (d)	Additional clarification related to exclusion of gases is included in table B.3.1. Please see the PDD p.25.	Issue is closed.
Corrective Action Request 16 (CAR16). Please, specify the recording frequency of monitoring parameters in table of section D (e.g. monthly, yearly, etc).	Table 1, 36 (a)	The recording frequency of monitoring parameters in table of section D is specified. Please see the PDD. p.29.	According to the amendments, issue is closed.
Corrective Action Request 17 (CAR17). Please, specify the procedures to be followed if expected monitoring data are unavailable.	Table 1, 36 (b) (iii)	Procedures to be followed if expected monitoring data are unavailable are specified in Section D.2 of monitoring plan. Please see the PDD. p.33.	The procedure was specified. Issue is closed.

Corrective Action Request 18 (CAR18). Please, clearly indicate in the monitoring plan of the PDD division of the parameters into three groups, such as: (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. If any group is not applicable to parameters and data of given JI project, please, state so in the PDD.	Table 1, 36 (d)	All data and parameters which is needed for emission reductions calculation except Ukrainian grid emission factor and baseline hourly production of the electric power by the TG #7,8 are monitored throughout the crediting period. Grid emission factor and baseline hourly production by the TG #7,8 are not monitored but already determined at the stage of the PDD preparation. There are no fixed parameters which is unavailable at the stage of the PDD preparation. Please see the PDD. p.31.	Project parameters were divided into groups. Issue is closed.
Corrective Action Request 19 (CAR19). Please, reconsider the formulae in section D and section E; and explain in more details conditions for usage of all formulae needed for calculation of emissions and emissions reduction due to the JI project in section E.	Table 1, 36 (f)	The formulas in section E are reconsidered in line with section D calculations. Please see the PDD. p.36-37.	Issue is closed due to corrections provided in the section E of the PDD.

Corrective Action Request 20 (CAR20). Please, provide Calibration plan of JI project measurement equipments.	Table 1, 36 (i)	Calibration plan of JI project measurement equipments is provided to determinator. Please see file "9.Verification schedule of electric meters".	The document was provided for revision. Issue is closed.
Corrective Action Request 21 (CAR21). In section D.3 of the PDD stated that considered JI project is the SSC-JI project. Please, correct.	Table 1, 36 (k)	Sentence in Section D.3 is corrected. Please see the PDD, p.35.	Issue is closed.
Corrective Action Request 22 (CAR22). Please, state in the title of table E.3 and table E.4 the periods for what ERs are estimated.	Table 1, 45	The titles of Tables E.4 and E.5 are changed. Please see the PDD, p.38.	The information was added. Issue is closed.
Corrective Action Request 23 (CAR23). Please, provide in table E.3 and table E.4 the annual average value of CO2 emission reductions.	Table 1, 45	The annual average values of CO2 emission reductions are provided in tables E.4 and E.5. Please see the PDD, p.38.	According to the corrections, issue is closed.
Corrective Action Request 24 (CAR24). Please, regard the transboundary impacts as a result of the JI project implementation in section F of the PDD.	Table 1, 48 (a)	The transboundary impacts as a result of the JI project implementation are considered in section F of the PDD. Please see the PDD, p.39-40.	Based on the provided information in section F of the PDD, issue is closed.
Corrective Action Request 25 (CAR25). Please, revise value of electricity generation by TG#7 for 2009 and the value of electricity generation by TG#8 for 2010 that indicated in the PDD and Excel file and correct as well as supporting calculations.	Table 1, 45	Values of electricity generation by TG#7 for 2009 and by TG#8 for 2010 are specified as a result of site-visit. These values are corrected throughout the PDD and Excel file.	The values were revised and requested amendments were made. Thus, issue is closed.

Corrective Action Request 26 (CAR26). NEIA issued Order #43, Order #62, and Order #63 that approved new Grid Emission Factor. Please, use for calculation the recent values of Grid Emission Factor, and make corrections in the PDD.	Table 1, 36 (b)	New Grid Emission Factors approved by NEIA are used for baseline emission calculations throughout the PDD including the monitoring plan of the project.	According to the latest version of the PDD and supporting documents, issue is closed.
Clarification Request 01 (CL01). Please, provide data of steam consumption by condenser type KP-540/2 and the AlfaCond steam condensation system (e.g. daily, monthly or yearly average data).	Table 1	Comparison of steam consumption by turbine-generators ## 6,7,9 equipped with condenser type KP-540/2 and turbine-generator #8 with the AlfaCond steam condensation system in 2009 is presented in Table B.8. Steam consumption on the turbine-generator #8 is higher due to the project realization. But specific steam consumption (per MWh) on the turbine-generator #8 is slightly lower (down to 15%in relation to the average value). Please see the PDD, p.20.	Issue is closed.

