DETERMINATION REPORT

RWE POWER AKTIENGESELLSCHAFT

DETERMINATION OF THE «REDUCTION OF GREENHOUSE GASES EMISSIONS DUE TO ENERGY EFFICIENCY IMPROVEMENTS AND WASTE HEAT UTILIZATION AT JSC "UKRGRAFIT"

REPORT NO. UKRAINE-DET/0228/2011

REVISION NO. 03

BUREAU VERITAS CERTIFICATION

Date of first issue:	Organizational unit:
25/07/2011	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
RWE Power Aktiengesellschaft	Antonio Aguilera

Summary:

Bureau Veritas Certification has made the determination of the «Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC "Ukrgrafit"» project of RWE Power Aktiengesellschaftlocated in Zaporizhzhia city, Ukraine, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

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

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

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

Report No.:	Subject Group:
UKRAINE-det/0228/2011	JI

Project title:

«Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC "Ukrgrafit"»

Work carried out by:

Svitlana Garienchyk – team leader, lead verifier
Sergiy Kustovskyy – team member, trainee verifier
Oleksiy Dzhafarov – team member, trainee verifier
Vera Skitina – team member, technical expert
Denys Pischalov – team member, financial specialist.

Work verified by:

Ivan Sokolov - Internal Technical Reviewer

Work signed by:

Flavio Gomes – Operational Manager

Bureau Veritas Certification Holding SAS

Date of this revision:	Rev. No.:	Number of pages:
10/11/2011	02	64

☒ No distribution without permission from the Client or responsible organizational unit

☐ Limited distribution

☐ Unrestricted distribution

Table of Contents *Page*

1 INTRODUCTION

RWE Power Aktiengesellschafthas commissioned Bureau Veritas Certification to determinate its JI project “Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC “Ukrgrafit” (hereafter called “the project”) in Zaporizhzhia city, 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 derminated in order to confirm that the project design, as documented, is sound and reasonable, and meet the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emissions reductions units (ERUs).

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

1.2 Scope

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

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

1.3 Determination team

The determination team consists of the following personnel:

Svitlana Garienchyk
Bureau Veritas Certification Team Leader, Climate Change Lead Verifier

Sergiy Kustovskyy
Bureau Veritas Certification Team Member, Climate Change Verifier-Trainee

Oleksiy Dzhafarov
Bureau Veritas Certification Team Member, Climate Change Verifier-Trainee

Vera Skitina
Bureau Veritas Certification Team Member, Technical Expert

Denys Pischalov
Bureau Veritas Certification Team Member, Financial Specialist

This determination report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal reviewer

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Project Design Document (PDD) version 1.3 dated 27/04/2011 submitted by RWE Power Aktiengesellschaft 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, Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by a Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action, forward action and clarification requests, JSC "Ukrgrafit" revised the PDD and resubmitted it as version 2.1 of 08/08/2011.

After the State Environmental Investment Agency of Ukraine had provided its comments as far as the specific carbon dioxide non direct emissions factors for consumption of electricity generated by power stations of united energy system of Ukraine to be used for the project period following 2011, the project participants revised the PDD, made ERs reculculations correspondently and submitted the updated PDD as version 2.2 dated 07/11/2011.

The determination findings presented in this report relate to the project as described in the PDD version 2.2 dated 07/11/2011 which is deemed final.

2.2 Follow-up Interviews

On 01/06/2011 Bureau Veritas Certification performed on-site visit interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of "KT-Energy" LLC and JSC "Ukrgrafit" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
"Ukrgrafit" JSC	➢ Implementation schedule ➢ Project management organisation ➢ Evidence and records on reconstruction and new equipment and its operation ➢ Environmental Impact Assessment ➢ Project monitoring responsibilities ➢ Monitoring equipment ➢ Quality control and quality assurance procedures ➢ Environmental impacts affected ➢ Local authorities and public opinion
CONSULTANT "KT-Energy" LTD	➢ 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.

Corrective Action Requests (CAR) is issued, where:

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

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

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

3 PROJECT DESCRIPTION

The purpose of the project is the increased efficiency of the energy resources use through waste heat utilization and the reduction of energy resources consumption accompanied by greenhouse gases emission reductions.

Within project boundaries three exhaust boilers will be installed for waste energy utilization from carbon fillers calcination furnaces. Heat energy, which is now being wasted, will be used for covering heat demand of the Enterprise and will substitute heat energy (steam), which would have been generated by coal fired boilers in the absence of the project activity. Besides, project foresees reduction in energy resources consumption (electricity and natural gas), due to reconstruction of furnaces, electrocalcinators and other energy-efficiency improvement measures.
JSC “Ukrgrafit” executes the project of exhaust boilers installation, reconstruction of electrocalcinators and the kiln, and electrode fillers graphitizing modernization to reduce GHG emissions, organic fuel and electricity consumption.

The project foresees two main parts:

- energy efficiency improvements during graphite products production including reconstruction of electrocalcinators, reconstruction of the calcination kiln and modernization of graphitizing process;
- waste energy utilization through the utilization of heat from industrial processes (exhaust gases from furnaces) that would otherwise be wasted and its use for steam generation.

Project activity aims to achieve the following results:

- greenhouse gases emission reductions in the amount of 105 076 tonnes of CO2e for the period of 2008-2012 and 472 460 for the period 2008-2020,
- waste heat recovery in the amount of 481 505 GJ per year,
- electricity and organic fuel savings due to reconstruction of electrocalcinators and the kiln, and modernisation of graphitizing process.

In 2007 the investments in energy efficiency improvements (modernization of graphitizing process, reconstruction of two electrocalcinators and reconstruction of kiln №10) have been made and in 2008 the reconstructed equipment was already operational. Thus, the start of the crediting period is the 1st of January, 2008. The second part of the project has been started in 2009 when the agreement on three exhaust boilers construction has been signed. The expected commissioning date of exhaust boilers workshop is the 1st of May, 2011.

The decision about Project implementation was made by the scientific and technical council of the Enterprise on the 4th of October, 2006 taking into consideration the possibility of additional revenues from emission reduction units sale within the framework of joint implementation mechanism of Kyoto Protocol.

Before project implementation JSC ‘Ukrgrafit’ has been covering its heat (steam) energy demand by purchasing heat power from the nearby industrial enterprise and was using relatively higher quantities of energy for operational processes without implementation of energy efficiency measures.

The identified areas of concern as to the project description, project participants’ response and BVC’s conclusion are described in Appendix A, Table 2 (refer to CAR 01, CAR 02).

4 DETERMINATION CONCLUSIONS

In the following sections, the conclusions of the determination are stated. The findings from the desk review of the original project design

documents and the findings from interviews during the follow up visit are described in the Determination Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 10 Corrective Action Requests and 11 Clarification Requests.

4.1 Project approvals by Parties involved (19-20)

At present there are no written project approvals by Parties involved.

After finishing JI project determination report, the PDD and Determination Report will be presented to State Environmental Investment Agency of Ukraine (SEIA) for receiving the Letter of Approval (LoA).
Receiving the written project approval from Germany is expected during two months after documents submission.

The identified areas of concern as to project approvals by Parties involved, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 03).

4.2 Authorization of project participants by Parties involved (21)

The participation of each project participant listed in the PDD will be authorized by Letter of Approval from appropriate party explicitly stating the name of the legal entity.

The identified areas of concern as to the authorization of project participants by Parties involved, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 03).

The project has no approvals by the Parties involved, therefore CAR 03 remains pending. This CAR will be closed after report finalizing.

4.3 Baseline setting (22-26)

The PDD explicitly indicates that JI specific approach was the selected approach for identifying the baseline.

The baseline scenario has been established in accordance with Appendix B of the JI Guidelines and in accordance with the 'Guidance on Criteria for Baseline Setting and Monitoring' (Version 2) adopted at 18th Meeting of the JISC.

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. continuation of previously existing practice without implementation of energy efficiency improvements measures and introduction of coal fired boilers for steam generation (Alternative 1);
   b. introduction of energy efficiency improvements and exhaust boilers for waste energy generation without being registered as joint implementation project (Alternative 2).

