DETERMINATION REPORT
DENIS KLYAVIN

DETERMINATION OF THE
"REDUCTION OF GREENHOUSE GAS EMISSIONS BY MODERNIZING PRODUCTION TECHNOLOGY OF ASH AT PJSC "BELOTSERKOVSKIY PRECAST PLANT"

REPORT NO.UKRAINE-DET/0728/2012
REVISION NO. 02
BUREAU VERITAS CERTIFICATION

Date of first issue:	Organizational unit:
20/10/2012	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
Denis Klyavin	Denis Klyavin

Summary:

Bureau Veritas Certification has made the determination of the "Reduction of greenhouse gas emissions by modernizing production technology of ash at PJSC "Belotserkovskiy precast plant" project of PJSC "Belotserkovskiy precast plant" located the city Bila Tserkva, Kyiv Region, Ukraine on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

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

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

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

Report No.:	Subject Group:
Ukraine-det/0728/2012	JI

Project title:
"Reduction of greenhouse gas emissions by modernizing production technology of ash at PJSC "Belotserkovskiy precast plant"

Work carried out by:
Kateryna Zinevych - team leader, Lead Verifier
Sergii Verteletskyi – team member, Verifier
Denis Pishchalov – Financial Specialist
Nikolay Ivanov – Technical Specialist

Work reviewed by:
Ivan Sokolov - Technical Reviewer
H.B. Muralidhar – Technical Specialist

Work approved by:
Ivan Sokolov - Operational Manager

Bureau Veritas Certification Holding SAS

Date of this revision:	Rev. No.:	Number of pages:
05/11/2012	02	76

Indexing terms

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

☐ Limited distribution

☐ Unrestricted distribution

Table of Contents *Page*

1 INTRODUCTION

Denis Klyavin has commissioned Bureau Veritas Certification to determine its JI project "Reduction of greenhouse gas emissions by modernizing production technology of ash at PJSC "Belotserkovskiy precast plant" (hereafter called "the project") at the city Bila Tserkva, Kyiv Region, Ukraine.

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

1.1 Objective

The determination serves as project design verification and is a requirement of all projects. The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Determination is a requirement for all JI projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reduction units (ERUs).

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

1.2 Scope

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

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

1.3 Determination team

The determination team consists of the following personnel:

Kateryna Zinevych

Bureau Veritas Certification Team Leader, Climate Change Verifier

Sergii Verteletskyi

Bureau Veritas Certification Climate Change Verifier

Denis Pishchalov

Bureau Veritas Certification Financial Specialist

Nikolay Ivanov

Bureau Veritas Certification Technical Specialist

This determination report was reviewed by:

Ivan Sokolov

Bureau Veritas Certification, Internal Technical Reviewer

H.B. Muralidhar

Bureau Veritas Certification, Technical Specialist

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Project Design Document (PDD) submitted by Fa.Ro Srl and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Approved CDM methodology and/or Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications

on Determination Requirements to be Checked by an Accredited Independent Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Fa.Ro Srl revised the PDD and resubmitted it on 02/11/2012.

The determination findings presented in this report relate to the project as described in the PDD version(s) 01, 02.

2.2 Follow-up Interviews

On 01/11/2012 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of PJSC "Belotserkovskiy precast plant" and Fa.Ro Srl were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
PJSC "Belotserkovskiy precast plant"	➢ Project History ➢ Project Approach ➢ Project boundary ➢ Implementation Schedule ➢ Organization structure ➢ Authorities and responsibilities ➢ Training of personnel ➢ Quality management procedures and technologies ➢ Records on rehabilitation/implementation of equipment ➢ Metering equipment control ➢ Metering record keeping system, database ➢ Technical documentat ion ➢ Monitoring plan and procedures ➢ Permits and licenses
Fa.Ro Srl	➢ Baseline methodology ➢ Monitoring plan ➢ Additionality proofs ➢ Calculation of emission reductions culation of emission reductions

2.3 Resolution of Clarification and Corrective Action Requests

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

If the determination team, in assessing the PDD and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to JI project requirements, it will raise these issues and inform the project participants of these issues in the form of:

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

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

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

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

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

3 PROJECT DESCRIPTION

The main idea of the project is the reduction of flotation coal sludge use and neglection of natural gas consumption for sludge drying. According to the project design the whole cycle of ash production from coal sludge by wet grinding technology with the use of installation LYV-300-AYN-36 and discontinuation of traditional method of ash production is introduced. The project activity suggests performing of coal sludge processing by wet method of grinding, which will allow reducing greenhouse gases emissions into the atmosphere avoiding combustion of natural gas in a high-temperature dryer with simultaneous oxidation of coal component of sludge and also reducing of electric power consumption from the grid for technological process.
Modernization of technology of ash production for the needs of concrete production will give an opportunity to avoid combustion of natural gas and coal which will improve ecological situation in the Region and significantly reduce CO2 and other harmful elements emissions. Reduction of expenditure on purchasing energy will help to intensify funds for the implementation of further measures to improve the process of production of the plant products and reduce the negative impact on the environment.

The identified areas of concern as to project description, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CAR01 – CAR09 and CL01 – CL05).

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 45 Corrective Action Requests and 06 Clarification Requests.

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

4.1 Project approvals by Parties involved (19-20)

Letter of Endorsement # 2755/23/7 dated 26/09/2012 was provided by the State Environmental Investment Agency of Ukraine.

As for the time being no written approval for the project was issued by Ukrainian Party. After receiving Determination Report from the Accredited Independent Entity the project documentation will be submitted to the Ukrainian Designated Focal Point (DFP) which is State Environmental Investment Agency of Ukraine, for receiving a Letter of Approval.

The identified areas of concern as to project approvals, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CAR 10, CAR 11).

4.2 Authorization of project participants by Parties involved (21)

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

No outstanding issues were raised.

4.3 Baseline setting (22-26)

The PDD explicitly indicates that using a methodology for baseline setting and monitoring developed in accordance with appendix B of the JI guidelines (hereinafter referred to as JI specific approach) was the selected approach for identifying the baseline.

JI specific approach

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:

Scenario1. Continuation of existing situation.

Continuation of existing situation means situation when existing technology with the use of high-temperature drying of flotation sludge and ball mills is being used at the plant. This process leads to significant greenhouse gas emissions from natural gas combustion, electric power consumption from the electric grid of Ukraine, oxidation of carbon contained in sludge. Coal sludge is supplied by the railroad transport from the suppliers (coal washing facilities and coal mines) located in the Donetsk and Luhansk regions of Ukraine.

Scenario 2. Purchase and usage of fly-ash from TPP.

Usage of fly-ash from TPP is possible as filling materials and additives in production of monolith, precast concrete and reinforced concrete. Ash formation takes place during emission of fine and light fractions which are carried away by the flue gases from the furnaces and are caught by filters of the thermal plant in ash collectors. In this manner ash of dry selection is received. In the process of ash collectors cleaning with water ash and slag like pulp comes into dumps and settlers. The main masses of ash and slag materials are stored in these dumps and settlers.

Scenario 3. Production of ash according to the wet method grinding technology in the absence of incentives from JI project implementation.

Coal sludge processing takes place on new equipment which uses wet method of sludge grinding up to the necessary fraction. The process of high-temperature drying with use of natural gas and use of ball mills are out of use. Coal sludge is supplied by the railroad transport from the suppliers (coal washing facilities and coal mines) located in the Donetsk and Luhansk regions of Ukraine. Prepared ash is directly supplied to the Bila Tserkva plant of reinforced concrete constructions and other consumers as necessary.

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

1) **The sector reform policy and legislation.** The State Industry Development Program for 2003–2011 was taken into account in the process of project development. This program provides three periods of development.

a) During the first preparation period (2003) the program provides creation of conditions for activation of the state efforts as for industry development, in particular to focus state efforts on industry development and designing favourable legislative conditions for future development and reforming of the taxation sector.

b) The second period (2003-2006) provides further development of the first period initiatives with the purpose of transformation of industrial sector into a high efficiency system based on self-reproduction and stable accelerated development.

c) The third period (2006-2011) provides wide implementation of new science-driven technologies with improved technical and economical characteristics, reduced energy- and source-intensity of production, complex automation and informatization of production processes and also implementation of other effective changes in the sphere of industry.

Nevertheless it is provided that companies will finance these improvements at their own expenses or from bank loans which actually means that the Ukrainian government does not interfere with this process and the program fulfilment is totally dependent on the market conditions and availability of financial resources. In case of availability of stimulations from the Program activity they could partially remove existing barriers which prevent project realization. However no specific mechanisms for providing companies with financial aid were designed. Thus plants in Ukraine have no obligations as for implementation of any energy saving measures. Taking into account the information given above in can be assumed that none of the legislative acts in the sector influences the baseline scenario.

