DETERMINATION REPORT VOLYN-CEMENT, UKRAINE

DETERMINATION OF THE SLAG USAGE AND SWITCH FROM WET TO SEMI-DRY PROCESS AT

REPORT NO. UKRAINE/0004/2007

REVISION NO. 06

BUREAU VERITAS CERTIFICATION

DETERMINATION REPORT

Date of first issue:	Organisational unit:
30/09/2008	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
Global Carbon BV	Mr. Lennard de Klerk

Summary:

Bureau Veritas Certification has made the determination of the Slag Usage of the switch from wet to semi-dry process at Volyn-cement, Ukraine on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

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

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

In summary, it is Bureau Veritas Certification's opinion that the project correctly applies the Guidance on Criteria for Baseline Setting and Monitoring and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria, pending the approval from involved parties.

Report No.:	Subject Group:
UKRAINE/0004/2007	JI

Report title:

Slag usage and switch from wet to semi dry process at Volyn-Cement, Ukraine

Work carried out by:

Claudia Freitas - team leader,
climate change lead verifier
Ivan Sokolov – team member,
climate change verifier

Work verified by:

Flavio Gomes

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Indexing terms

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Abbreviations

BAT	Best Available Technology
CAR	Corrective Action Request
CL	Clarification Request
CO_2	Carbon Dioxide
DFP	Designated Focal Point
DR	Document Review
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
GHG	Green House Gas(es)
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
I	Interview
IE	Independent Entity
IETA	International Emissions Trading Association
MoV	Means of Verification
NGO	Non Government Organization
PCF	Prototype Carbon Fund
PDD	Project Design Document
PP	Project Participant
UNFCCC	United Nations Framework Convention for Climate Change

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1 INTRODUCTION

Volyn-Cement, OJSC has commissioned Bureau Veritas Certification to determinate its JI project Slag usage and switch from wet to semi-dry process at Volyn-Cement, Ukraine (hereafter called "the project").

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, 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 GHG Project Description

Cement production is a highly energy intensive process that generates significant emissions of greenhouse gases, in particular CO_2. There are three main sources of CO_2 emissions in the cement production process. The first source is fossil fuel combustion and the second source is the chemical decomposition of the limestone into calcium oxide and carbon dioxide. The third source, being smaller as to compare with the first two, is the grid emissions due to electricity consumption of plants motor drives (e.g. kiln rotation, pumping, fans) and other power consumers.

The project aims to significantly decrease the emissions of the first two sources (fossil fuel combustion and calcination) at Volyn-Cement Cement factory in Ukraine. The

Volyn-Cement factory is one of the biggest cement plants in Ukraine having approximate capacity of 2 mln tonnes of cement a year. It uses a wet process and runs seven kilns.

Kilns installed	Process type	Kiln clinker capacity, t/h each
#1, 2, 3 and 7	Wet	22
#4, 5 and 6	Wet	53

Table 1. Existing production capacity

Firstly, it is foreseen to increase the addition of non-carbonated raw material in the raw meal fed to the kilns. Currently, about 4% of unground blast furnace slag is being added. According to the plan, from 2010 on the share of slag will be increased to some 15% which is regarded as the project target. This reduces the emission due to the calcination process. Further in this Determination Report this part of the project is referred to as subproject 1.

Secondly, the project will decrease the emissions of fossil fuel combustion by changing the technology of cement production from a wet production process to a semi-dry production process (subproject 2).

It is foreseen that all four smaller kilns will be demolished and one of 53 t/h (out of three) will be mothballed. A new semi-dry kiln having capacity of 250 t/h will be installed and operate together with two existing wet kilns of 53 t/h.

Kilns in operation	Process type	Kiln clinker capacity, t/h each
#8	Semi-dry	250
#4, 5	Wet	53

Table 2. Production capacity after project implementation

It is planned that the new semidry kiln #8 will be commissioned and starts operation from 1st of January 2010.