(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:

   a. Long period of low energy prices;
   b. Lack of financial resources;
   c. Long payback period;
   d. Factors that have contributed (and still contribute) to the high energy intensity, such as slow restructuring of energy-intensive industries; old capital stock in the public, private and household sectors; and inadequate reforms of the heat and power sectors.

All explanations, descriptions and analyses pertaining to the baseline in the PDD are made in accordance with the identified JI specific approach and the baseline is identified appropriately.

The identified areas of concern as to the baseline setting, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CL 01, Cl 02, CL 03, CL 04).

4.4 Additionality (27-31)

The developer uses its own methodology. In this case comperative analysis is an appropriate method of additionality demonstration for this project. All explanations, descriptions and analyses are conducted properly.

JI specific approach has been used to demonstrate that anthropogenic emissions of greenhouse gases will be reduced below those that would have occurred in the absence of project activity. Financial analysis and common practice analysis were used to demonstrate project additionality.

Realistic and credible alternatives available to the project participants (see Section B.1), that provide outputs comparable with the proposed joint implementation project activity are the following:

- continuation of previously existing practice without implementation of energy efficiency improvements measures and introduction of coal fired boilers for steam generation (Alternative 1);
- introduction of energy efficiency improvements and exhaust boilers for waste energy generation without being registered as joint implementation project (Alternative 2).

All alternatives are compliant with national law and regulations.

Additionality is demonstrated appropriately as a result of the investment analysis and common practice analysis using the approach chosen.

The identified areas of concern as to additionality, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 04, CAR 05, CL 05).

4.5 Project boundary (32-33)

Project boundaries include the sources of all significant greenhouse gases emissions that are under control of the project participants and connected with project activity, namely fossil fuels consumption for heat energy generation, electricity consumption by electrocalcinators and graphitizing furnaces and natural gas consumption by the kiln.

Project boundaries include the industrial facility, where heat in form of steam is being generated using waste energy of industrial process and equipment providing auxiliary heat to the waste energy recovery process (using natural gas as an additional fuel source). Besides, project boundaries include the facilities where the energy efficiency measures were implemented, namely electrocalcinators, kiln №10 and graphitising furnaces.
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 BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 06).

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 04/10/2006, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 15 years (180 months).

The PDD states the length of the crediting period in years and months, which is 13 years or 156 months: (first commitment period 01/01/2008 – 31/12/2012; post-Kyoto period 01/01/2013 – 31/12/2020), and its starting date as 01/01/2008, which is the date the first emission reductions are generated by the project. End of the first crediting period is December 31st, 2012.

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.

No areas of concern as to crediting period were identified.

4.7 Monitoring plan (35-39)

Monitoring plan is established in accordance with Host Party regulations, namely in accordance with Decree of Cabinet of Ministers of Ukraine №206 dated 22.02.2006 «On Approval of the Procedure of Drafting, Review, Approval and Implementation of Projects Aimed at Reduction of Anthropogenic Emissions of Greenhouse Gases» and «Requirements for the Joint Implementation Projects preparation» approved by National Environmental Investment Agency of Ukraine (Order №33 dated 25th of June, 2008).

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 amount of electricity consumption, amount of heat consumtion, amount of natural gas consumtion, quantity of production, specific carbon dioxide non direct emissions factors for consumption of electricity generated by power stations of united energy system of Ukraine.
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 production volumes by calcination kiln, natural gas consumption by the kiln, net calorific value for natural gas, production of thermoanthracite by electrocalcinators, electricity consumption for production of thermoanthracite by electrocalcinators, production of synthetic graphite by reconstructed electrocalcinators, electricity consumption for synthetic graphite production by electrocalcinators, specific carbon dioxide non direct emissions factors for consumption of electricity generated by power stations of united energy system of Ukraine (approved by the correspondent Orders of State Environmental Investment Agency of Ukraine), production volumes by graphitizing furnaces, electricity consumption by the graphitizing furnaces, heat energy generation, supplementary consumption of fossil fuel (natural gas) by the exhaust boilers for heat energy generation during the year y, supplementary consumption of graphite dust by the exhaust boilers for heat energy generation during the year y.

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 JISC, such as Baseline emissions (total) (BEy) Component of baseline emissions ($BE_{XX,y}$), Project emissions (PEy), Component of project emissions ($PE_{XX,y}$) Carbon dioxide emission factor ($EF_{CO2,XX}$), days Hour, year, Heat production (HGy,) Net calorific value (NCV_{XX}), Specific fuel consumption (SFC_{XX}), Net Present Value (NPV).

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 specific natural gas consumption by the kiln in the baseline scenario, carbon dioxide emission factor for natural gas combustion, specific electricity consumption for production of thermoanthracite by the electrocalcinators in the baseline scenario, specific electricity consumption for production of synthetic graphite by the graphitizing furnaces in the baseline scenario, specific electricity consumption by the graphitizing furnaces in the baseline scenario, net calorific value for graphite powder, carbon dioxide emission factor for

graphite powder combustion, carbon dioxide emission factor for combustion of other bituminous coal, coal boilers efficiency.

(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. This kind of data is not applicable in this project.

(iii) Data and parameters that are monitored throughout the crediting period, such as natural gas consumption by boiler-house and electricity consumption by kiln №10 and electricity consumption by electrocalcinators.

The monitoring plan describes the methods employed for data monitoring (including its frequency, such as daily, monthly, yearly) and recording (paper and electronic) such as direct measurements, laboratory analysis, calculations with different records frequency, such as daily, monthly, yearly,continuous, etc. The detailed information is provided in section D of the PDD.

The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions and project emissions, leakage, as appropriate, such as

Baseline emissions:

$BE_y = BE_{FF,kiln,y} + BE_{EL,calcinators,y} + BE_{EL,graphitizing,y} + BE_{FF,\ coal\ boilers,y}$

Where:

$BE_{FF,kiln,y}$ – baseline emissions due to combustion of natural gas in the calcination kiln, tonnes CO_2e;
$BE_{EL,calcinators,y}$ – baseline emission due to electricity consumption by electrocalcinators, tonnes CO_2e;
$BE_{EL,graphitizing,y}$ – baseline emissions due to electricity consumption by graphitizing kilns, tonnes CO_2e;
$BE_{FF,coal\ boilers,y}$ – baseline emissions due to the fossil fuel combustion, tonnes CO_2e.

Project emissions:

$PE_y = PE_{FF,kiln,y} + PE_{EL,calcinators.,y} + PE_{EL,graphitizing,y} + PE_{FF,exhaust\ boilers,y}$

Where:

$PE_{FF,kiln,y}$ - project emissions due to combustion of natural gas in the calcination kiln, tonnes CO_2e;

$PE_{EL,calcinators.,y}$ - project emission due to electricity consumption by electrocalcinators, tonnes CO_2e;
$PE_{EL,graphitizing,y}$ - project emissions due to electricity consumption by graphitizingfurnaces, tonnes CO_2e;
$PE_{FF,exhaust\ boilers,y}$ - project emissions due to supplementary consumption of fossil fuel by the exhaust boilers, tonnes CO2e

Emission reduction:

ERy = BEy – PEy,

where:

BE_y – baseline emissions;
PE_y – project emissions.

The monitoring plan presents the quality assurance and control procedures for the monitoring process presented in Section D.2. of the PDD. They include:

- information on calibration,
- approved monitoring procedures,
- regular updates of the enterprise standardised tables,
- cross-checking of the values recorded by automatic control system and the values recorded manually,
- data reserve copying,
- certification of the enterprise in accordance with ISO:9001:2008, ISO 14001:2004, OHSAS 18001:2007, and
- information on how records on data are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. The roles and responsibilities of the persons involved to monitoring process are described in full in section D.3 of PDD.

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

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources (e.g. official statistics, experts conclusions, patent materials, IPCC and national regulations, data of the enterprise, suppliers' data, etc.) but not including data that are calculated with equations.

The monitoring plan indicates that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project.