2) **Economic situation/economic growth and socio-demographic factors in a certain sector of economy and expected demand conditioned by this.** The company production consumers include construction companies of Ukraine. Volume of the production of reinforced concrete constructions at the plant depends on the level of the demand from core consumers which in its turn depends on the real estate market and construction market tendencies. It is provided that the project does not affect the level of the production of goods and demand for them; production capacities of the plant were not increased within the project activity. The main influences are economic picture in the world and

decisions of the company management. Thus increase or decrease of demand or production level during project activity is considered as satisfactory situation in the baseline scenario (it is assumed that the production level in the baseline scenario will be the same as in the project scenario).

3) Capital availability (including investment barriers). Ukraine is considered to be a country with high risk for making investments and doing business. Key factors of doing business in Ukraine are demonstrated in the table 7 of the PDD. Risks of doing business in Ukraine have great influence on capital endowment in the country. According to the official data of the National Bank of Ukraine6 commercial interest rates in euro for the period more than 5 years in Ukraine violated between 8% and 10.4% in October 2010. Thus in contrast, according to the data of the European Central Bank7 the same index for the same period violated from 2.3% to 3.6% in Germany. The cost of debt financing in Ukraine is at least two times higher than in Eurozone. The risks of investing into Ukraine are additionally confirmed by the country ratings provided by the "Moody's international rating" agency and the associated country risk premium.

4) **Availability of skills, know-hows in technological area and perspective of having the best technologies and techniques in future.** Given the global market know-how technologies from the developed countries are available in Ukraine but their price is high and their implementation requires availability of qualified personnel which will be able to install and maintain this equipment. At present the absence of investments and experience of using modern technologies in Ukraine complicates possible implementation of modernized projects and further development of industrial sector.

5) **Prices for fuel and its availability.** Electric power, coal and natural gas are the main energy resources used in Ukraine. Their distribution nets are well developed and these sources of energy are available for most of the industrial consumers. The major part of Ukrainian coal is produced in Luhansk Region and Donetsk Region. Natural gas is mainly imported from Russia. Electric power in Ukraine is mainly produced by the atomic and thermal power plants which operate on fossil fuels (main types of fuel are natural gas and coal). The wholesale electricity market which is subordinated to the state enterprise Enerhorynok is a well-ordered system of performing electric power purchase and sale operations. Prices for electric power and natural gas significantly depend on the demand level and consumers' category, and are regulated by the National Electricity Regulatory Commission of Ukraine which has a special department for making and monitoring prices and tariffs. Prices for coal are set by the coal producers – private and state enterprises.

The identified areas of concern as to baseline settings, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CAR 12 - CAR 17).

4.4 Additionality (27-31)

Traceable and transparent information showing that 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 reductions of anthropogenic emissions by sources of GHGs was provided.

At the time of this document completion the most recent version of the "Tool for the demonstration and assessment of additionality" approved by the CDM Executive Board is version 06 and it is used to demonstrate additionality of the project activity. All explanations, descriptions and analyses are made in accordance with the selected tool.

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

Additionality proofs are provided in section B.2 of the PDD and in excel calculation spreadsheet “CF Bila Tserkva Precast Plant” version 2.0 dated 05/11/2012.

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

The identified areas of concern as to additionality, project participants response and Bureau Veritas Certification’s conclusion are described in Appendix A to Determination report (refer to CAR 18 - CAR 21).

4.5 Project boundary (32-33)

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

(i) Under the control of the project participants;

(ii) Reasonably attributable to the project; and

(iii) Significant, i.e., as a rule of thumb, would by each source account on average per year over the crediting period for more than 1 per cent of the annual average anthropogenic emissions by sources of GHGs, or exceed an amount of 2,000 tonnes of CO2 equivalent, whichever is lower.

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD

The table below demonstrates all the emission sources under the baseline and project scenario:

	Source	Gas	Included/Excluded	Justification/Explanation
Baseline scenario	Natural gas combustion	CO_2	Included	Main emission source of the coal sludge drying process.
	Carbon oxidation	CO_2	Included	Main emission source of the coal sludge drying process.
	Electric power consumption	CO_2	Included	Main emission source of the dry technology production process.
Project scenario	Electric power used for ash production prices provision	CO_2	Included	Main emission source of the wet technology production process.

The baseline scenario is a continuation of the existing situation. The need for ash is provided by high drying and ball mills. Such production requires the use of additional quantities of energy products. The emission sources included into the project boundaries under the baseline scenarios are as follows:

- carbon dioxide emissions from the combustion of natural gas in high drying installations;
- carbon dioxide emissions resulting from electricity consumption by ball mill and drying installations from electric power network of Ukraine;
- emissions of carbon dioxide by the oxidation of carbon contained in the sludge at high temperature drying.

The project scenario envisages the production of ash by wet grinding technology of sludge and the rejection of the traditional method of producing ash. According to the project, it is planned to introduce a full-cycle of producing ash from slurry under wet grinding technology. Project goals: to reduce the use of coal flotation sludge, the use of natural gas to dry sludge and electricity.
The emission sources under project scenario are as follows:

- carbon dioxide emissions resulting from electricity consumption by the project plant from electric power network of Ukraine;

Based on the above assessment, the AIE hereby confirms that the identified boundary and the selected sources and gases are justified for the project activity.

The identified areas of concern as to project boundary, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CAR 22, CAR 23, CL06).

4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began, and the starting date is 01/01/2008, which is after the beginning of 2000.

The PDD states the expected operational lifetime of the project in years and months, which is 19 years and 0 months.

The PDD states the length of the crediting period in years and months, which is 19 years and 0 months, and its starting date as 01/01/2008, which is on the date the first emission reductions are generated by the project.

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

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

The identified areas of concern as to crediting period, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CAR 24, CAR 25).

4.7 Monitoring plan (35-39)

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

The monitoring plan describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance, such as amount of ash production, amount of electricity consumption, .

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. are clearly connected with the effect to be measured), and that provide a transparent picture of the emission reductions to be monitored such as: CEF for consumers of electric energy from power grid of Ukraine, carbon oxidization factor.

The monitoring plan draws on the list of standard variables indicated in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC, as appropriate

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:

Data / Parameter	Measurement unit	Description	Data source	Value
$SMC_{BL,Slag}$	t of sludge /t of ash	Specific consumption of sludge for production of ash in baseline scenario	Data were taken from the technical reports which were provided by the exploitation and maintenance department of the ash preparation shop included in the plant structure. Technical reports will be provided to AIE during determination process	2
$SFC_{BL,NG}$	m^3/t	Specific consumption of natural gas for production of ash in baseline scenario	Data were taken from the technical reports which were provided by the exploitation and maintenance department of the ash preparation shop included in the plant structure. Technical reports will be provided to AIE during determination process	30
$C_{BL,Slag}$	fraction	Mass fraction of carbon in the sludge in baseline scenario that is oxidized	Data were taken from the technical reports which were provided by the exploitation and maintenance department of the ash preparation shop included in the plant structure. Technical reports will be provided to AIE during determination process	0.16
$NCV_{NG,y}$	TJ/m^3	Net calorific value of natural gas in period y	National Inventory Report in Ukraine for 1990-2010 pages 456, 462, 468 (1.A.2.f – Other sectors of Industry and Construction). Value is converted from GJ/1000 m^3 to TJ/m^3	0.000034
$C_{NG,y}$	t C/TJ	Carbon content in natural gas in period *y*	National Inventory Report in Ukraine for 1990-2010 pages 458, 464, 470 (1.A.2.f – Other sectors of Industry and Construction).	In 2008 – 15.17 In 2009 – 15.2 In 2010 and later on – 15.17
$OXID_{NG,y}$	fraction	Coefficient of carbon oxidation in baseline scenario (for natural gas) in period *y*	National Inventory Report in Ukraine for 1990-2010 pages 459, 465, 471 (1.A.1.a – Electricity and Heat Production)	In 2008 – 0.995 In 2009 – 0.995 In 2010 and later on – 0.995
$OXID_{BL,y}$	fraction	Coefficient of carbon oxidation in baseline scenario (for coal)in period *y*	National Inventory Report in Ukraine for 1990-2010 pages 459, 465, 471 (1.A.1.a Electricity and Heat Production)	In 2008 – 0.963 In 2009 – 0.963 In 2010 and later on – 0.962

$SEC_{BL,Ash}$	MWh/t of ash	Specific consumption of electricity for production of ash in baseline scenario	Data were taken from the technical reports which were provided by the exploitation and maintenance department of the ash preparation shop included in the plant structure. Technical reports will be provided to AIE during determination process	0.00447
$EF_{EL,grid,y}$	tCO_2/MWh	Specific indirect carbon dioxide emission factor from electricity consumption by the 2nd class electricity consumers according to the Procedure for determining the class of consumers, approved by the National Electricity Regulatory Commission of Ukraine from August 13, 1998 # 1052 in period *y*, tCO_2/MWh	In 2008 - Order of the National Environmental Investment Agency # 62 dated 15.04.2011	1.219
			In 2009 - Order of the National Environmental Investment Agency # 63 dated 15.04.2011	1.237
			In 2010 - Order of the National Environmental Investment Agency # 43 dated 28.03.2011.	1.225
			In 2011 and later on - Order of the National Environmental Investment Agency #75 dated 12.05.2011.	1.227

(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, such as :

There are no such parameters in the monitoring plan of this project.