Wet cement production technology is the conventional technology of cement production in Ukraine with a very limited number of dry and semi-dry technology examples*. During raw material preparation stage limestone, clay and additives are crushed and mixed in the raw mill. In the case of wet cement technology water is added to the raw mill together with the raw materials in order to produce slurry. The slurry is further homogenized and fed to the rotary kiln. At the point of the kiln inlet, at the drying zone,

* Adaptation of IPCC Guidelines and Software to Ukraine's Cement Sector, Kyiv 2004;
Ukrcement – Ukrainian association of cement industry – UkrCemFor 2007 conference materials

water is evaporated from the slurry, and raw materials are moved further into the kiln to be calcined and burnt into clinker. Evaporation of the wet slurry consumes significant amounts of energy. At present the average fuel energy consumption at Volyn-Cement over the years 2004, 2005, and 2006 is from 5.953 to 6,033 GJ per tonne of clinker produced (from 1422 to 1441 kcal/kg of clinker).

Semi-dry production process was selected for the reason of high raw materials moisture reaching 24%. The process foresees crushing and blending of the raw materials in a special crusher-dryer to produce the raw meal which is then fed to pre-heater tower where it is dried with kiln exhaust gases. Then the dry raw meal is fed into the calciner where at high temperature the decarbonisation process takes place. The pre-calcined materials are then fed into the rotary kiln where the formation of clinker is occurring. It allow to reduce the kiln fuel consumption by 35-40%, reduce the capital cost of production assets as to compare to the wet process, but increases the complexity of operation and maintenance and consumption of electricity.

1.4 Determination Team

The determination team consists of the following personnel:

Flavio Gomes Bureau Veritas Certification	Internal reviewer
Claudia Freitas Bureau Veritas Certification	Team Leader
Ivan Sokolov Bureau Veritas Certification	Climate Change Verifier

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 Validation and Verification Manual (IETA/PCF). The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The determination protocol serves the following purposes:
It organizes, details and clarifies the requirements JI project is expected to meet;
It ensures a transparent determination process where the determinator will document how a particular requirement has been validated and the result of the determination.

The determination protocol consists of five tables. The different columns in these tables are described in Figure 1

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

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Determination Protocol Table 1: Mandatory Requirements			
Requirement	**Reference**	**Conclusion**	**Cross reference**
The requirements the project must meet.	Gives reference to the legislation or agreement where the requirement is found.	This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** or a **Clarification Request (CL)** of risk or non-compliance with stated requirements. The CAR's and CL's are numbered and presented to the client in the Determination Report.	Used to refer to the relevant protocol questions in Tables 2, 3 and 4 to show how the specific requirement is determined. This is to ensure a transparent determination process.

Determination Protocol Table 2: Requirements checklist				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 3: Baseline and Monitoring Methodologies				
Checklist Question	**Reference**	**Means of verification**	**Comment**	**Draft and/or Final Conclusion**

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		(MoV)		
The various requirements of baseline and monitoring methodologies should be met. The checklist is organized in several sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

Determination Protocol Table 3: Baseline and Monitoring Methodologies				
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Determination Protocol Table 4: Legal requirements				
Checklist Question	**Reference**	**Means of verification (MoV)**	**Comment**	**Draft and/or Final Conclusion**
The national legal requirements the project must meet.	Gives reference to documents where the answer to the checklist question or item is found.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (**OK**), or a **Corrective Action Request (CAR)** due to non-compliance with the checklist question. (See below). **Clarification Request (CL)** is used when the determination team has identified a need for further clarification.

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Determination Protocol Table 5: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	**Ref. to checklist question in tables 2/3/4**	**Summary of project owner response**	**Determination conclusion**
If the conclusions from the Determination are either a Corrective Action Request or a Clarification Request, these should be listed in this section.	Reference to the checklist question number in Tables 2, 3 and 4 where the Corrective Action Request or Clarification Request is explained.	The responses given by the Client or other project participants during the communications with the determination team should be summarized in this section.	This section should summarize the determination team's responses and final conclusions. The conclusions should also be included in Tables 2, 3 and 4, under "Final Conclusion".