The identified areas of concern as to monitoring plan, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 07, CAR 10, CL 06, CL 07, CL 08).

4.8 Leakage (40-41)

The PDD appropriately describes an assessment of the potential Indirect external leakage of CH4, N2O generated by fuel production and its transportation and appropriately explains that they are neglected.

The identified areas of concern as to leakage, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CL 09, CL 10).

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

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

The PDD provides the ex ante estimates of:

(a) Emissions for the project scenario (within the project boundary), which are 177 710 tonnes CO2e for the period 2008-2012, 440 872 tonnes CO2e for the period 2013-2020 and 618 582 tonnes CO2e for the period 2008-2020;

(b) Leakage that are considered to be equal zero;

(c) Emissions for the baseline scenario (within the project boundary), which are 282 786 tonnes CO2e for the period 2008-2012, 808 256 tonnes CO2e for the period 2013-2020 and 1 091 042 tonnes CO2e for the period 2008-2020;

(d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are 105 076 tonnes CO2e for the period 2008-2012, 367 384 tonnes CO2e for the period 2013-2020 and 472 460 tonnes CO2e for the period 2008-2020.

The estimates referred to above are given:

(a) On a annual basis;

(b) From 01/01/2008 to 31/12/2020, covering the whole crediting period;

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

(d) In tonnes 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;

The formula used for calculating the estimates referred above, which are provided in section 4.7 above are consistent throughout the PDD.

Data sources used for calculating the estimates referred to above are clearly identified, reliable and transparent.

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 PDD.

The identified areas of concern as to estimation of emission reductions, project participants' response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR 08, CAR 09, CL 11).

4.10 Environmental impacts (48)

Environmental impact assessment was prepared and appropriately approved (For detailes, please, refer to documents #73 and # 74 listed under Category 2 Documents of Section 7 of the present report).

Due to the realization of the project coal consumption will be avoided, that will lead to the decrease of air pollution with such polluting substances as nitrous oxides, sulphur trioxides and dioxides, volatile ash with fuel particles, which have not been burnt, carbon oxides etc. Moreover, utilization of waste energy from exhaust gases will lead to decreasing of nitrous oxides and carbon monoxide emissions as well as dust emissions into the atmospheric air.

Besides, natural gas and electricity consumption will be reduced in the technological processes, whichwill also result in air pollution decrease and will have positive influence on environment.

The project does not have significant impact on biotic and water mediums as well as any transboundary environmental impact. In general, project realization will have positive environmental impact.

No areas of concern as to environmental impacts were identified.

4.11 Stakeholder consultation (49)

No stakeholders' comments were received.

4.12 Determination regarding small scale projects (50-57)

The PDD appropriately specifies and justifies the SSC project type(s) and category(ies) that fall under:

(a) Type (II) and threshold b of JI SSC projects as defined in "Provisions for joint implementation small-scale projects" developed by the JISC.

(b) Category H. Energy efficiency and fuel switching measures for industrial facilities

The SSC PDD confirms and shows that the proposed JI SSC project is not a debundled component of a large project by explaining that there is no a JI (SSC) project with a publicly available determination in accordance with paragraph 34 of the JI guidelines:

(a) Which has the same project participants; and

(b) Which applies the same technology/measure and pertains to the same project category; and

(c) Whose determination has been made publicly available in accordance with paragraph 34 of the JI guidelines within the previous 2 years; and

(d) Whose project boundary is within 1 km of the project boundary of the proposed JI SSC project at the closest point.

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 JI Guidelines, were received.

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the «Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC “Ukrgrafit”» project of RWE Power Aktiengesellschaft located in Zaporizhzhia, 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 investment analysis and common practice analysis, to determine that the project activity itself is not the baseline scenario.

The determination revealed pending issue (CAR03) related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party. 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 2.2 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation (version 2.2) and the subsequent follow-up interviews during the site visit 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 RWE Power Aktiengesellschaftthat relate directly to the GHG components of the project.

/1/ PDD Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC “Ukrgrafit” version number: 1.3 dated 27/04/2011

/2/ PDD Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC "Ukrgrafit" version number: 2.0 dated 24/06/2011
/3/ PDD Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC "Ukrgrafit" version number: 2.1 dated 08/08/2011
/4/ PDD Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC "Ukrgrafit" version number: 2.2 dated 07/11/2011
/5/ Calculation of emission reductions version 1.3, Excel file
/6/ Calculation of emission reductions version 2.0, Excel file
/7/ Calculation of emission reductions version 2.2, Excel file
/8/ Financial analysis version 1.3, Excel file
/9/ Financial analysis version 2.0, Excel file
/10/ Financial analysis version 2.2, Excel file
/11/ The Letter of Endorsement № 165/23/7 of the JI project «Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC "Ukrgrafit"», dated 26/01/2011, issued by National Environmental Investments Agency of Ukraine.

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

/1/	Contractor agreement №804/78365/21 for development (transfer) of scientific and technical production dated 01.01.2007
/2/	Technical task of contractor agreement №804/78365/21 dated 01.01.2007
/3/	Planned schedule of contractor agreement №804/78365/21 dated 01.01.2007
/4/	Additional agreement №1 dated 10.12.2007 to contractor agreement №804/78365/21 dated 01.01.2007
/5/	Technical task №1 "Author's accompaniment of developed three-dimensional number models of thermoelectric condition of graphitizing furnaces"
/6/	Planned schedule №1 "Author's accompaniment of developed three-dimensional number models of thermoelectric condition of graphitizing furnaces"
/7/	Passport of physical and chemical conditions of natural gas transferred by UMG "Kharkivtransgas" for April 2011
/8/	Passport for gas meter G250 ЛГ-К-1/20 Reg.№5069 dated 17.03.2011
/9/	Certificate of acceptance and package of electric power meter

	A1200-10R4T Reg.№04011035 dated 22.08.2006
/10/	Certificate of acceptance and package of electric power meter A1200-1BR4T Reg.№04011229 dated 12.12.2006
/11/	Certificate of acceptance and package of electric power meter A1200-10MR3T Reg.№04010371 dated 30.03.2006
/12/	KIOT Information about electric power meters installed on power supply blocks of electrocalcinators of workshop №2 production 1 (calcination department)
/13/	Certificate of acceptance and package of electric power meter A1200-10R4T Reg.№04011035 dated 22.08.2006
/14/	Certificate of acceptance and package of electric power meter A1200-10R4T Reg.№04011034 dated 22.08.2006
/15/	Passport of measurement device. One-phase electric power meter Ф442 Reg.№19062
/16/	Passport of measurement device. One-phase electric power meter Ф442 Reg.№19006
/17/	Passport of measurement device. One-phase electric power meter Ф442 Reg.№19095
/18/	Passport of measurement device. One-phase electric power meter Ф442 Reg.№18989
/19/	Certificate of acceptance and package of electric power meter A1200-10MR3T Reg.№04010372 dated 30.03.2006
/20/	Certificates of acceptance, conservation and package. Turbine gas meter G1000 ЛГ-К-1/20 Reg.№9826 dated 14.02.2011
/21/	Protocol №11060 dated 14.04.2011 of active (reactive) power meter EA05L-B-3 verification Reg.№01091347
/22/	Protocol №11059 dated 14.04.2011 of active (reactive) power meter EA05L-B-3 Reg.№01091346
/23/	Passport of measurement device. Electric power meter СА3У И672М Reg.№486530
/24/	Passport of measurement device. Electric power meter СА3У И670М Reg.№152430
/25/	Passport of measurement device. Wages Caston-II Reg.№001002444
/26/	Schedule of electric measurement devices calibration/verification in workshop №2 (production 1) for 2011
/27/	Positive conclusion of complex state expertise №08-00020/1-10 dated 24.02.2010 for working project "Construction of utilization boiler-house of JSC "Ukrgrafit"
/28/	Permission for performance of construction activities dated 06.04.2010 №146-10
/29/	Order №523a on the implementation of procedure of greenhouse