(iii) Data and parameters that are monitored throughout the crediting period, such as :

Data / Parameter	***Measurement unit***	***Description***	***Data source***
$EC_{Ash,y}$	MWh	Electricity consumption for production of ash in project scenario in period *y*	This parameter is registered by specialized electric meter
$P_{Ash,y}$	t	Ash production in period *y*	Commercial and technical data are used to measure this parameter. This parameter is registered with the help of special scales.

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording such electric meters and car scales.

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

Emissions in the project scenario are calculated as follows:

$$PE_y = PE_{EL,y}, \qquad \textit{(Equation 1),}$$

where:

$PE_{EL,y}$ - GHG emissions in project scenario from electricity consumption in period *y*, tCO_2e.

GHG emissions in project scenario from electricity consumption are in turn calculated as follows:

$$PE_{EL,y} = EC_{Ash,y} \times EF_{EL,grid,y}, \qquad \textit{(Equation 2),}$$

where:

$EC_{Ash,y}$ – Electricity consumption for production of ash in project scenario in period *y*, MWh;

$EF_{EL,grid,y}$ - Specific indirect carbon dioxide emission factor from electricity consumption by the 2nd class electricity consumers according to the Procedure for determining the class of consumers, approved by the National Electricity Regulatory Commission of Ukraine from August 13, 1998 # 1052 in period *y,* tCO_2/MWh

Emissions under the baseline scenario are calculated as follows:

$$BE_y = BE_{FC,y} + BE_{CO,y} + BE_{EL,y} \qquad \textit{(Equation 3),}$$

where:
$BE_{FC,y}$ - GHG emissions in baseline scenario from natural gas consumption for drying sludge in period *y*, tCO_2e;
$BE_{CO,y}$ - GHG emissions in baseline scenario from carbon oxidation in the sludge in period *y*, tCO_2e;
$BE_{EL,y}$ - GHG emissions in baseline scenario from electricity consumption in period *y*, tCO_2e

GHG emissions in baseline scenario from natural gas consumption for drying sludge are in turn calculated as:

$$BE_{FC,y} = P_{Ash,y} \times SMC_{BL,Slag} \times SFC_{BL,NG} \times NCV_{NG,y} \times C_{NG,y} \times OXID_{NG,y} \times \frac{44}{12} \quad \text{(Equation 4),}$$

where:

$BE_{FC,y}$ - GHG emissions in baseline scenario from natural gas consumption for drying sludge in period *y*, tCO_2e;

$P_{Ash,y}$ – Production of ash in period *y*, t;

$SMC_{BL,Slag}$ – Specific consumption of sludge for production of ash in baseline scenario, t/t;

$SFC_{BL,NG}$- Specific consumption of natural gas for drying sludge to produce ash, m^3/t;

$NCV_{NG,y}$ – Net calorific value of natural gas, GJ/m^3;

$EF_{NG,y}$ – GHG emission factor during natural gas combustion in period *y*, tCO_2e /GJ.

$C_{NG,y}$ – Carbon content in natural gas in period *y*, t C/TJ;

$OXID_{NG,y}$ - Coefficient of carbon oxidation in baseline scenario (for natural gas) in period *y*, fraction;

$44/12$ – Ratio between molecular mass of CO_2 and C. Reflect oxidation of C to CO_2.

GHG emissions in baseline scenario from carbon oxidation in the sludge are in turn calculated as follows:

$$BE_{CO,y} = P_{Ash,y} \times SMC_{BL,Slag} \times C_{BL,Slag} \times OXID_{BL,y} \times 44/12, \quad \text{(Equation 5),}$$

where:

$BE_{CO,y}$ - GHG emissions in baseline scenario from carbon oxidation in the sludge in period *y*, tCO_2e;

$P_{Ash,y}$ – Production of ash in period *y*, t;

$SMC_{BL,Slag}$ – Specific consumption of sludge for production of ash in baseline scenario, t/t;

$C_{BL,Slag}$ - Mass fraction of carbon in the sludge in baseline scenario that is oxidized, fraction;

$OXID_{BL,y}$ – Coefficient of carbon oxidation in baseline scenario (for coal)in period *y*, coefficient;

$44/12$ – Ratio between molecular mass of CO_2 and C. Reflect oxidation of C to CO_2.

GHG emissions from electricity consumption are in turn calculated as follows:

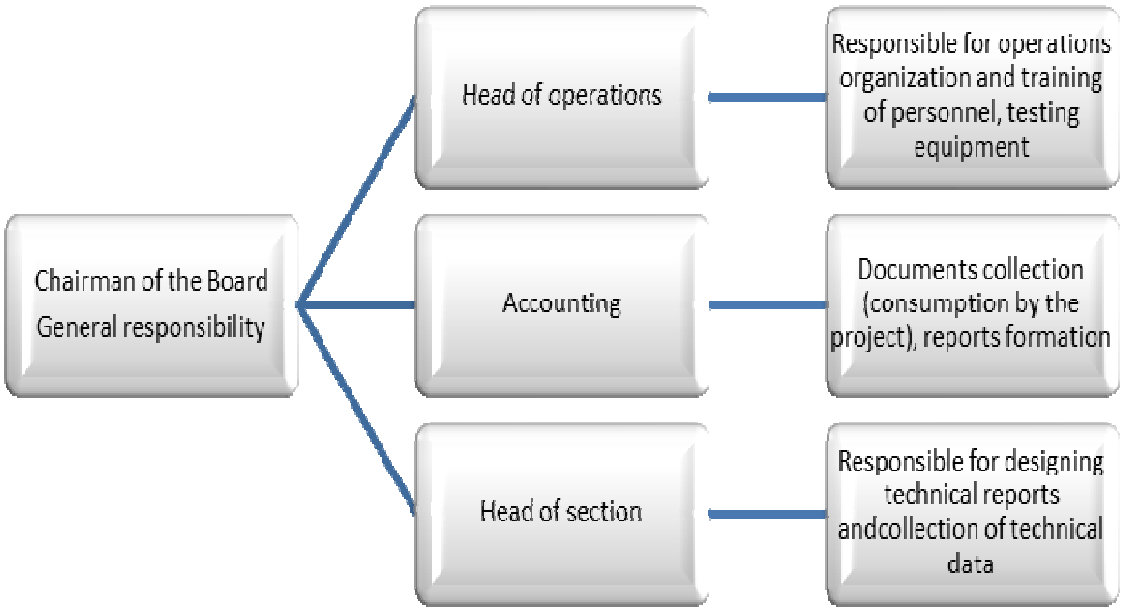
$$BE_{EL,y} = P_{Ash,y} \times SEC_{BL,Ash} \times EF_{EL,grid,y}, \quad \text{(Equation 6),}$$

where:

$BE_{EL,y}$ - GHG emissions in baseline scenario from electricity consumption in period *y*, tCO_2e;
$P_{Ash,y}$ – Production of ash in period *y*, t;
$SEC_{BL,Ash}$ – Specific consumption of electricity for production of ash in baseline scenario, MWh/t;
$EF_{EL,grid,y}$ - Specific indirect carbon dioxide emission factor from electricity consumption by the 2nd class electricity consumers according to the Procedure for determining the class of consumers, approved by the National Electricity Regulatory Commission of Ukraine from August 13, 1998 # 1052 in period *y,* tCO_2/MWh.

The monitoring plan presents the quality assurance and control procedures for the monitoring process such as internal audits and frequent calibration of measuring equipment. This includes, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available on request.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. See figure below:



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

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources (e.g. official statistics, expert judgment, proprietary data, IPCC, commercial and scientific literature 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 Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CAR 26 - CAR 40).