Figure 1 Determination protocol tables

2.1 Review of Documents

The Project Design Document (PDD version 1.0 dated 24.12.2007) was submitted by Global Carbon BV together with supporting documentation in terms of calculation of GHG emission.

The completeness check made by Bureau Veritas Certification revealed some deviations of the PDD from the JISC format. Therefore, Global Carbon was requested to remake the PDD in conformity to JI PPD Form. On 31.01.2008, BVC received the remade PDD version 1.5 dated 30.01.2008.

Determination of this project was submitted by Bureau Veritas Certification to the JISC for witnessing under accreditation procedure, and the PDD version 1.5 was published on the UNFCCC JI site on 14.06.2008 available for public comments till 13.07.2008.

The PDD version 1.5 and supporting documentation as well as additional background documents related to the project design, baseline, and monitoring plan, such as Kyoto Protocol, host Country laws and regulations, JI guidelines, JISC Guidance on criteria for baseline setting and monitoring, and Guidelines for users of the JI PDD Form were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, the project participants revised the PDD and as a response issued PDD versions from 1.6 dated 20/07/2008 to 1.9 dated 22/10/2008.

In 2009 Global Carbon introduced changes into the PDD (version 2.0 dated 05.12.2009) which relate to the post 2012 emission reduction calculations and postponing the implementation schedule and decrease of the ERUs amount as a consequence.

As a result of determination of the changes the final PDD version 4.0 dated 18.02.2010 was submitted to Bureau Veritas Certification for the registration in the JISC.

The determination findings presented in this report relate to the project as described in the PDD, versions 1.5, 1.9 and 2.0.

2.2 Follow-up Interviews

On 19/05/2008 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review, also clarification and corrective action requests were discussed. Representatives of Global Carbon BV and Volyn-cement were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 3 Interview topics

Interviewed organization	Interview topics
Volyn-cement, OJSC Global Carbon BV	➢ additionality of the project, ➢ emission factor of the project, ➢ EIA and its approval, ➢ Project design, ➢ Consulting process for stakeholder's comments , ➢ Approval status by the host country, ➢ Applicability of methodology, ➢ Monitoring Plan, ➢ QA issues, ➢ Baseline calculations.

On 10.02.2010 Bureau Veritas Certification performed interview with the Global Carbon representative Alexey Doumik to discuss changes made in the PDD version 2.0 dated 05.12.2009 and to determine them.

2.3 Resolution of Clarification and Corrective Action Request

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.

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

3 DETERMINATION FINDINGS

In the following sections, the findings of the determination are stated. The determination findings for each determination subject are presented as follows:

1) The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Determination Protocol in Appendix A.
2) Where Bureau Veritas Certification had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. 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 16 Corrective Action Requests and 6 Clarification Requests.
3) The conclusions for determination subject are presented.

3.1 Project Design

Bureau Veritas Certification recognizes that Volyn-cement, OJSC Project is helping country fulfill its goals of promoting sustainable development. The project is expected to be in line with host-country specific JI requirements because of significant decreasing the emissions of greenhouse gases during cement production.

The Project Scenario is considered additional in comparison to the baseline scenario, and therefore eligible to receive Emissions Reductions Units (ERUs) under the JI, based on an analysis, presented by the PDD, of investment, technological and other barriers, and prevailing practice.

The project design is sound and the geographical and temporal (3 years) boundaries of the project are clearly defined.

The PDD version 3.0 main changes concern the emission reductions estimation for the post Kyoto period (2013-2020) and decrease of the expected emission reductions due to delay of the project implementation that is conservative.

Below, a transcription of the outstanding issues related to project design.

Corrective Action Request CAR1.

Energy consumption per ton of clinker for new kiln and other characteristics need confirmation. Assumptions/calculations must be presented.