	gases emission reduction units monitoring dated 29.11.2007
/30/	Procedure of greenhouse gases emission reduction units monitoring within the JI project "Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC “Ukrgrafit”. Version 1.0 dated 29.11.2007
/31/	Form №1. Indicators of greenhouse gases emission reduction monitoring
/32/	Form №2. Reporting on greenhouse gases emission reduction monitoring results
/33/	Accounting statement №28-247 dated 15.12.2010
/34/	Letter of approval that objects are in the operation
/35/	Inventory card №53 of primary assets account. Calcination kiln №10
/36/	Inventory card of primary assets accounting. Electrocalcinator НЭТ-10
/37/	Inventory card of accounting object of intellectual property that consists of nonmaterial assets. Three-dimensional model of thermal conditions of graphitizing furnace. Dated 31.01.2008
/38/	Certificate of compliance with the requirements of ISO 9001:2008 standard dated 01.07.2010
/39/	Certificate of compliance with the requirements of ISO 14001:2004 standard dated 12.06.2008
/40/	Certificate of compliance with the requirements of OHSAS 18001:2007 standard dated 23.07.2009
/41/	Permission №2310137200-16 for pollutants emission into the atmospheric air from stationary sources dated 26.06.2009
/42/	Report on atmospheric air protection for 2008 dated 22.01.2009
/43/	Report on atmospheric air protection for 2009 dated 20.01.2010
/44/	Report on atmospheric air protection for 2010 dated 19.01.2011
/45/	Report on formation, processing and utilization of I-III hazard class wastes for 2009 dated 28.01.2010
/46/	Report on formation, processing and utilization of I-III hazard class wastes for 2008 dated 28.01.2009
/47/	Reports on water usage for IV quarter of 2008
/48/	Reports on water usage for IV quarter of 2009
/49/	Report on wastes treatment for 2010
/50/	Additional agreement №3 dated 28.05.2007 to the contract №804/1323-818/72597/36 dated 20.02.2007
/51/	Contract №804/1323-818/72597/36 dated 20.02.2007
/52/	Protocol №15 dated 04.10.2006 of scientific and technical board of JSC "Ukrgrafit" meeting
/53/	Technical description. ИДФА 681144.005 ТО. Electric furnace (electrocalcinator) ИЭТ-10-УХЛ4. 1987
/54/	Contractor agreement №804/78503/31 dated 01.02.2007
/55/	Contract №804/94104/31 dated 17.11.2009 for development of technical solutions that permit to perform oil coke graphitizing in electrocalcinators of JSC "Ukrgrafit"

/56/	Planned schedule №1 "Development of technical solutions that permit to perform oil coke graphitizing in electrocalcinators of JSC "Ukrgrafit"
/57/	Additional agreement №1 to the contract №804/94104/31 for creation (transfer) of scientific and technical production dated 29.12.2009
/58/	Additional agreement №2 dated 25.05.2010 to the contract №804/94104/31 dated 17.11.2009
/59/	Additional agreement №3 dated 25.11.2010 to the contract №804/94104/31 dated 17.11.2009
/60/	Additional agreement №4 dated 31.03.2011 to the contract №804/94104/31 dated 17.11.2009
/61/	Contractor agreement for capital construction №511 dated 01.12.2009
/62/	Contract №109-02/10/804/08568/68 dated 03.02.2010
/63/	Planned schedule of project documentation issuing for boilers production according to the agreement №109-02/10/804/08568/68 dated 03.02.2010
/64/	Contractor agreement №804/08818/27 dated 03.05.2010
/65/	Contract on electric power supply №58/804/68627/04 dated 01.03.2006
/66/	Addition to the contract №58/804/68627/04 dated 01.03.2006. List of points of calculation accounting of reactive electric power
/67/	Statement of electric power consumption validation in April 2011
/68/	Technical and commercial proposal. Reconstruction of heating systems of JSC "Ukrgrafit" using the heat of waste gases of calcination furnaces of workshop №2. Kharkiv 2009
/69/	Addition №1 to the letter №28/1684 dated 30.05.2011. Production and power consumption indicators before implementation of energy saving technologies according to JI project "Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC “Ukrgrafit”
/70/	Letter №28/1684 dated 30.05.2011
/71/	Decision №395/4 dated 24.09.2009
/72/	Working project of utilization boiler-house construction. Explanatory note 179.021585 - ПЗ. Kharkiv 2009
/73/	Working project of utilization boiler-house construction. Explanatory note 179.021585 -EIA. Kharkiv 2009
/74/	Conclusion №08/29.01.10 dated 18.02.2010 of state ecological expertise of working project "Utilization boiler-house construction"
/75/	Protocol №110 of labor protection committee meeting dated 04.11.2010
/76/	Protocol №110 of state qualification committee meeting dated 04.11.2010

/77/	List of protocols related to calcination furnaces and boilers
/78/	Educational program of automatization system usage for the period 11-15.12.2007
/79/	Letter of endorsement of JI project "Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC “Ukrgrafit” №165/23/7 dated 26.01.2011
/80/	Equipment technical data. 36 chamber circularly calcination furnace №10. Inventory №1220375
/81/	Passport of primary technical equipment attestation in workshop №3 dated 25.03.2008
/82/	Logbook of calcination department activities. May 2011
/83/	Logbook of electrocalcinator's operation. May 2011
/84/	Photo of electric power meter A1200-10R4T Reg.№04011035
/85/	Photo of electric power meter A1200-1BR4T Reg.№04011231
/86/	Photo of electric power meter A1200-10MR3T Reg.№04010371
/87/	Logbook of roasting furnace temperature №10. June 2011
/88/	Explanatory note to the report №3 for April 2011
/89/	Shift statement of boiler house aggregate РК 25 14/320 for 31.05-1.06.2011. Shift №2
/90/	Daily report on wastes for 31.05.2011
/91/	Photo of electric power meter A1200-10MR3T Reg.№04010372
/92/	Logbook of registers ПП-4. Started 03.11.2010
/93/	Operative logbook ПП-4. Started 17.05.2011
/94/	Logbook of natural gas consumption in plant's workshops for 2011-2012
/95/	Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.
/96/	JISC Guidance on criteria for baseline setting and monitoring. Version 02.

/97/	Resolution №206 of the Cabinet of Ministrers of Ukraine dated 22/02/2006
/98/	Joint implementation project design document form
/99/	Approved CDM methodology ACM0012 version 3.2

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/ Mykola Shlapak - specialist of "KT-Energy"

/2/ Kateryna Levyk - specialist of "KT-Energy"

/3/ Roman Pylypchuk - head metrologist of JSC Ukrgrafit

/4/ Petro Shaikhet - head of production dispatcher division

/5/ Kyrylo Yankovskiy - head of marketing department

/6/ Roman Chornomorets - deputy head of workshop №8

/7/ Viktor Remyga - project head engineer, boiler-house department

/8/ Maryna Samusenko - machinist of boiler-house department

/9/ Oleg Sasin - head of workshop №4

/10/ Alla Samofal - master of electric power accounting

/11/ Svitlana Perzhynska - operator on duty of dispatching control point of section 4

/12/ Valentyna Popova - mechanic of control instrumentation of electric power accounting group of workshop №9