4.8 Leakage (40-41)

Activity realized within the project does not result in any leakage.

No outstanding issues were raised.

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

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

The PDD provides the ex ante estimates of:

(a) Emission reductions from the project (within the project boundary), which are 3788540 tonnes of CO2eq within the first commitment period of the Kyoto Protocol and 12501258 tonnes of CO2eq after the first commitment period of the Kyoto Protocol (2013 - 2026);

(b) Leakage, as applicable, which are absent in the project scenario,

(c) Emission reductions adjusted by leakage (based on (a)-(b) above), which are are 3788540 tonnes of CO2eq within the first commitment period of the Kyoto Protocol and 12501258 tonnes of CO2eq after the first commitment period of the Kyoto Protocol (2013 - 2026);

The estimates referred to above are given:

(a) On an annual basis;

(b) From 01/01/2008 to 31/12/2026, covering the whole crediting period;

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

(d) For each GHG gas;

(e) 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 D of the PDD are consistent throughout the PDD.

For calculating the estimates referred to above, 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 were taken into account, as appropriate.

Data sources used for calculating the estimates referred to above, such as electric meters, car scale are clearly identified, reliable and transparent.

Emission factors, Specific indirect carbon dioxide emission factor from electricity consumption by the 2nd class electricity consumers, were selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

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

The estimates referred to above are consistent throughout the PDD.

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

The identified areas of concern as to estimation of emission reductions, project participants response and Bureau Veritas Certification's conclusion are described in Appendix A to Determination report (refer to CAR 41 - CAR 45).

4.10 Environmental impacts (48)

All measures under the project do not involve any negative impacts on the environment, so EIA specifically for this project was not developed.

this project was not developedThe Host Party for this project is Ukraine. Environmental Impact Assessment (EIA) is the part of the Ukrainian project planning and permitting procedures. Implementation regulations for EIA are included in the Ukrainian State Construction Standard DBN A.2.2.-1-2003 (Title: "Structure and Contents of the Environmental Impact Assessment Report (EIR) for Designing and Construction of Production Facilities, Buildings and Structures").

In Annex F of this standard there is a list of "types of projects or activities that are of high environmental hazard" for which full-scale EIA is obligatory, Ministry of Environment and Natural Resources of Ukraine is competent authority for performing of it. Project activities that consist of utilization of wastes from mud settling pit and reconstruction of technological process at the enterprises are included in this list.

Comprehensive EIA according to the legislation of Ukraine was performed for the proposed project. Here are some general conclusions of this EIA:

- Impact on atmospheric air: according to the proposed activity of the point of processing coal and rock mass into the atmospheric air dust coal and gaseous emissions are not emitted. On the boundary of the nearest residential area pollution of the surface of atmospheric layer, as well as total dust including background air pollution do not exceed the maximum permissible concentration;
- There is no impact on the water. Project activity of the ash production will not affect the superficial and underground (ground) water because there are no sources of such pollution. Project equipment and technology of ash production by wet grinding method excludes resetting technical water or sludge in reservoirs. Water used for household needs on-site, is delivered by existing water supply systems;
- There is no impact on flora and fauna. Planned activity of the point for processing bulk materials will not lead to depletion and degradation of plant groups and fauna of surrounding area, to their accumulation of harmful substances;
- Noise impact is limited. The main source of noise will be at the minimum desired distance from residential areas, mobile sources as for noise (traffic) provisions of local standards will be met;
- There is no impact on depths;
- Impact on landscapes: there is no impact as site of construction is located in industrial zone;
- Impact on society: the project activity does not render negative impact on public health because project activity reduces harmful emissions into the atmosphere through the exclusion of high temperature drying sludge. All necessary measures are provided by working project, they are directed to protecting of staff from possible negative impact in accordance with sanitary standards.
- There are no transboundary effects. There are no impacts which occur on the territory of any other country, and which are caused by the implementation of this project that is physically located entirely within Ukraine.

The PDD provides conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party, if the analysis referred to above indicates that the environmental impacts are considered not significant by the project participants or the host Party.

No outstanding issues were raised.

4.11 Stakeholder consultation (49)

No stakeholder consultation process for the JI projects is required by the Host Party.

4.12 Determination regarding small scale projects (50-57)

Not applicable

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

Not applicable

4.14 Determination regarding programmes of activities (65-73)

Not applicable

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

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

6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the PJSC "Belotserkovskiy precast plant" Project in Ukraine. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

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

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

The fluctuation of the emission reductions is explained by the following means:
The date of the baseline setting in this PDD is 13/09/2012. Therefore the calculations of emission reduction estimates for the period of 2008-2012 follow the actual data on project performance during the given period. The emission reductions in this project directly depend on the production of ash by the plant. Fluctuation in numbers follows the fluctuation in the general output at the plant

as the production of ash depends on the concrete products production levels and external demand. As the Ukrainian economy experienced the outbreak of the global economic crisis in 2008-2009 all sectors and construction sector even more than others were subject to a decline. That is reflected in the declining production figures in 2009 and 2010. In 2011 and onwards the industry has seen recovery and growth with many big infrastructure projects being launched in Ukraine. In turn this has had an impact on the production level of concrete products and in turn on the production level of ash. Calculations of emission reduction estimates for future periods (2013 and onwards) are based on the assumption of full load of production capacities.

The determination revealed one pending issues 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 2.0 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

The review of the project design documentation version 2.0 and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

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

7 REFERENCES

Category 1 Documents:
Documents provided by Fa.Ro Srl that relate directly to the GHG components of the project.

/1/ Project Design Document the "Reduction of greenhouse gas emissions by modernizing production technology of ash at PJSC "Belotserkovskiy precast plant" version 1.0 dated 26/09/2012
/2/ Project Design Document the "Reduction of greenhouse gas emissions by modernizing production technology of ash at PJSC "Belotserkovskiy precast plant" version 2.0 dated 05/11/2012
/3/ Emission reductions calculation spreadsheet:
"ER Bila Tserkva Precast Plant" version 1.0 dated 26/09/2012
/4/ Emission reductions calculation spreadsheet:
"ER Bila Tserkva Precast Plant" version 2.0 dated 25/10/2012
/5/ Investment analysis calculation spreadsheet:
"CF Bila Tserkva Precast Plant" version 1.0 dated 26/09/2012
/6/ Investment analysis calculation spreadsheet:
"CF Bila Tserkva Precast Plant" version 2.0 dated 05/11/2012
/7/ Letter of Endorsement # 2755/23/7 dated 26/09/2012 on the JI project the "Reduction of greenhouse gas emissions by modernizing production technology of ash at PJSC "Belotserkovskiy precast plant", issued by State Environmental Investment Agency of Ukraine

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

/1/ Certificate of conformity # 926843 dated 14/01/2008 on induction heater
/2/ Commissioning statement dated 01.01.2008 on sludge processing equipment
/3/ Agreement # 347/152 dated 03/07/2007 on raw material delivery
/4/ Agreement # 1357/107 dated 26/12/2007 on raw material delivery
/5/ Agreement # 2093/47 dated 29/12/2008 on raw material delivery
/6/ Agreement # 1129/16 dated 28/12/2009 on raw material delivery
/7/ Agreement # 764/60 dated 25/12/2010 on raw material delivery
/8/ Cooperation agreement # 38-09 dated 14/09/2007
/9/ Agreement of purchase and sale # 40-12 dated 05/11/2007
/10/ Cooperation agreement # 37/09 dated 11/09/2007
/11/ Training statement on work with rotating induction element LYV-300-AYN-36
/12/ Technical report on sludge processing dated 17/09/2007
/13/ Passport on electric meter type САЧЕ-5030, serial # 03039489
/14/ Passport on induction heater type AYN-36

/15/ Passport on rotating induction element type LYV-300
/16/ Acceptance statement dated 14/11/2007
/17/ Photo - raw material storage
/18/ Photo – sludge waste
/19/ Photo – weighting panel
/20/ Photo – main gas distribution center
/21/ Passport on gas meter type GMS-G 100-80-1,0-43,1-114 , serial. # 04063
/22/ Agreement # 541 dated 30/03/2012on calibration service

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/ Valentina Lidkova – chief technologist of PJSC “Belotserkovskiy precast plant”

/2/ Sergiy Yatsuk – chief technical specialist of PJSC “Belotserkovskiy precast plant”

/3/ Lyubov Kurchenko – head of steam-power workshop of PJSC “Belotserkovskiy precast plant”