PP's response: Kiln efficiency of new dry kiln in GJ/ton of clinker is based on preliminary supplier's data. Once the kiln is started in 2010, only the actual kiln efficiency will be monitored annually and these data will be used for ER calculations. Therefore preliminary data will be used until the commissioning of the new kiln and first monitoring. The assumptions for the kiln economy can be found in section A.4 of the PDD. Other assumption can be found in the ER calculations sheet SD4.

Conclusion: Calculations are provided. IUS: closed

Corrective Action Request 2 (CAR2):

There is no evidence of written project approvals by the Parties involved.

PP's response: Letter of Approval from National Agency of Environmental Investments as DFP will be issued upon final determination. Only Letter of Endorsement is currently issued (see reference in PDD).

Conclusion: Letters of approval will be issued by the Parties involved upon submission of Determination Report with CARs and CLs clarified except CAR2. Remaining CAR2 will be closed after the issuance of the LoA by the Parties involved.

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Clarification Request 1 (CL1):

Physical location is divided into two parts, one of which given before A.4.1.1. Please clarify.

PP's response: Information is arranged in one part, starting from A.4.1.1. in PDD rev 1.6

Conclusion: Done.IUS: closed

Clarification Request 2 (CL2):

Please, clarify if the project technology is likely to be substituted by other or more efficient technologies within the project period.

PP's response: The project technology is the new semi-dry kiln system with pre-calciner and multi-cyclone stages tailored to Volyn cement raw materials composition and site requirements. It is a highly expensive (190 MEuro) investment in a major process equipment dedicated for more than 20 years of operation. Therefore it will not be substituted by other more efficient technologies. At the moment dry and semi-dry process (multi-stage cyclone system with precalciner) are regarded as BAT in the clinker production and has a very big number of installations.

Conclusion: Determination Team has checked the web-site of the Ukrainian Cement Association (www.ukrcement.com.ua) and has not found any indications of efforts to stimulate technological innovations in cement production.

IUS: closed

3.2 Baseline and Additionality

Any baseline for a JI project should be set in accordance with the "Guidance on criteria for baseline setting and monitoring"[*]. In accordance with this Guidance, the project participants may use approved CDM methodologies (article 20 (a) of the Guidance) or can establish a baseline in accordance with appendix B of the JI guidelines using selected elements or combinations approved CDM baseline and monitoring methodologies (….) as appropriate (article 20 (b) of the Guidance).

For the cement industry four approved methodologies exist being ACM0003, ACM0005, ACM0015 (consolidating AM0033 and AM0040) and AM0024. None of these methodologies can be applied directly to the project which foresees process switch combined with the increase of production and increased slag usage as raw material, but these methodologies have been carefully studied to identify the main principles underlying the approach to baseline setting, additionality and monitoring.

Furthermore the approach for baseline setting in the JI project JI0001 "Switch from wet-to-dry process at Podilsky Cement, Ukraine", for which the determination has been made final, has been applied over the existing capacity.

Finally, for proving the additionality of the project the most recent "Tool for the demonstration and assessment of additionality (version 05)" has been applied. Please refer to section B.2 of the PDD

While identifying the baseline and project emissions, the general principles of appendix B of the JI guidelines (in particular: project-specific approach, taking conservative assumption, and taking into account relevant policies) have been adhered to.

Approach to select the baseline scenario
The baseline is the scenario that reasonably represents the anthropogenic emission by source of greenhouse gases that would in absence of the proposed project[†]. As no CDM methodology can be directly applied first a list of plausible future scenarios are identified and listed (article 21 (b) of the Guidance). The proposed project, not developed as a JI project, has been included as an alternative as well. These alternatives are assessed whether or not these alternatives are credible and plausible. The consistency between the baseline scenario determination and additionality determination has been checked.

The approach described above has been used to identify the baseline scenario for Volyn-Cement.

[*] http://ji.unfccc.int/Ref/Guida.html
[†] JI guidelines, appendix B

Identification of alternative baseline scenarios
At Volyn-Cement several options for the production of the plant are technically feasible and are discussed below.