/13/ Vasyl Kyrylenko - head foreman of workshop №9

/14/ Volodymyr Ryvko - engineer of accounting group of workshop №9

/15/ Iryna Rybak - operator of calcination department

/16/ Oleksandr Gerasymliuk - foreman of calcination department section

/17/ Sergiy Matyiash - senior foreman of workshop №3

/18/ Tetyana Liashenko - operator of workshop №3

o0o -

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?	Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC "Ukrgrafit".	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Project pertains to the sectoral scope 4 Manufacturing industries, Group II	OK	OK
-	Is the current version number of the document presented?	JI PDD version number: 2.2	OK	OK
-	Is the date when the document was completed presented?	Data of completion: 07/11/2011	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 c) Project scenario (expected outcome, including a technical description)?	The purpose of the project is presented in section A.2 of the PDD. This section include concise, summarizing explanation of the: a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description). This information does not exceed 2 pages.	OK	OK
-	Is the history of the project (incl. its JI component) briefly summarized?	Brief description of the history of the project including JI component is presented.	OK	OK
Project participants				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
-	Are project participants and Party(ies) involved in the project listed?	Project participants and parties listed in the table in section A.3 of PDD. Parties Project: Ukraine (host country), Germany. Project participants: JSC "Ukrgrafit" (Ukraine), RWE Power Aktiengesellschaft (Germany).	OK	OK
-	Is the data of the project participants presented in tabular format?	The data of the project participants is presented in tabular format.	OK	OK
-	Is contact information provided in Annex 1 of the PDD?	The contact information is provided in Annex 1 of the PDD.	OK	OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	Yes, Ukraine is a host Party	OK	OK
Technical description of the project				
Location of the project				
-	Host Party(ies)	Ukraine	OK	OK
-	Region/State/Province etc.	Zaporizhzhya region	OK	OK
-	City/Town/Community etc.	Zaporizhzhya city	OK	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	The plant is located in Zaporizhzhya city, Pivnichne shose Str. 20	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?	Technologies, measures and activities to be implemented and all the necessary technical data are presented in section A.4.3 of the PDD. Corrective action request (CAR) 01. Please indicate that the project is considered as small-scale project. Corrective action request (CAR) 02. Please provide more substantiate justification that the project should be considered as small-scale using the JI SSC PDD form Version 01.1.	CAR 01 CAR 02	OK OK
Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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)	The explaination of how the antropogenic GHG emission reductions are to be achieved is provided and does not exceed one page.	OK	OK
-	Is it provided the estimation of emission reductions over the crediting period?	The estimation of emission reductions over the crediting period is provided in section A.4.3.1 of the PDD.	OK	OK
-	Is it provided the estimated annual reduction for the chosen credit period in tCO2e?	Yes, the estimated annual reduction for the chosen credit period in tCO2e is provided in section A.4.4 of the PDD.	OK	OK
-	Are the data from questions above presented in tabular format?	Yes.	OK	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period indicated?	The length of crediting period is indicated as 13 years (156 month).	OK	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided?	Yes, estimates of total as well as annual and average annual emission reductions are provided in tonnes of CO2 equivalent	OK	OK
Project approvals by Parties				
19	Have the DFPs of all Parties listed as “Parties involved” in the PDD provided written project approvals?	Corrective Action Request (CAR) 03. The written approval by host Party (Ukraine) was not provided.	CAR 03	Pending
19	Does the PDD identify at least the host Party as a “Party involved”?	Yes, Ukraine is the Host Party.	OK	OK
19	Has the DFP of the host Party issued a written project approval?	See CAR 03 above.	OK	OK
20	Are all the written project approvals by Parties involved unconditional?	See CAR 03 above.	OK	OK
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:	See CAR 03 above.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− 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?			
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	PDD describes the JI specific approach used to identify the baseline scenario, Clarification Request (CL) 01. Please clarify in what way the Baseline CDM Methodology ACM0012 was used. Clarification Request (CL) 02. Please clarify how the coefficient $\mathbf{EF_{NG}}$ = 56,1 (p.20) was received. Clarification Request (CL) 03. Please clarify how the coefficient $\mathbf{SEC_{cgraphitizing\ sg\ baseline}}$ = 3,6 (p.21) was received. Clarification Request (CL) 04. Please clarify how the coefficient $\mathbf{EF_{coal}}$ = 94,6 (p.23) was received.	CL 01 CL 02 CL 03 CL 04	OK OK OK OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	Yes, the PDD provide a detailed theoretical description in a complete and transparent manner.	OK	OK
23	Does the PDD provide justification that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or	The list of plausible future scenarios is provided on the basis of conservative assumptions and selecting the most plausible one. National and/or sectoral policies and circumstance and factors that affect a baseline are taken into account. The selection of approaches, assumptions, methodologies, parameters, date sources and key factors for justification of	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?	baseline setting is provided in transparent manner. ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure. This is shown in section B.1 and B.2 of the PDD.		
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?	The baseline scenario has been established in accordance with Appendix B of the JI Guidelines and in accordance with the Guidance on Criteria for Baseline Setting and Monitoring by the JISC. See CL 01, CL 02, CL 03, CL 04 above.	OK	OK
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	For baseline emissions calculations were used CO2 emission factor for the projects of reducing electricity consumption. The PDD provides appropriate justification.	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?	N/A	OK	OK
26 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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)?			
26 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	OK	OK
26 (c)	Are all explanations, descriptions and analyses pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?	N/A	OK	OK
26 (d)	Is the baseline identified appropriately as a result?	N/A	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) implemented under comparable circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and	For demonstrating of additionality comparison of financial analysis and common practice analysis are used in the PDD. Transparence and traceability of information show that project scenario is not the part of the identified baseline scenario and that the project will lead to emission reductions. "Tool for the demonstration and assessment of additionality" is not applicable. Its application is not necessary in this case. Corrective Action Request (CAR) 04. The lifespan of the project equipment is indicated to be 15 years, at the same time financial models accounts for less than 15 years of operation of the new equipment. Please extend the model at least by two years in order to cover 15 years period of operation. Corrective Action Request (CAR) 05. Financial model contains excessive double accounting for the benefits from reduction of power consumption by	CAR 04 CAR 05 CL 05	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board".	graphitizing process and natural gas consumption by the kiln. Clarification Request (CL) 05. On p.9 the developer indicates that "within the reconstruction the volume of the kiln was extended, the quantity of chambers was increased". Please clarify whether modifications applied had an impact on overall plant's production capacity.		
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	The PDD provides a justification of the applicability of the approach with a clear and transparent description.	OK	OK
29 (b)	Are additionality proofs provided?	Yes, justification of additionality provided in section B.1 of PDD.	OK	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	The additionality is demonstrated appropriately.	OK	OK
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 the demonstration and assessment of additionality" is not applicable. Its application is not necessary in this case.	OK	OK
Approved CDM methodology approach only				
31 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
31 (b)	Does the PDD provide a description of why and how the referenced approved CDM methodology is applicable to the project?	N/A	OK	OK
31 (c)	Are all explanations, descriptions and analyses with regard to additionality made in accordance with the selected methodology?	N/A	OK	OK
31 (d)	Are additionality proofs provided?	N/A	OK	OK
31 (e)	Is the additionality demonstrated appropriately as a result?	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	Corrective Action Request (CAR) 06. Please explain in more detail the project boundary. Please also clarify why such gases as CH4 and N2O are not mentioned in table B.3-1.	CAR 06	OK
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	See CAR 06 above.	OK	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	See CAR 06 above.	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?	See CAR 06 above.	OK	OK
Approved CDM methodology approach only				
33	Is the project boundary defined in accordance with the approved CDM methodology?	N/A	OK	OK
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 PDD state the starting date of the project as the date on which the implementation or construction or real action of the project began. The starting date of the project is 04/10/2006.	OK	OK
34 (a)	Is the starting date after the beginning of 2000?	Yes. The starting date of the project is 04/10/2006.	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	The PDD states the expected operational lifetime of the project to be 15 years (180 months)	OK	OK
34 (c)	Does the PDD state the length of the crediting	Yes.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	period in years and months?			