1. o0o -

APPENDIX A: DETERMINATION PROTOCOL

DETERMINATION PROTOCOL

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
General description of the project				
Title of the project				
-	Is the title of the project presented?	The title of the project is "Reduction of greenhouse gas emissions by modernizing production technology of ash at PJSC "Bilotserkovskiy precast plant"	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Sectoral scope: 4 Manufacturing industries	OK	OK
-	Is the current version number of the document presented?	Current version is 1.0	OK	OK
-	Is the date when the document was completed presented?	The date is: 26/09/2012	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;	a) The plant uses high-temperature drying of coal sludge and ball mills for grinding of dry sludge. Process of technological drying requires huge amount of natural gas. b) The baseline scenario of the project implicates	CL01 CAR01 CAR02 CAR03 CL02	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description)?	that current situation will continue. c)The project anticipates installation of the following equipment: • Rotating induction element LYV-300-AYN-36; • Frequency converter INVT Electronics CHF100A-350G-4. Due to new wet technology natural gas will not be combusted during in drying machines. CL01 Please specify how does plant get coal sludge for its processing? Also add this information to descrioption of the project (section A.2) CAR01 The size of section A.2 is bigger than it should be per “GUIDELINES FOR USERS OF THE JI PDD FORM” Version 04. Please briefly summarise key elements of the project. CAR02 Please provide commissioning statement on Rotating induction element LYV-300-AYN-36	CL03 CL04 CAR04	

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CAR03 Please correct word “grinning” to word “grinding” in last sentence of the section “Situation before the beginning of the proposed project activity” in the PDD. CL02 It is stated in the PDD that grinding process ash is dumped into bunker of ash storage where chemical analysis is performed. Please explain how does analys conduct, and what kind of measuring equipment is used for this purpose. CL03 Please explain why it is imposible to use coal sludge with low water and carbon content, taking into account fact that coal sludge drying requires a lot of natural gas. CL04 It is not clear how dry technology prepare raw material to the same conditions as do wet technology. Please make your point plain. Furthermore, wet technology does not burn		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		carbon, thus its content is same before and after preparation. In the same tame it is stated that "quality of concrete and the self-cost of the manufactured products depend on the content of these elements". Please clarify this ambiguous. CAR04 Please provide agreement on coal sludge delivering.		
	Is the history of the project (incl. its JI component) briefly summarized?	It was mentioned in the PDD that JI component was main criterium for the project realization CAR05 Please provide document which clearly identify fact JI component was main stimulus for implemented project.	CAR05	OK
Project participants				
-	Are project participants and Party(ies) involved in the project listed?	Ukraine(host country)- PJSC "Bilotserkovskiy precast plant" The Netherlands - Amster Capital SCS.	OK	OK
-	Is the data of the project participants presented in tabular format?	Yes, the data of the project participants presented in tabular format.	OK	OK
-	Is contact information provided in Annex 1 of the PDD?	Yes, conatact information is provided in Annex 1 of the PDD.	OK	OK
-	Is it indicated, if it is the case, if the	It is indicated that Ukraine is a host Party	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	Party involved is a host Party?			
Technical description of the project				
Location of the project				
-	Host Party(ies)	Ukraine	OK	OK
-	Region/State/Province etc.	Kyiv Region	OK	OK
-	City/Town/Community etc.	City Bila Tserkva	OK	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	Coordinates of the project: +30°3′45.61″ E, +49°49′42.96″ N	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?	All technilogies employed in the project are described. CAR06 Please provide data/documents that reflect crucial implementation steps in table 4 of the PDD. CAR07 It is stated that exploitation of the new equipment requires necessary preparation provided by the producer side. Please present clear evidence of mentioned above training. CAR08	CAR06 CAR07 CAR08	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Table 3. Main parameters of different ways of ash production should contain 2 columns for main values. Please make appropriate corrections.		
Brief explanation of how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed JI project, including why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances				
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	CL05 It is not clear how consumption of electric energy was reduced, taking into account fact that all steps of concentrate production are the same, except high-temperature dryers and grinding mills. If Rotating induction element LYV-300-AYN-36 requires less electric energy it should stated in the PDD. CAR09 It is stated in the PDD that among the sources of emissions reduction is “reducing the amount of combusted natural gas”, but indeed, project is aimed to neglect using of gas at all. Please make appropriate corrections.	CL05 CAR09	OK
-	Is it provided the estimation of emission reductions over the crediting period?	Yes, the estimation of emission reductions over crediting period is provided in Table A.5 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 is provided in tCO2e.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
-	Are the data from questions above presented in tabular format?	Data are presented in tabular form	OK	OK
Estimated amount of emission reductions over the crediting period				
-	Is the length of the crediting period Indicated?	Yes, the length of the crediting period is 5 years	OK	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided?	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?	CAR10 Please provide LOE. CAR11 Written project approvals are absent. According to the national Ukrainian procedure Letter of Approval from Ukraine is expected after project determination process.	CAR10 CAR11	Pending
19	Does the PDD identify at least the host Party as a "Party involved"?	Ukraine (host party) is identified as a Party involved	OK	OK
19	Has the DFP of the host Party issued a written project approval?	See section 19 above	Pending	Pending
20	Are all the written project approvals by Parties involved unconditional?	This issue will be clarified after the determination process finish and obtainment of written approvals from parties involved	OK	OK
Authorization of project participants by Parties involved				