Slag usage:
a. Using 0% slag
b. Using 4% unground slag
c. Using 15% ground slag

Production capacity:
d. Keeping existing cement production capacity. A third party producer will produce the increased cement demand instead;
e. Increase cement production capacity to maintain market share.

Technology of new kilns
f. Using a wet process
g. Using a semi-dry process
h. Using a dry process
Option h is technically not feasible as the moisture content of the raw materials is too high (up to 24%) for a dry process. Hence this option has not been taken into consideration.

Combining the remaining seven options generates nine alternative baseline scenarios:
1. Slag usage of 0% without new kilns
2. Slag usage of 4% without new kilns (current situation)
3. Slag usage of 15% without new kilns
4. Slag usage of 0% with new wet kilns
5. Slag usage of 4% with new wet kilns
6. Slag usage of 15% with new wet kilns
7. Slag usage of 0% with new semi-dry kilns
8. Slag usage of 4% with new semi-dry kilns
9. Slag usage of 15% with new semi-dry kilns (proposed project activity)

Below is given, a transcription of the outstanding issues related to project design.

Corrective Action Request 3 (CAR3):

Baseline electricity factor calculation document attached contains only 2 pages of 4. Hence, this information could not be evaluated.

PP's response: Full document on BEF of Ukrainian grid is now integrated in the PDD rev. 1.6

Conclusion: Baseline electricity factor calculation of Ukrainian grid was a part of the JI Project №001, which is already registered by JISC. That is why baseline electricity factor is generally applicable to this project as it belongs to the same industrial sector and is similar in many respects.

Closed

Corrective Action Request 4 (CAR4):

Literature and sources are not referenced

PP's response: Documents are provided as SD (supporting documents)

Conclusion: Supporting documents are provided, see References.

IUS: closed

Corrective Action Request 5 (CAR5):

IRR 15% justifications are grounded on the internal document. The reference is done to Capex Guidelines Dyckerhoff AG that is not available.

The assumptions of the price change are not justified (except of the coal).

Calculations of IRR values mentioned in tables 6-8 are not available.

Please, apply latest version of additionality tool.

PP's response: Recent tool version 05 was applied.

Additionality Tool version corrected to 05 at pg.16 in PDD rev. 1.7 dated 28 of August 2008

Conclusion: Capex Guidelines Dyckerhoff AG is provided for verification purposes as a confidential document, and it is mentioned on the pg.17 without making it available to public. It will be uploaded as a confidential document.

Supporting documents for assumption of the price change and IRR calculations provided.

PPs are using internal benchmarking (comparison of project IRR (refer to the calculations and table 6 in the version 1.8 of the PDD and detailed calculations in SD5) with internal Dyckerhoff Capex Guidelines (refer to SD8, it is marked as confidential document).There are 2 subprojects in the proposed JI project SP1 (slag addition) and SP2 (new semi-dry kiln). PPs are comparing the IRR required by Dyckerhoff internal investment requirements (15% or higher) with IRRs of the subprojects, which are lower (refer to table 6 of PDD rev.1.8, SP1 has IRR 13% and SP2 has negative IRR). As a result of analysis the both sub-projects are economically not attractive.

In this respect PPs decided not to refer as a comparison to project IRR.

Latest version 5.2 of "Tool for the demonstration and assessment of additionality" was used.

Additionality tool version 05 is mentioned in the PDD.

Done. IUS: closed

Corrective Action Request 6 (CAR6):

There are no evidences in the PDD of a description that the project activity itself is not a likely baseline scenario.

PP's response: The proof that the project activity is not a likely baseline scenario is proven in the additionality section.

In the baseline section a reference has been made that the project scenario could be a likely baseline scenario, however given the financial constraints, as proven in the additionality section, the project scenario is not a likely baseline scenario.