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	The starting date of the crediting period is after the date of the first emission reductions generated by the project. The starting date of the crediting period is 01/01/2008.	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?	The PDD indicates 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.	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 removals presented separately for those until 2012 and those after 2012?	The estimation of emission reductions is presented separately for those until 2012 and those after 2012.	OK	OK
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach − Approved CDM methodology approach	The PDD explicitly indicates that JI specific approach is used for monitoring plan setting.	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 all relevant factors and key characteristics that will be monitored and the period in which they will be monitored. Corrective Action Request (CAR) 10. No documentation related to electric power meter A1200-1BR4T Reg.№04011231 such as passport, calibration schedule etc was provided. Please provide appropriate documentation.	CAR 10	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable,	The value of specific carbon dioxide non direct emissions factors receiving/consumption of electric power does not	CAR 07	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	confirm with coefficients of SEIA. Please make the proper corrections		
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?	Clarification Request (CL) 06. Please clarify how the formulae (2.1) was received. Clarification Request (CL) 07. Please clarify how the formulae (2.2) was received. Clarification Request (CL) 08. Please clarify how the formulae (2.4) was received.	CL 06 CL 07 CL 08	OK OK 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?	The monitoring plan clearly indicates how the values provided by the project participants are to be selected and justified.	OK	OK
36 (b) (ii)	For other values, − Does the monitoring plan clearly indicate the precise references from which these values are taken? − Is the conservativeness of the values provided justified?	All the other values are indicated clearly and conservatively. The sources of the values are clearly indicated.	OK	OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	Procedures of quality control are specified in the monitoring plan. For more details, please, refer to documented #30 (Procedure of greenhouse gases emission reduction units monitoring within the JI project "Reduction of Greenhouse Gases Emissions Due to Energy Efficiency Improvements and Waste Heat Utilization at JSC “Ukrgrafit”. Version 1.0 dated 29.11.2007) listed among the Category 2 Documents in Section 7 References of the present report.	OK	OK
36 (b) (iv)	Are International System Unit (SI units) used?	International System Unit (SI units) is used partly.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	All the relevant parameters, coefficients, variables, etc. are excplicitly indicated in the monitoring plan.	OK	OK
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. is consistent between the baseline and monitoring plan.arameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	Yes, use of parameters, coefficients, variables, etc. is 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"?	Yes, monitoring plan developed in line with "Guidance on criteria for baseline setting and monitoring" Appendix B. The following variables are used: Baseline emissions (total) (BEy), Component of baseline emissions ($BE_{XX,y}$), Project emissions (PEy), Component of project emissions ($PE_{XX,y}$) Carbon dioxide emission factor ($EF_{CO2,XX}$), days Hour, year, Heat production (HGy,) Net calorific value (NCV_{XX}), Specific fuel consumption (SFC_{XX}), Net Present Value (NPV).	OK	OK
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored	Yes, all relevant parameters are described (see section D.1 of PDD).	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	throughout the crediting period?			
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	The table in section D.1.1 PDD defined time (regularity) of monitoring and information sources with respect to all parameters and data to be monitored.	OK	OK
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	In the PDD described all the algorithms and formulas used to calculating emissions for the baseline and project scenarios. See CL 06, CL 07, CL 08 above.	OK	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	Yes, all necessary algorithms and formulae are clearly described.	OK	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Yes, all variables, equation format, subscripts etc. used consistent.	OK	OK
36 (f) (iii)	Are all equations numbered?	Yes, all equations are numbered properly.	OK	OK
36 (f) (iv)	Are all variables, with units indicated defined?	Yes.	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	The conservativeness of the algorithms/procedures is justified. See CL 06, CL 07, CL 08 above.	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	The level of uncertainty of data specified in the table of quality control and quality assurance procedures (see Section D.2 PDD).	OK	OK
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	Yes.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	All algorithms and formulaes are explained properly.	OK	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	Yes.		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
36 (f) (vii)	Are references provided as necessary?	All references are provided properly.	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	All the assumptions are explained in transparent manner.	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?	Used assumptions and procedures not have significant uncertainty.	OK	OK
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	Uncertainty range was defined as low.	OK	OK
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 specific national monitoring standard is used, but the project monitoring confirms to the necessary regulatory documents of Ukraine and to the specific sectoral standards related to the measurement devices, calibration etc.	OK	OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	Statistic methods are not used.	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?	The quality assurance and control procedures described in section D.2 of PDD.	OK	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	Yes, the responsibilities and the authority regarding the monitoring activities are clearly identified in section D.3 of PDD.	OK	OK
36 (k)	Does the monitoring plan, on the whole, reflect	The monitoring plan reflects good monitoring practices	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	appropriate to the project type.		
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?	Yes. All the related information is presented in section D.2 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?	Monitoring plan clearly indicates that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project.	OK	OK
37	If selected elements or combinations of approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	Monitoring plan was developed in accordance with all the necessary requirements. The elements of approved CDM methodology ACM0012 were used partly.	OK	OK
Approved CDM methodology approach only				
38 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
38 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
38 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	OK	OK
38 (c)	Are all explanations, descriptions and analyses pertaining to monitoring in the PDD made in accordance with the referenced approved CDM methodology?	N/A	OK	OK
38 (d)	Is the monitoring plan established appropriately as a result?	N/A	OK	OK
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 how the conditions mentioned in (a)-(c) are met?	There are no overlapping monitoring periods during the crediting period.	OK	OK
Leakage				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	The PDD indicates the estimation of leakages and explains what sources of leakages are taken into account and what sources are not. Clarification Request (CL) 09. Please explain how the yearly parameters used in tables in section E.1. of the PDD were received or provide the formulas by which they were calculated. Clarification Request (CL) 10. Please explain how the yearly parameters used in tables in section E.4. of the PDD were received or provide the formulas by which they were calculated.	CL 09 CL 10	OK OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	Procedure for an ex ante estimate of leakage is provided in 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?	N/A	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	Assessment of emissions in the baseline scenario and in the project scenario was used.	OK	OK
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)?	Emissions for the project, baseline scenario and emission reductions were estimated ex ante. Results of estimations provided in section E of PDD and excel spreadsheets. Clarification Request (CL) 11. Please clarify why the year 2007 is not indicated in table to the section E.6 while in the Excel table ERU this year is presented.	CL 11 CAR 08 CAR 09	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(d) Emission reductions or enhancements of net removals adjusted by leakage?	Corrective Action Request (CAR) 08. There is nonconformity of values of project emissions in section E.6. and in the Excel table ERU. Please make proper corrections. Corrective Action Request (CAR) 09. Specific carbon dioxide non direct emissions factors for consumption of electricity generated by power stations of united energy system of Ukraine in Excel table Fixed data are incorrect. Please make the proper corrections.		
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	N/A	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 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	The information provided in the PDD mostly confirms the necessary requirements. See CAR 07, CAR 08, CAR 09 above.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	key factors influencing the baseline emissions or removals and the activity level of the project and the emissions or net removals as well as risks associated with the project taken into account, as appropriate? (d) Are data sources used for calculating the estimates in 43 or 44 clearly identified, reliable and transparent? (e) Are emission factors (including default emission factors) if used for calculating the estimates in 43 or 44 selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice? (f) Is the estimation in 43 or 44 based on conservative assumptions and the most plausible scenarios in a transparent manner? (g) Are the estimates in 43 or 44 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?			