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
21	Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through: − A written project approval by a Party involved, explicitly indicating the name of the legal entity? or − Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	This issue will be clarified after the determination process finish and obtainment of written approvals from parties involved	Pending	Pending
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	JI specific approach is used for identifying the baseline. CAR12 Please add reference # 10 -30.	CAR12	OK
JI specific approach only				
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	CAR13 There is no sense to duplicate the sources of used algorithm. Thus, sentence “Guidance was applied to this project as well as the stated above approach, which was chosen in accordance with Paragraph 12 of Guidance” in the first line of second paragraph (Step1, section B.1) is	CAR13 CAR14	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		senseless and should be deleted. CAR14 Please make the spaces among the words through the section B.		
23	Does the PDD provide justification that the baseline is established: (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one? (b) Taking into account relevant national and/or sectoral policies and circumstance? − Are key factors that affect a baseline taken into account? (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors? (d) Taking into account of 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	Yes, the PDD provides justification that the baseline is established: a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one. b) Taking into account relevant national and/or sectoral policies and circumstance. 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	CAR15 CAR16 CAR17	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?	appropriate. CAR15 Probable future scenarios will be eliminated due to financial or technical barriers, but not due to "technical and/or economical point of view" as stated in Step 2. Using barrier analyses you should strictly follow the terminology. CAR16 Please specify paragraph of "Guidance on criteria for baseline setting and monitoring" (version 03) which is satisfied by Sub-step 2d. Baseline setting. CAR17 Please add information about suppliers/sources of raw materials in plausible scenarios 1 and 3.		
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	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the elements supplementary developed by the project participants in line with 23 above?			
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	A multi-project emission factors are used in this project. PDD provides appropriate justification of their usage.	OK	OK
Approved CDM methodology approach only_Paragraphs 26(a) – 26(d)_Not applicable				
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	"Tool for the demonstration and assessment of additionality", version 6.0.0. has been used for demonstrating additionality.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	circumstances has additionality; (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board".			
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	Yes, the PDD provide justification of the applicability of the approach with a clear and transparent manner.	OK	OK
29 (b)	Are additionality proofs provided?	Yes, additionality proofs are provided CAR18 When proving the additionality of the project the developer is using the latest version of the Tool for the demonstration and assessment of additionality version 06.0 (hereinafter referred as Additionality Tool). Approach selected for determination of appropriate analysis method is correct. Benchmark analysis is the proper method for the present project. Unfortunately some minor mistakes in terminology are present. Please correct the last sentence of the sub-step 2a page 30 as follows: "*As continuation of the current situation is the most plausible alternative, the benchmark analysis will*	CAR18 CAR19 CAR20 CAR21	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		be applied (Variant III).” CAR19 The benchmark discount rate is properly derived from the WACC adjusted for expected inflation level and risk factors. But it should be mentioned that the developer states on page 30 that “*Date of making decision on investment is 11 September 2005. Prices tariffs and expenditures for the analysis were taken as for this date*”, while the input values in cash flow are actually referring to 2007 values. I assume correct date of investment decision is 11 September 2007. Please correct/clarify. CAR20 The Developer indicates that the employment of new technology will reduce water use in production process. At the same time financial model does not account for any savings in this aspect. If the economy is negligibly small please indicate it in PDD. CAR21 While the liquidating value of the project assets is calculated correctly it is deducted from the cash flow instead of addition. I kindly ask you to correct		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		the relevant formulas in CF Excel file (the project and sensitivity scenarios as well).		
29 (c)	Is the additionality demonstrated appropriately as a result?	Yes, the additionality demonstrated appropriate as a resault.	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?	Yes, all explanations, descriptions and analyses are made in accordance with the selected tool or method	OK	OK
Approved CDM methodology approach only_ Paragraphs 31(a) – 31(e)_Not applicable				
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?	CAR22 In table 20 column “Justification” should contain brief explanation of why such a source was included or excluded. Please make appropriate corrections.	CAR22	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?	CL06 Please clarify what does “V and Sc<1%” in project boundary mean?	CL06	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	Yes, all data on project boundary included appropriately	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?	Yes, presence and absence of all emission sources are justified. CAR23 Please correct information in section B.4. Fa.Ro Srl Company can coordiante determination and verification, but cannot conduct it (just AIE is eligible to do so). Also not project development document, but project design document. Not project monitoring, but monitoring report.	CAR23	OK
Approved CDM methodology approach only_Paragraph 33_ Not applicable				
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?	Starting date of the project is 11/09/2007	OK	OK
34 (a)	Is the starting date after the beginning of 2000?	Yes, the starting date is after beginning of 2000	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in	The project will be 19 years and 3 months or 231months.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	years and months?			
34 (c)	Does the PDD state the length of the crediting period in years and months?	Length of the crediting period: 19 years or 228 months	OK	OK
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	The staring date of the project is on the date of the first emission reductions.	OK	OK
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	Operational lifetime of the project is 19 years and 3 months Length of the crediting period is : 19 years Thus, the crediting period for issuance 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?	CAR24 Please add in the end of section C.3 that crediting period extended beyond 2012 is subject to the host Party approval CAR25 Please provide documents which explicitly indicate the starting date of the JU project.	CAR24 CAR25	OK
Monitoring plan				
35	Does the PDD explicitly indicate which of the following approaches is used? − JI specific approach	CAR26 Monitoring plan does not indicate that JI specific approach was used. Please add that JI specific	CAR26 CAR27 CAR28	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− Approved CDM methodology approach	approach (a) is applied, and write it down before components of the monitoring plan (section D.1). CAR27 Reference # 31 is absent. Please make appropriate amendments. CAR28 Please correct template of the PDD from page 37 to the end of the document.		
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?	Monitoring plan explicitly indicates : − 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.	OK	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	National Inventory Report of Ukraine 1990-2010 is reliable source, which indicates constant and variables used in the project. All other information about variables was presented to IAE. CAR29 Please provide technical reports for all values presented in table 21 of the PDD. CAR30	CAR29 CAR30 CAR31 CAR32 CAR33 CAR34	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		It is stated in component 3, 5 (section D.1) that "during the project activity any leakages is expected", but indeed, there are no leakages at all. Please rephrase this statement. CAR31 Please note that monitoring plan is aimed to monitor values and variables, but it is not aimed to monitor greenhouse gases. Make appropriate corrections through the PDD. CAR32 Please provide references from the very beginning of the section D. CAR33 Please specify entity which conducts calibration for measuring equipment involved in the project. CAR34 Please indicate key information on measuring equipment involved in the project. For electric meters and scales: type, accuracy, calibration period, etc.		
36 (b)	If default values are used: − Are accuracy and reasonableness carefully balanced in their selection?	Yes, all constant mentioned in table 21 of the PDD met all requirements such as:	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− 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?	- They originate from recognized sources; - They are supported by statistical analyses providing reasonable confidence levels; - They are presented in transparent manner; - They are accuracy and reasonably selected;		
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?	Yes, for those values that are to be provided by the project participants, the monitoring plan clearly indicates how the values are to be selected and justified.	OK	OK
36 (b) (ii)	For other values, − Does the monitoring plan clearly indicate the precise references from which these values are taken? − Is the conservativeness of the values provided justified?	Monitoring plan clearly indicates precise references from which these values are taken and the conservativeness of the values provided is justified.	OK	OK
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	CAR35 Please avoid using word “verification” in meaning calibration.	CAR35	OK
36 (b) (iv)	Are International System Unit (SI units) used?	International System Unit (SI units) are used	OK	OK
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc.	Yes, the only value is the amount of outlet material.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	that are used to calculate baseline emissions or net removals but are obtained through monitoring?			
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	The 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, the monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring".	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	CAR36 There is no consistency among these 3 groups. Thus, I kindly ask you to divide all monitoring parameters into 3 groups and to make for them individual tables.	CAR36	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	monitored throughout the crediting period?			
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	Yes, the monitoring plan describes the methods employed for data monitoring (including its frequency) and recording. CAR37 In order to meet the JISC requirements on QC and QA, frequent internal audits should be conducted within monitoring process. Please provide evidences on internal audits mentioned above.	CAR37	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?	The monitoring plan elaborates all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate.	OK	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	Yes, the underlying rationale for the algorithms/formulae is explained.	OK	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Consistent variables, equation formats, subscripts etc. are used	OK	OK
36 (f) (iii)	Are all equations numbered?	CAR38 Please rearrange equations with their numbers in	CAR38 CAR39	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		one line. Make it through the all PDD. CAR39 Please delete colour filling of equation # 8 (GHG emissions in baseline scenario from natural gas consumption).		
36 (f) (iv)	Are all variables, with units indicated defined?	Yes, all variables, with units indicated are defined	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	Yes, the conservativeness of the algorithms/procedures is justified.	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key parameters included?	Methods to quantitatively account for uncertainty in key parameters are included.	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?	The consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline is ensured.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	N/A	OK	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	The procedure is consistent with standard technical procedures in the relevant sector.	OK	OK
36 (f) (vii)	Are references provided as necessary?	References are provided as necessary.	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent	Implicit and explicit key assumptions are explained in transparent manner.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	manner?			
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?	It is clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed. For detailed information see section D.2.	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?	The uncertainty of key parameters is described and, where possible, an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions is provided.	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?	Monitoring plan does not identify a national or international monitoring standard.	OK	OK
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	Not applicable for given JI project.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	Yes, the comprehensive data are provided in section D of the PDD. CAR40 Please provide a copy of agreement on calibration of measuring equipment involved in the project.	CAR40	OK
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	Yes, the monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities.	OK	OK
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type? If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	This project is the first of such type.	OK	OK
36 (l)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with	Yes, there are some data that were taken from plant technical reports, thus they will be collected annually.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	equations?			
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?	Yes, it is stated in section D of the PDD.	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?	N/A	OK	OK
Approved CDM methodology approach only_Paragraphs 38(a) – 38(d)_Not applicable				
Applicable to both JI specific approach and approved CDM methodology approach_Paragraph 39_Not applicable				
Leakage				
JI specific approach only				
40 (a)	Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	No leakages are expected within the project.	OK	OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Approved CDM methodology approach only_Paragraph 41_Not applicable				
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	The PDD indicates that assessment of emissions or in the baseline scenario and in the project scenario is chosen.	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)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	PDD provides ex ante estimates of: (a) Emissions for the project scenario (within the project boundary): (b) Leakage; (c) Emissions for the baseline scenario (within the project boundary); (d) Emission reductions adjusted by leakage; CAR41 Please add the title and the date to both excel calculation spreadsheets. CAR42 Please correct all variables in ER calculation spreadsheet as per Appendix B (Guidance on Criteria for Baseline Settings and Monitoring). CAR43 Value of specific sludge consumption should be both added in separate column and excluded from	CAR41 CAR42 CAR43 CAR44 CAR45	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		” Annual raw material input @ 16% carbon” line in excel file. Also for baseline emissions and project emissions specify variables such as drying, oxidation of carbon and electricity in excel file. CAR44 Values in ER excel calculation spreadsheet such as 3788540 and 12501258 should refer to specific description. Please provide appropriate data. CAR45 Please provide both gas quality certificates and old agreement with gas supply company.		
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?	The baseline emissions and project emissions are given on a periodic basis from the beginning to the end of the crediting period for each year. Baseline	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(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 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?	and project emissions are carried out for CO2 as GHG gas. Formulae used for calculating the estimates that are indicated in section D and section E are consistent throughout the PDD and calculation Excel spreadsheets. As there was already mentioned above, data sources used for calculating the estimates are clearly identified. Among key factors influencing the baseline emissions or the activity level of the project as well as risks associated with the project the Carbon Emission Factor for electricity is taken into account. The emission factor of Ukrainian grid used for calculation the estimates in the JI project is selected with appropriate accuracy. Choice of emission factor is justified in the project design documents. Conservative assumptions are taken into account while estimating emission reduction. Tables with calculation results of CO2 emission reductions are provided in the PDD. As a fact, estimated total value of CO2 emission reductions for the first crediting period is 3788540 tonnes CO2 equivalent; moreover, estimated total value of CO2 emission reductions for the period 2013-2026 is 12501258 tonnes CO2 equivalent.		