Conclusion: In section B1 of the PDD version 1.8 were identified and analyzed 9 possible scenarios. Only Sc1 and Sc2 are credible and plausible (continuation of wet process in both, and 0 or 4% slag addition in Sc1 and Sc2). Other scenarios, including the project scenario (new semi-dry kiln and 15% slag), were proven to be not credible or not plausible ones. The fact that the project scenario is not credible/plausible (and therefore it can not be the baseline scenario) is proven in next section B2 of the PDD version 1.9, where it is shown that it is economically not attractive (internal benchmarking if project IRR).Closed

Corrective Action Request 7 (CAR7):

There are no evidences of a summary of national policies and circumstances relevant to the baseline of the proposed project activity.

PP's response: The two main factors are relevant to the baseline: type of fuel used and the production process of cement (wet or semi-dry/dry).

Concerning fuel used in the baseline the usage of coal is justified in a similar way to the registered JI project 0001 "Switch from wet-to-dry process at Podilsky Cement, Ukraine" There is no national policy or regulation in force, which would restrict usage of natural gas or require switching from gas to coal as fuel.

Concerning the process type, similarly to fuel type in the baseline, there is no national policy or regulation in force which would oblige cement producers to switch from wet process, being predominant at the moment in the industry, to more efficient dry or semi-dry process.

Conclusion: The legislative basis of Ukraine for cement production was monitored on the web-site of Ukrainian Supreme Rada (www.rada.org.ua) as a main legislative body of Ukraine and on the web-site of the Ukrainian Cement Association (www.ukrcement.com.ua). There was not found any legislative laws or regulatory acts which forbidded usage of gas as a fuel for cement production, usage of wet cement production or require switch from wet to dry or semi-dry process in cement production.

Closed

Corrective Action Request 8 (CAR8):

Slag is not taken into account as a raw material, table 9.

PP's response: Leakage due to slag is included in table 9 in PDD rev.1.6

Conclusion: Slag is taken into account and leacage effect was calculated properly. Closed.

Clarification Request 9 (CAR9):

Please present the date of completing in the DD/MM/YYYY format.
PP's response: Date is presented in DD/MM/YYYY in the PDD rev. 1.7 dated 28 August 2008 as 28/08/2008
Conclusion: 17/07/2008 was indicated. IUS: closed.

Clarification Request 10 (CAR10):
Person name and address is not indicated.
PP's response: Person name and address is indicated in PDD rev.1.6
Conclusion: Person name and address is indicated.
Closed

Clarification Request 3 (CL3):
It is not explained why none of the approved methodologies can be applied.
PP's response: None of existing methodologies (CDM ones exist only) can be directly applied to the proposed JI project which foresees process switch combined with the increase of production and increased slag usage.
In accordance with the"Guidance on criteria for baseline setting and monitoring", the project participants may use approved CDM methodologies (article 20 (a) of the Guidance) or can establish a baseline in accordance with appendix B of the JI guidelines using selected elements or combinations approved CDM baseline and monitoring methodologies (….) as appropriate (article 20 (b) of the Guidance).
For the cement industry four approved methodologies exist being ACM0003, ACM0005, ACM0015 (consolidating AM0033 and AM0040) and AM0024. None of these methodologies can be applied directly to the project, but these methodologies have been carefully studied to identify the main principles underlying the approach to baseline setting, additionality and monitoring.
Furthermore the approach for baseline setting in the JI project JI0001 "Switch from wet-to-dry process at Podilsky Cement, Ukraine", for which the determination has been made final, has been applied over the existing capacity.
Extended explanation in B.1. is used in PDD rev.1.7
Conclusion: The explanation was accepted as sufficient and logic.
IUS: closed

3.3 Monitoring Plan

As elaborated in section B.3 of the PDD version 1.8 the project activity only affects the emissions related to the kiln fuel, calcination (decarbonisation) the electricity consumption of the raw milling, the kilns and the coal mill, plus the emission from the heat generator of the coal mill. For the purpose of establishing the baseline emissions and to monitor the project emissions, only these emissions will be monitored.