Clarification Request 02 (CL02). Please, clarify in the PDD why turbine-generators #7 and #8 were chosen for JI project implementation.	Table 1	The turbine-generators ##6,7 and ##8,9 supply electricity through the two different electricity lines. So decision was made to reconstruct one from each pair of turbine-generators and as a result the lines will be electricity-balanced. Turbine-generators #7 and #8 were chosen because time of their planned discontinuance of operation matched with the schedule of the project realization.	Clarification about the turbine-generators choice was provided. Issue is closed.
Clarification Request 03 (CL03). Please, clarify in section A.4.3.1 of the PDD why 15 years were chosen as the crediting period.	Table 1	Crediting period 2008-2022 were chosen in line with the order of Ukrainian Cabinet of Ministers #1313 dd. 25.11.2009 which foresaw possibility of endorsement of emission reductions till 31.12.2022.	Issue is closed.

Clarification Request 04 (CL04). On page 2 of the PDD the developer states: "Therefore increase of electricity generation due to the project implementation doesn't increase fuel combustion at the ACPW". Taking into account that the project certainly will not lead to any increase in service and maintenance costs of the coke-oven gas capturing equipment and turbogenerator units besides probably some minor additional expenses for servicing the new heat exchangers, where substantial additional direct operational expenses shown in investment analysis come from? Please, clarify this issue and provide detailed break-down.	Table 1, 29 (a)	Response 1. Steam is needed for electricity generation by ACPW turbine-generators. So, increasing of electricity generation by turbine-generators ##7,8 due to the project leads to the growth of steam consumption (See also response to CL01). Therefore operational expenses include the cost of steam generation in the steam boilers. For ACPW conditions specific consumption of steam was estimated as 4.3 Gcal per MWh of electricity or in monetary terms 89.47 UAH per MWh (for 2006 condition). The others electricity generation costs such as service and maintenance costs are excluded from investment analysis in line with conservative approach. Please see file "10. Electricity Costs" Response 2. The break-down of steam production costs is provided to DOE. Technological fuel (Coke gas) costs are included in the total steam productions costs and consist approximately 20% of them.	Conclusion 1. Please provide the break-down of the costs related to the production of the steam. Conclusion 2. Please note that the file "13. Steam production costs" provides the information for the 1st quarter of 2011 while calculations in the financial model are based on the data available as of 2005. Due to the substantial changes in prices and production volumes during 2005-2011 it can not serve as the correct reference to the production costs. Please provide the relevant document for 2005 with the quantity of the electrical energy produced and the steam directed to turbines indicated as well. Conclusion 3. Please note, that according to the document submitted variable costs for production of additional heat energy (energy + fuel and materials + current repairs – cost of by products) amount to

		Since coke gas is a by-product of the coke production then coke gas costs are very low (29 UAH per th.m^3). They include only the costs of the gas cleaning and its transportation to HPP which are needed for burning of coke gas in the HPP steam boilers. For the baseline burning of coke gas on the flare these costs would not have been required. Please see file "13. Steam production cost" provided to DOE. Response 3. The break-down of steam production costs as of first half of 2006 which is time of decision making is provided to DOE. The quantity of the electrical energy produced and the steam directed to turbines is indicated in file "10.Electrcity costs" which was send to DOE earlier. Electricity generation for the first half of 2006 was 71 834 MWh and steam directed to turbine was 269 th. Gcal. Please see file:"14. Steam production cost 2006" Response 4. The variable costs related to production of 1 KWh of	13.782 UAH/GJ. Thereby the cost of additional steam consumed for production of the electrical energy by the CHP unit will amount to 13,782 UAH not UAH 24,19. Hence the variable costs related to production of 1 KWh of electrical energy in 2006 will be UAH 0,050478 instead of UAH 0,089478. I kindly ask you to apply this value in your financial calculations. Conclusion 4. I kindly ask you to add description of the auxiliary equipment modifications in section A.4.2. Please indicate clearly relation between replacement of the condensers, pipelines and cooling tower. Why all these measures are integral part of the present project. Final Conclusion. The additional description was provided. Issue is closed.

		electrical energy (equal to UAH 0,050478) are used in financial calculations. Modernization costs of Heat and Power plant auxiliary equipment related to the project are included in the project investment costs. Please see files: "15. Modernization of auxiliary equipment" "Avdeevka investment calculation ver.3". Please also see the PDD, p.22. Response 5. Description of the auxiliary equipment modifications is added to section A.4.2. Please see the PDD, p.9	
Clarification Request 05 (CL05). Please, divide the emission sources for three groups, i.e. which are under the control of the JI project participants, reasonably attributable to the project, and significant to the JI project and clarify these information in section B.3 of the PDD.	Table 1, 32 (a)	All emission sources pointed in Table B.3.1 are under the control of the project participants and reasonably attributable to the project. Information about significance of emission sources is added in Section B.3 of the PDD. Please see the PDD.23-25.	Information was provided, and that's why issue is closed.

Forward Action Request 01 (FAR01). Please, provide document that confirms that the monitoring data are to be saved during crediting period and two years after last transfer of ER's for the JI project.	Table 1, 36 (m)	The document will be provided during the verification process.	The FAR01 should be checked during the verification process.