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(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?	The calculations of the baseline emissions and project emissions are to be performed ex post. Also, ex ante calculation of emissions is provided in the PDD. All estimated values are presented in section E of the PDD and Excel spreadsheets.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Approved CDM methodology approach only_Paragraphs 47(a) – 47(b)_Not applicable				
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 proposed project in general has a positive impact on environment so it is not subject to special ecological examination. See section F.1 for details.	OK	OK
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	N/A	OK	OK
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	The Host Party doesn't require stakeholders' consultation process for the JI project. No stakeholders' comments connected with JI project were obtained. Also, stakeholder's comments will be collected during the determination procedure.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	received, if any? (b) The nature of the comments? (c) A description on whether and how the comments have been addressed?			
Determination regarding small-scale projects (additional elements for assessment)_Paragraphs 50 - 57_Not applicable				
Determination regarding land use, land-use change and forestry projects _Paragraphs 58 – 64(d)_Not applicable				
Determination regarding programmes of activities_Paragraphs 66 – 73_Not applicable				

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
CL01 Please specify how does plant get coal sludge for its processing? Also add this information to description of the project (section A.2)		The coal sludge is supplied to the plant through the railroad transport network from a number of suppliers located primarily in the Donetsk and Lugansk regions of Ukraine. The plant has contracts covering the coal sludge supply that are provided to the AIE as supporting documents. Appropriate explanations have been added to the PDD version 2.0 dated 25/10/2012 Section A.2.	The issue is closed.
CAR01 The size of section A.2 is bigger than it should be per "GUIDELINES FOR USERS OF THE JI PDD FORM" Version 04. Please briefly summarise key elements of the project.		Corrections were made in the PDD version 2.0 dated 25/10/2012 Section A.2. The size of the section A.2. has been brought to a limit specified in "GUIDELINES FOR USERS OF THE JI PDD FORM" Version 04.	The issue is closed.

CAR02 Please provide commissioning statement on Rotating induction element LYV-300-AYN-36		Requested evidence is provided to the AIE as supporting document.	The issue is closed.
CAR03 Please correct word “grinning” to word “grinding” in last sentence of the section “Situation before the beginning of the proposed project activity” in the PDD.		Corrections were made in the PDD version 2.0 dated 25/10/2012 Section A.2.	The issue is closed.
CL02 It is stated in the PDD that grinding process ash is dumped into bunker of ash storage where chemical analysis is performed. Please explain how does analyse conduct, and what kind of measuring equipment is used for this purpose.		Chemical analysis of the produced ash is performed as needed to control the quality of the production process and per customer request if the ash is supplied to external consumers. Chemical analysis is performed in a laboratory following the guidelines of the standard GOST 25818—91 Thermal plant fly-ashes for concretes and . Sample of the produced ash is collected from the bunker storage and analysed using standard procedures. Standard laboratory equipment and reagents are used for this purpose. Corrections were made in the PDD version 2.0 dated 25/10/2012 Section A.2.	The issue is closed.

CL03 Please explain why it is impossible to use coal sludge with low water and carbon content, taking into account fact that coal sludge drying requires a lot of natural gas.		Coal sludge is formed primarily in mud settling pits of the coal washing plants that use large amounts of water as the main agent of the production process. Therefore, high water content of the incoming coal sludge is the feature of the coal washing process that results in the production of the coal sludge. Also, ash preparation requires that the substance is homogenized in the process (i.e. is mixed into uniform substance) and using traditional production process (drying and dry milling) it is better achieved when raw material is in the in the liquid form. Carbon content of the produced ash should be minimal. But using the baseline drying and dry milling technology high carbon content helps to save fuel for drying as carbon is combusted in the raw material.	The issue is closed.

CL04 It is not clear how dry technology prepare raw material to the same conditions as do wet technology. Please make your point plain. Furthermore, wet technology does not burn carbon, thus its content is same before and after preparation. In the same tame it is stated that “quality of concrete and the self-cost of the manufactured products depend on the content of these elements”. Please clarify this ambiguous.		The dry production technology (baseline production technology) uses drying of the incoming raw material – coal sludge. During drying process the carbon present in the coal sludge oxidizes and its content in the mass of the raw material is significantly decreased. After drying the ash is grinded to the requested particle size (fraction). Before ash prepared by the dry method is used in concrete production or for other purposes it is mixed with water to reach required characteristics of water content (for better mixing etc.). The wet production technology uses coal sludge with initially lower carbon content that corresponds to the carbon content that is achieved in the dry process after drying. The content of the raw material in this production method is not changed in the production process. It is grinded using rotating induction elements LYV-300-AYN-36. The water content of the ash in this production is initially the same as the water content of the ash produced by the dry method when it is mixed with water at the last stage of the process. Therefore, both processes result in producing product with the same final characteristics. Details are provided in Table 3 in the PDD version 2.0 dated 25/10/2012.	The issue is closed.

CAR04 Please provide agreement on coal sludge delivering.		Requested evidence – contracts covering coal sludge delivery – is provided to the AIE as supporting document.	The issue is closed.
CAR05 Please provide document which clearly identify fact JI component was main stimulus for implemented project		Requested evidence – agreement between project participants – is provided to the AIE as supporting document.	The issue is closed.
CAR06 Please provide data/documents that reflect crucial implementation steps in table 4 of the PDD.		Requested evidence – agreements, acts and commissioning statements etc. – are provided to the AIE as supporting documents.	The issue is closed.
CAR07 It is stated that exploitation of the new equipment requires necessary preparation provided by the producer side. Please present clear evidence of mentioned above training.		Requested evidence – training record – is provided to the AIE as supporting document.	The issue is closed.
CAR08 Table 3. Main parameters of different ways of ash production should contain 2 columns for main values. Please make appropriate corrections.		Corrections were made in the PDD version 2.0 dated 25/10/2012 Section A.4.2.	The issue is closed.

CL05 It is not clear how consumption of electric energy was reduced, taking into account fact that all steps of concentrate production are the same, except high-temperature dryers and grinding mills. If Rotating induction element LYV-300-AYN-36 requires less electric energy it should stated in the PDD.		Corrections were made in the PDD version 2.0 dated 25/10/2012. Statement on reduction of electricity consumption has been revised.	The issue is closed.
CAR09 It is stated in the PDD that among the sources of emissions reduction is “reducing the amount of combusted natural gas”, but indeed, project is aimed to neglect using of gas at all. Please make appropriate corrections.		Corrections were made in the PDD version 2.0 dated 25/10/2012 Section A.4.3.	The issue is closed.
CAR10 Please provide LOE.	19	Requested evidence – Letter of Endorsement from Ukraine – is provided to the AIE as supporting document.	The issue is closed.

CAR11 Written project approvals are absent. According to the national Ukrainian procedure Letter of Approval from Ukraine is expected after project determination process.	19	Approval from the Parties involved will be received after a positive determination opinion, according to the legislation of the Parties. Written approval of the project by the Party involved participating in the JI project except the host Party will be received before the first verification of the project.	The issue is closed.
CAR12 Please add reference # 10 -30.	22	Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.
CAR13 There is no sense to duplicate the sources of used algorithm. Thus, sentence “Guidance was applied to this project as well as the stated above approach, which was chosen in accordance with Paragraph 12 of Guidance” in the first line of second paragraph (Step1, section B.1) is senseless and should be deleted.	23	Corrections were made in the PDD version 2.0 dated 25/10/2012 Section B.1.	The issue is closed.
CAR14 Please make the spaces among the words through the section B.	23	Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.

CAR15 Probable future scenarios will be eliminated due to financial or technical barriers, but not due to "technical and/or economical point of view" as stated in Step 2. Using barrier analyses you should strictly follow the terminology.	23	Corrections were made in the PDD version 2.0 dated 25/10/2012. Terminology has been brought up to the standard.	The issue is closed.
CAR16 Please specify paragraph of "Guidance on criteria for baseline setting and monitoring" (version 03) which is satisfied by Sub-step 2d. Baseline setting.	23	Corrections were made in the PDD version 2.0 dated 25/10/2012. Sub-step 2d. Baseline setting of the Section B.1. of the PDD satisfies the requirements of the paragraph 24 of the "Guidance on criteria for baseline setting and monitoring" (version 03).	The issue is closed.
CAR17 Please add information about suppliers/sources of raw materials in plausible scenarios 1 and 3.	23	Corrections were made in the PDD version 2.0 dated 25/10/2012. In these scenarios coal sludge is supplied by the railroad transport from the suppliers (coal washing facilities and coal mines) located in the Donetsk and Luhansk regions of Ukraine.	The issue is closed.