The baseline emissions are established in the following way:
1. The baseline emission of the kiln fuel over the existing capacity is based on a three years average kiln efficiency and the carbon emission factor of the (mix of) fuel used

in the project scenario. this approach is identical to the approach used in the project JI0001 “Switch from wet-to-dry process at Podilsky Cement” which determination was made final;
2. The baseline emissions of the grid are established using the Ukrainian standardized grid factor as mentioned in annex 2;
3. The baseline emissions of the incremental production are established using the Combined Margin approach as given in annex 2.

Assumptions:
- The emissions at the quarry remain the same;
- The type of fuel combusted in the kiln is not influenced by the project;
- The technical life time of the existing kiln extends to at least the end of the crediting period;
- Under the baseline scenario all existing wet kilns will be operating and will produce at maximum technical capacity;
- No energy efficiency measures will be implemented on the existing wet kilns until the end of the crediting period.

General remarks:
- In consultation with the verifier, the monitoring plan will be updated prior to the commissioning of the project;
- Social indicators such as number of people employed, safety record, training records, etc, will be available to the verifier if required;
- Environmental indicators such as dust emissions, NOx, or SOx will be available to the verifier if required;
- Should less wet kiln be decommissioned as described in section A.4.2 of the PDD version 1.8, the emissions of these kilns will be monitored accordingly.
- To allow commissioning of the raw mill system, a heat generator will be installed to allow the crusher-dryer to produce the first raw meal before the kiln start. Conventionally, this heat generator is not required thereafter. It is not included in the project monitoring plan. In the event of its operation being required thereafter, it will be added to the plan.
- For the greenhouse gas emissions only the CO_2 emissions are taken into account. Cement kilns normally have a CH_4 emission of 0.06 g/kg of clinker and N2O emissions of 0.001 g/kg of clinker compared with more than 650 g CO2 / kg of clinker. Omitting these two emissions for a cement kiln is conservative, because they contribute to less than 0.01% of the total emissions, far below the confidence level for the CO2 data calculations. This is confirmed in the VDZ Environmental Report 2001 (English) and 2004 (German). The CH_4 and N_2O emission reductions will not be claimed. This is conservative.

Below, a transcription of the outstanding issues related to monitoring plan.

Corrective Action Request 11(CAR11):

Assumptions: emissions at the quarry are not addressed.

The first column title refers D.3 instead of D.2.
Only electronic data carrier is not realistic (site visit results).
Plant records only can not be considered as initial data source.
PP's response: The borders of project has been changed in PDD rev.1.6
First column corrected, D.2. instead of D.3. in PDD rev.1.6
First column font corrected to italic in Table D1.1.1. in PDD rev.1.7 dated 28 of August 2008

CAR 11 is addressed: Emissions at the quarry occurring due to raw materials extraction are not included in the project borders in order to be conservative. In the project scenario, due to partial replacement of raw materials by slag, less material will be extracted and the quarry emissions will be lower.

Electronic and paper data carriers will be used

Measuring devices readings and indications will be used

Corrected, excessive formulae element description has been deleted in PDD rev.1.6

Conclusion: Borders of the project are established properly. Measuring devices in general are described, also in comments in the Table D.1.1.1.. All indicated deficiencie are eliminated.

Closed

Corrective Action Request 12 (CAR12): Leakage of slag transportation is not identified.
PP's response: Leakage due slag transportation to the project site, with respective formulae and description was included in the PDD rev.1.6

Conclusion: PDD D.1.3.2. is amended properly. Leakage of slag transportation calculations are correctly performed.Closed

Corrective Action Request 13 (CAR13): State emission reporting Forms and other records are not mentioned in the PDD.
PP's response: Reporting forms are mentioned in PDD rev 1.6

Conclusion: Necessary compulsory emission records areenvisagerd by the PDD. Closed

Corrective Action Request 14 (CAR14): No host Party regulation is mentioned.

Permission issued by the State Rivno Region Environmental and Natural Resources Control to the Volyn-Cement allowing to emit from stationary sources (14 compounds listed) No. 560475 of 13/07/2005 valid till 01/11/2008 was seen on the site.
PP's response: Procedure of obtaining permissions for emissions is explained in PDD rev 1.6

Conclusion: The procedure is described in sufficien manner.