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?	Yes, the PDD include an illustrative ex ante emissions calculation. See CL 06, CL 07, CL 08 above.	OK	OK
Approved CDM methodology approach only				
47 (a)	Is the estimation of emission reductions or enhancements of net removals made in accordance with the approved CDM	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	methodology?			
47 (b)	Is the estimation of emission reductions or enhancements of net removals presented in the PDD: − On a periodic basis? − At least from the beginning until the end of the crediting period? − On a source-by-source/sink-by-sink basis? − For each GHG? − In tones of CO_2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol? − Are the formula used for calculating the estimates consistent throughout the PDD? − Are the estimates consistent throughout the PDD? − Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?	N/A	OK	OK
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 PDD includes information on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party.	OK	OK
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the	No significant environmental impacts related to project implementation expected that is stated in the following documents:	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?	- Working project of utilization boiler-house construction. Explanatory note 179.021585 -EIA. Kharkiv 2009 - Conclusion №08/29.01.10 dated 18.02.2010 of state ecological expertise of working project "Utilization boiler-house		
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?	Procedures of Ukraine do not require consultations with stakeholders for proposed project. However, information on implementation measures of reducing technological power consumtion provided in the media. No negative stakeholders' comments were received on company address.	OK	OK
Determination regarding small-scale projects (additional elements for assessment)				
50	Does the PDD appropriately specify and justify the SSC project type(s) and category(ies) that fall under: (a) One of the types and thresholds of JI SSC projects as defined in .Provisions for joint implementation small-scale projects.? If the project contains more than one JI SSC project type component, does each component meet the relevant threshold criterion? (b) One of the SSC project categories defined in the most recent version of appendix B of annex II to decision 4/CMP.1, or an additional project category approved by the JISC in accordance with the relevant provision in "Provisions for joint implementation small-scale projects"?	See CAR 01 and CAR 02 above.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
51	Does the SSC PDD confirms and shows that the proposed JI SSC project is not a debundled component of a large project by explaining that there does not exist a JI (SSC) project with a publicly available determination in accordance with paragraph 34 of the JI guidelines: (a) Which has the same project participants; and (b) Which applies the same technology/measure and pertains to the same project category; and (c) Whose determination has been made publicly available in accordance with paragraph 34 of the JI guidelines within the previous 2 years; and (d) Whose project boundary is within 1 km of the project boundary of the proposed JI SSC project at the closest point?	The SSC PDD appropriately confirms and shows that the proposed JI SSC project is not a debundled component of a large project.	OK	OK
Applicable to bundled JI SSC projects only				
52 (a)	Do all projects in the bundle: (i) Have the same crediting period? (ii) Comply with the provisions for JI SSC projects defined in "Provisions for joint implementation small-scale projects", in particular the thresholds referred to in 50 (a) above? (iii) Retain their distinctive characteristics (i.e. location, technology/measure etc.)?	N/A	OK	OK
52 (b)	Does the composition of the bundle not change over time?	N/A	OK	OK
52 (c)	Has the AIE received (from the project participants): (i) Information on the bundle using the form	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	developed by the JISC (F-JI-SSCBUNDLE)? (ii) A written statement signed by all project participants indicating that they agree that their individual projects are part of the bundle and nominating one project participant to represent all project participants in communicating with the JISC? (iii) Indication by the Parties involved that they are aware of the bundle in their project approvals referred to in 19 above?			
53	If the project participants prepared a single SSC PDD for the bundled JI SSC projects, do(are) all the projects: (a) Pertain to the same JI SSC project category? (b) Apply the same technology or measure? (c) Located in the territory of the same host Party?	N/A	OK	OK
54	If the project participants prepared separate SSC PDDs for the bundled JI SSC projects, do(are) all the projects: (a) Have SSC PDDs been prepared for all JI SSC projects in the bundle? (b) Does each SSC PDD contain a single JI SCC project in the bundle?	N/A	OK	OK
55	If the projects in the bundle use the same baseline, does the F-JI-SSC-BUNDLE provide an appropriate justification for the use of the same baseline considering the particular situation of each project in the bundle?	N/A	OK	OK
56	Does the PDD indicate which of the following approaches is used for establishing a monitoring plan?	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(a) By preparing a separate monitoring plan for each of the constituent projects; (b) By preparing an overall monitoring plan including a proposal of monitoring of performance of the constituent projects on a sample basis, as appropriate.			
56 (b)	If the approach 57 (b) above is used, (i) Are all the JI SSC projects located in the territory of the same host Party? (ii) Do all the JI SSC projects pertain to the same project category? (iii) Do all the JI SSC projects apply the same technology or measure? (iv) Does the overall monitoring plan reflect good monitoring practice appropriate to the bundled JI SSC projects and provide for collection and archiving of the data needed to calculate the emission reductions achieved by the bundled projects?	N/A	OK	OK
Applicable to all JI SSC projects				
57	Is the leakage only within the boundaries of non-Annex I Parties considered?	The PDD indicates the estimation of leakages and explains what sources of leakages are taken into account and what sources are not. All the sources of leakages are considered appropriately.	OK	OK
Determination regarding land use, land-use change and forestry projects (additional/alternative elements for assessment)				
58	Does the PDD appropriately specify how the LULUCF project conforms to: (a) The definitions of LULUCF activities included in paragraph 1 of the annex to decision 16/CMP.1, applying good practice guidance for LULUCF as decided by the CMP,	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	as appropriate? (b) In the case of afforestation, reforestation and/or forest management projects, the definition of "forest" selected by the host Party, which specifies: (i) A single minimum tree crown cover value (between 10 and 30 per cent)? and (ii) A single minimum land area value (between 0.05 and 1 hectare)? and (iii) A single minimum tree height value (between 2 and 5 metres)?			
JI specific approach only				
59	Baseline setting - in addition to 22-26 above Does the PDD provide an explanation how the baseline chosen: − Takes into account the good practice guidance for LULUCF, developed by the IPCC? − Ensures conformity with the definitions, accounting rules, modalities and guidelines under Article 3, paragraphs 3 and 4, of the Kyoto Protocol?	N/A	OK	OK
60	Project boundary - alternative to 32-33 (a) Does the project boundary geographically delineate the JI LULUCF project under the control of the project participants? (a) If the JI LULUCF project contains more than one discrete area of land, (i) Does each discrete area of land have a unique geographical identification? (ii) Is the boundary defined for each discrete area? (ii) Does the boundary not include the areas in between these discrete areas of land?	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(b) Does the project boundary encompass all anthropogenic emissions by sources and removals by sinks of GHGs which are: (i) Under the control of the project participants; (ii) Reasonably attributable to the project; and (iii) Significant? (c) Does the project boundary account for all changes in the following carbon pools: − Above-ground biomass; − Below-ground biomass; − Litter; − Dead wood; and − Soil organic carbon? (c) Does the PDD provide: (i) The information of which carbon pools are selected? (ii) If one or more carbon pools are not selected, transparent and verifiable information that indicates, based on conservative assumptions, that the pool is not a source? (d) Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria in (b) above?			
61 (a)	Project boundary - alternative to 32-33 (cont.) Are the delineation of the project boundary and the gases and sources/sinks included appropriately described and justified in the PDD?	N/A	OK	OK
61 (b)	Project boundary - alternative to 32-33 (cont.) Are all gases and sources/sinks included explicitly stated, and the exclusions of any sources/sinks related to the baseline or the LULUCF project appropriately justified?	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
62	Monitoring plan - in addition to 35-39 Does the PDD provide an appropriate description of the sampling design that will be used for the calculation of the net anthropogenic removals by sinks occurring within the project boundary in the project scenario and, in case the baseline is monitored, in the baseline scenario, including, inter alia, stratification, determination of number of plots and plot distribution etc.?	N/A	OK	OK
63	Does the PDD take into account only the increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of GHGs outside the project boundary?	N/A	OK	OK
Approved CDM methodology approach only				
64 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
64 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	OK	OK
64 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	OK	OK
64 (c)	Are all explanations, descriptions and analyses made in accordance with the referenced approved CDM methodology?	N/A	OK	OK
64 (d)	Are the baseline, additionality, project boundary, monitoring plan, estimation of enhancements of net removals and leakage	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	established appropriately as a result?			