CAR18 When proving the additionality of the project the developer is using the latest version of the Tool for the demonstration and assessment of additionality version 06.0 (hereinafter referred as Additionality Tool). Approach selected for determination of appropriate analysis method is correct. Benchmark analysis is the proper method for the present project. Unfortunately some minor mistakes in terminology are present. Please correct the last sentence of the sub-step 2a page 30 as follows: "*As continuation of the current situation is the most plausible alternative, the benchmark analysis will be applied (Variant III).*"	29(b)	Appropriate corrections in the last sentence were done.	The issue is closed.

CAR19 The benchmark discount rate is properly derived from the WACC adjusted for expected inflation level and risk factors. But it should be mentioned that the developer states on page 30 that "*Date of making decision on investment is 11 September 2005. Prices tariffs and expenditures for the analysis were taken as for this date*", while the input values in cash flow are actually referring to 2007 values. I assume correct date of investment decision is 11 September 2007. Please correct/clarify.		Done.	The issue is closed.
CAR20 The Developer indicates that the employment of new technology will reduce water use in production process. At the same time financial model does not account for any savings in this aspect. If the economy is negligibly small please indicate it in PDD.		Appropriate corrections were done.	The issue is closed.

CAR21 While the liquidating value of the project assets is calculated correctly it is deducted from the cash flow instead of addition. I kindly ask you to correct the relevant formulas in CF Excel file (the project and sensitivity scenarios as well).		Done	The issue is closed.
CL06 Please clarify what does “V and Sc<1%” in project boundary mean?	32(b)	Corrections were made in the PDD version 2.0 dated 25/10/2012. “V and Sc<1%” stands for content of scandium and vanadium that is less than 1%.	The issue is closed.
CAR22 In table 20 column “Justification” should contain brief explanation of why such a source was included or excluded. Please make appropriate corrections.	32(a)	Corrections were made in the PDD version 2.0 dated 25/10/2012 Section B.3. Brief explanations of inclusion or exclusion of emission sources were added.	The issue is closed.
CAR23 Please correct information in section B.4. Fa.Ro Srl Company can coordinate determination and verification, but cannot conduct it (just AIE is eligible to do so). Also not project development document, but project design document. Not project monitoring, but monitoring report.	32(d)	Corrections were made in the PDD version 2.0 dated 25/10/2012 Section B.4.	The issue is closed.

CAR24 Please add in the end of section C.3 that crediting period extended beyond 2012 is subject to the host Party approval	34(d)	Corrections were made in the PDD version 2.0 dated 25/10/2012 Section C.3.	The issue is closed.
CAR25 Please provide documents which explicitly indicate the starting date of the JU project.	34(d)	Requested evidence – agreement between project participants – is provided to the AIE as supporting documents.	The issue is closed.
CAR26 Monitoring plan does not indicate that JI specific approach was used. Please add that JI specific approach (a) is applied, and write it down before components of the monitoring plan (section D.1).	35	Corrections were made in the PDD version 2.0 dated 25/10/2012 Section D.1. Relevant information has been added.	The issue is closed.
CAR27 Reference # 31 is absent. Please make appropriate amendments.	35	Corrections were made in the PDD version 2.0 dated 25/10/2012 Section D.1.	The issue is closed.
CAR28 Please correct template of the PDD from page 37 to the end of the document.	35	Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.
CAR29 Please provide technical reports for all values presented in table 21 of the PDD.	36(b)	Requested evidence – technical reports – is provided to the AIE as supporting documents.	The issue is closed.

CAR30 It is stated in component 3, 5 (section D.1) that "during the project activity any leakages is expected", but indeed, there are no leakages at all. Please rephrase this statement.	36(b)	Corrections were made in the PDD version 2.0 dated 25/10/2012 Section D.1.	The issue is closed.
CAR31 Please note that monitoring plan is aimed to monitor values and variables, but it is not aimed to monitor greenhouse gases. Make appropriate corrections through the PDD.	36(b)	Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.
CAR32 Please provide references from the very beginning of the section D.	36(b)	Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.

CAR33 Please specify entity which conducts calibration for measuring equipment involved in the project.	36(b)	Calibration of measurement devices will be held periodically according to technical regulations of the Host Party. Calibration should be performed by authorized representatives of the State Metrological Service of Ukraine, for example SE "Kyivoblstandardmetrologiya" located in Bila Tserkva. Exact entity conducting the calibration for the specified period will be mentioned in periodic monitoring reports that will be submitted for verification to AIE. Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.

CAR34 Please indicate key information on measuring equipment involved in the project. For electric meters and scales: type, accuracy, calibration period, etc.	36(b)	Exact type, accuracy class and calibration period for electricity meter will be mentioned in the periodic monitoring report for each device. Typical electricity meters in Ukraine are electronic electricity meters of 0,5s accuracy class. Calibration period for such devices in Ukraine typically is 6 years. Exact type, accuracy class and calibration period for scales will be mentioned in the periodic monitoring report for each device. Typical scales that are used for such purposes in Ukraine are automobile strain scales with accuracy class varying according to maximum allowed measurement. Calibration period for such devices in Ukraine typically is 1 year. Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.
CAR35 Please avoid using word “verification” in meaning calibration.	36(b)iii	Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.

CAR36 There is no consistency among these 3 groups. Thus, I kindly ask you to divide all monitoring parameters into 3 groups and to make for them individual tables.	36(d)	Corrections were made in the PDD version 2.0 dated 25/10/2012. Data and parameters were consistently separated between those that are not monitored throughout the crediting period, but are determined only once and that are available already at the stage of determination regarding the PDD; 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 regarding the PDD and data and parameters that are monitored throughout the crediting period. Individual tables were prepared for those groups of parameters.	The issue is closed.

CAR37 In order to meet the JISC requirements on QC and QA, frequent internal audits should be conducted within monitoring process. Please provide evidences on internal audits mentioned above.	36(e)	Internal audits will be performed if necessary during the monitoring periods. Results of such audits will be mentioned in the periodic monitoring reports. Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.
CAR38 Please rearrange equations with their numbers in one line. Make it through the all PDD.	36(f)iii	Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.
CAR39 Please delete colour filling of equation # 8 (GHG emissions in baseline scenario from natural gas consumption).	36(f)iii	Corrections were made in the PDD version 2.0 dated 25/10/2012.	The issue is closed.

CAR40 Please provide a copy of agreement on calibration of measuring equipment involved in the project.	36 (i)	Calibration of measurement devices will be held periodically according to technical regulations of the Host Party. Calibration should be performed by authorized representatives of the State Metrological Service of Ukraine, for example SE "Kyivoblstandardmetrologiya" located in Bila Tserkva. Exact entity conducting the calibration for the specified period will be mentioned in periodic monitoring reports that will be submitted for verification to AIE. At the same time agreements on calibration of measuring equipment will be provided to AIE.	The issue is closed.
CAR41 Please add the title and the date to both excel calculation spreadsheets.	43	Corrections were made in Excel spreadsheets "ER Bila Tserkva Precast Plant.xlsx" version 2.0 dated 25/10/2012 and "CF Bila Tserkva Precast Plant.xlsx" version 2.0 dated 25/10/2012.	The issue is closed.

CAR42 Please correct all variables in ER calculation spreadsheet as per Appendix B (Guidance on Criteria for Baseline Settings and Monitoring).	43	Corrections were made in Excel spreadsheet “ER Bila Tserkva Precast Plant.xlsx” version 2.0 dated 25/10/2012.	The issue is closed.
CAR43 Value of specific sludge consumption should be both added in separate column and excluded from ” Annual raw material input @ 16% carbon” line in excel file. Also for baseline emissions and project emissions specify variables such as drying, oxidation of carbon and electricity in excel file.	43	Corrections were made in Excel spreadsheet “ER Bila Tserkva Precast Plant.xlsx” version 2.0 dated 25/10/2012.	The issue is closed.
CAR44 Values in ER excel calculation spreadsheet such as 3788540 and 12501258 should refer to specific description. Please provide appropriate data.	43	Corrections were made in Excel spreadsheet “ER Bila Tserkva Precast Plant.xlsx” version 2.0 dated 25/10/2012.	The issue is closed.
CAR45 Please provide both gas quality certificates and old agreement with gas supply company.	43	Requested evidence – gas supply agreement – is provided to the AIE as supporting documents.	The issue is closed.