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 (CAR) 01: Please indicate that the project is considered as small-scale project.	A.4.2.	Appropriate amendments have been made. Please, see Section A.4.2 of the PDD.	PDD version 02 was checked and amendments were recognized as satisfactory. Issue is closed.
Corrective Action Request (CAR) 02: Please provide more substantiate justification that the project should be considered as small-scale using the JI SSC PDD form Version 01.1	A.4.2.	Justification has been provided in Section A.4.2 of the PDD.	Issue is closed due to the amendments made in the PDD.

Corrective Action Request (CAR) 03: The written approval by host Party (Ukraine) was not provided.	19	The National Environmental Investment Agency issued a Letter of Endorsement # 165/23/7 from 26th of January, 2011 for the project providing its support for further development of proposed joint implementation project. The copy of the Letter of Endorsement has been provided to the determination team. The application for the Letter of Approval will be made after the determination according to the "Requirements for the Joint Implementation Projects preparation" approved by National Environmental Investment Agency of Ukraine (Order #33 from 25th of June, 2008).	The issue is not closed. Conclusion is pending.

Clarification Request (CL) 01: Please clarify in what way the Baseline CDM Methodology ACM0012 was used.	22	JI specific approach has been used for the establishing the baseline scenario. However, as the project foresees waste energy utilisation due to exhaust boilers installation the Approved consolidated baseline and monitoring methodology ACM0012 "Consolidated baseline methodology for GHG emission reductions from waste energy recovery projects" Version 4.0.0 was analysed and some elements were used. Namely, the approach for the defining of project boundaries (waste energy recovery and useful energy generation equipment, and distribution system for useful project energy) and greenhouse gases included in project boundaries (CO2 only).	Explanation is considered to be appropriate. Issue is closed.
Clarification Request (CL) 02: Please clarify how the coefficient **EF_{NG} = 56,1** (p.20) was received.	22	Specific carbon dioxide non direct emissions factor for natural gas 15.3 tC/TJ reported in Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (Table 1-2 on Page 1.6 of the Workbook) has been multiplied by 44/12 to be converted to CO_2 carbon emission factor. Appropriate comment added to the PDD.	CL 02 is closed.

Clarification Request (CL) 03: Please clarify how the coefficient **$SEC_{cgraphitizing\ sg\ baseline}$ = 3,6** (p.21) was received	22	The historical data and calculations of the coefficient **$SEC_{cgraphitizing\ sg\ baseline}$** have been added to the Excel file. More accurate value of **$SEC_{cgraphitizing\ sg\ baseline}$ =** 3.575 has been used in PDD for conservative purposes.	OK. Issue is closed.
Clarification Request (CL) 04. Please clarify how the coefficient **EF_{coal} = 94,6** (p.23) was received	22	Specific carbon dioxide non direct emissions factor for coal 25.8 tC/TJ reported in Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (Table 1-2 on Page 1.6 of the Workbook) has been multiplied by 44/12 to be converted to CO_2 carbon emission factor. Appropriate comment added to the PDD.	Issue is closed.
Corrective Action Request (CAR) 04: The lifespan of the project equipment is indicated to be 15 years, at the same time financial models accounts for less than 15 years of operation of the new equipment. Please extend the model at least by two years in order to cover 15 years period of operation.	28	The financial model has been extended for two years. Appropriate changes have been made in the PDD (Section B.2).	Issue is closed based on the amendments made in the PDD.

Clarification Request (CL) 03: On p.9 the developer indicates that "within the reconstruction the volume of the kiln was extended, the quantity of chambers was increased". Please clarify whether modifications applied had an impact on overall plant's production capacity.	28	Modifications applied during the reconstruction of the calcination kiln have not impacted the plant's overall production volumes, but only reduced specific energy consumption. Supporting documented evidences have been provided to the determination team.	Issue is closed.
Corrective Action Request (CAR) 05: Financial model contains excessive double accounting for the benefits from reduction of power consumption by graphitizing process and natural gas consumption by the kiln.	28	Financial model has been amended to avoid double counting.	OK. CAR is closed.

Corrective Action Request (CAR) 06: Please explain in more detail the project boundary. Please also clarify why such gases as CH_4 and N_2O are not mentioned in table B.3-1.	32(a)	The project boundary has been explained in more detailed manner in the PDD. CH_4 and N_2O emissions were not accounted in the calculations of the project and baseline emissions and not mentioned in table B.3-1 due to conservative purposes. CH_4 and N_2O emissions from electricity consumption were not accounted during calculations of GHG emissions under the project and baseline scenario in line with the Methodological tool "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" (Version 01). Moreover, as the project reduces electricity consumption, the emissions under the baseline scenario (including the CH_4 and N_2O emissions) would have been higher than in the project and thus the approach chosen is a conservative one. CH_4 and N_2O emissions from fossil fuel consumption do not exceed 1% of overall GHG emissions from fossil fuel consumption both under the baseline and project scenarios and thus were also considered negligible and were not included in the project boundaries. Moreover, the same approach is used in Approved consolidated baseline and monitoring methodology ACM0012 "Consolidated baseline methodology for	Issue is closed based on the appropriate corrections and explanation made in the PDD.

		GHG emission reductions from waste energy recovery projects" Version 4.0.0, which were analysed during project development.	
Corrective Action Request (CAR) 07: The value of specific carbon dioxide non direct emissions factors receiving/consumption of electric power does not confirm with coefficients of NEIA. Please make the proper corrections	36(b)	Specific carbon dioxide non direct emissions factors have been amended in accordance with the orders of National Environmental Investment Agency of Ukraine.	CAR is closed.

Clarification Request (CL) 06: Please clarify how the formulae (2.1) was received	36(b)	Formulae 2.1 has been developed by project developer based on the provisions of the Methodological tool "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" (Version 02), which states that CO2 emissions from fossil fuel combustion could be calculated based on the quantity of fuel combusted and its properties, and taking into consideration the option of CO2 emission coefficient calculation based on et calorific value and CO2 emission factor of the fuel.	Explanation is appropriate, issue is closed.

Clarification Request (CL) 07: Please clarify how the formulae (2.2) was received	36(b)	Formulae 2.2 has been developed by project developer based on the provisions of the Methodological tool "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" (Version 01), which states that emissions from consumption of electricity are calculated based on the quantity of electricity consumed an emission factor for electricity generation and a factor to account for transmission losses, taking into consideration that emission factor for electricity from national grid in Ukraine considers transmission losses.	Explanation is appropriate, issue is closed.
Clarification Request (CL) 08: Please clarify how the formulae (2.4) was received	36(b)	Formulae 2.4 has been developed by project developer based on the provisions of the Methodological tool "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion" (Version 02), which states that CO2 emissions from fossil fuel combustion could be calculated based on the quantity of fuel combusted and its properties, and taking into consideration the option of CO2 emission coefficient calculation based on et calorific value and CO2 emission factor of the fuel.	Explanation is appropriate, issue is closed.

Clarification Request (CL) 09: Please explain how the yearly parameters used in tables in section E.1. of the PDD were received or provide the formulas by which they were calculated	40(a)	Yearly parameters for the years 2008-2010 used in tables in section E.1. of the PDD have been provided by the enterprise according to the technical reports of the relevant workshops. For the years 2011-2020 the values of the parameters were considered equal to the values in the year 2010. The values of yearly electricity consumption by the electrocalcinators for synthetic graphite production as well as the values of heat energy generation by the exhaust boilers and natural gas consumption by the exhaust boilers were provided by the enterprise according to production plans and design characteristics of the equipment. Appropriate explanations have been added to the PDD.	The response was found satisfactory. Issue is closed.

Clarification Request (CL) 10: Please explain how the yearly parameters used in tables in section E.4. of the PDD were received or provide the formulas by which they were calculated	40(a)	The yearly parameters used in tables in section E.4. are based on the production volumes used for calculation of the project emissions in section E.1 and specific energy (natural gas or electricity) consumption parameters presented in Section B.1 and D.2. Heat energy generation by coal fired boilers was considered equal to heat energy generation by exhaust boilers under the project scenario. The calculation of the yearly parameters as well as data used is presented in Excel file. Appropriate explanations have been added to the PDD.	Explanation is found satisfactory. Issue is closed.
Clarification Request (CL) 11: Please clarify why the year 2007 is not indicated in table to the section E.6 while in the Excel table ERU this year is presented.	43	Corrected. The year 2007 is omitted from the Excel file as the crediting period is started in 2008.	CL11 is closed based on the amendments made in the PDD.
Corrective Action Request (CAR) 08: There is nonconformity of values of project emissions in section E.6. and in the Excel table ERU. Please make proper corrections.	43	Corrected.	Necessary corrections have been made. The issue is closed.

Corrective Action Request (CAR) 09: Specific carbon dioxide non direct emissions factors for consumption of electricity generated by power stations of united energy system of Ukraine in Excel table Fixed data are incorrect. Please make the proper corrections.	43	Corrected. Specific carbon dioxide non direct emissions factors for consumption of electricity generated by power stations of united energy system of Ukraine have been amended in accordance with the orders of State Environmental Investment Agency of Ukraine.	Necessary corrections have been made. The issue is closed.
Corrective Action Request (CAR) 10: No documentation related to electric power meter A1200-1BR4T Reg.№04011231 such as passport, calibration schedule etc was provided. Please provide appropriate documentation.	36(a)	Documentation has been provided to the determination team.	Issue is closed.