Closed

Corrective Action Request 15 (CAR15): Structure and Responsibilities necessary for emission monitoring are defined. Leakage effects are not mentioned.

PP's response: See section D.3. for Structure and Responsibilities in PDD rev.1.6. Responsibilities to monitor leakages are included.

Conclusion: PDD D.3. section is amended with structure and responsibilities description. Closed

Clarification Request 4 (CL4): QC&QA System procedures are documented within certified Laboratory, and measuring equipment calibration and maintenance planning and records evidencing calibration were seen onsite. All devices belonging to the initial data monitoring (gas and electricity counters, flow meters) are calibrated, and corresponding certificates are in place.

Responsible personnel demonstrated adequate competency and was confident answering questions.

It was concluded that the quality control and quality assurance procedures to be used in the monitoring of the measured data are established.

The only exception was sludge meter, calibrated using own method that needs approval.

PP's response: Routine of slurry metering and meter calibration issued 10/07/2008 and approved by Volyn-Cement General Director. Scanned documents slurry_metering_volyn_1.jpeg and slurry_metering_volyn_2.jpeg are included as attachment to project owner response together with Supporting Documents.

Conclusion: Approved calibration method for sludge meter was attached as supporting document in Russian. It was reviewed and found adequate. Closed.

3.4 Calculation of GHG Emissions

As further described in annex 2 of the PDD, the baseline emissions consist of two sources: one being the emissions of existing on site wet kilns, the second one is the emissions due to incremental production. The first five items in the formula below reflect the emissions of existing on site wet kilns.

$$BE_y = BE_{calc\_wet,y} + BE_{kiln\_wet,y} + BE_{RM\_wet,y} + BE_{coal,y} + BE_{slag,y} + BE_{grind,y} + BE_{incr,y}$$

Where:

BE_y Baseline emission in year y (tCO_2)

$BE_{calc\_wet,y}$ Baseline emission due to raw mill calcination in existing on site wet kilns in year y (tCO_2)

$BE_{kiln\_wet,y}$ Baseline emission from combustion of fuels in wet kilns in year y (tCO_2)

$BE_{RM\_wet,y}$ Baseline emission due to fuel and electricity consumption for raw meal preparation (drying, milling, handling) and kiln electricity consumption in wet kilns(tCO_2)

$BE_{coal,y}$ Baseline emission due to kiln fuel (coal) preparation (grinding, drying, conveying) in year y (tCO_2)

$BE_{slag,y}$ Baseline emission due to slag preparation in year y (tCO_2)

$BE_{grind,y}$ Baseline emission due to grinding of clinker in year y (tCO_2)

$BE_{incr,y}$ Is the baseline emissions due to incremental production in year y (tCO_2), refer to annex 2 for explanation

Baseline clinker production

In the baseline scenario the existing wet kilns would continue operation with a maximum of their technical capacity and the clinker production on the existing wet kilns in the baseline scenario is as follows:

$$CLNK_{BL\_wet,y} = CLNK_{PR\_wet,y} + CLNK_{PR\_s-dry,y}$$ with a maximum of $CLNK_{BL\_wet\_cap}$

Where:
$CLNK_{PR\_wet,y}$ Clinker production on wet kilns in project scenario in year y (tonnes)
$CLNK_{PR\_s\text{-}dry,y}$ Clinker production on semi-dry kiln in project scenario in year y (tonnes)
$CLNK_{BL\_wet\_cap}$ Clinker production capacity on existing wet kilns (tonnes)

Calcination baseline
According to ACM0015 the emission from calcinations (decarbonisation) of raw material containing $CaCO_3$ and $MgCO_3$ into the CaO and MgO with release of CO_2 in the kiln is defined as follows:

$$BE_{calc\_wet} = 0.785(CLNK_{BL\_wet,y} \times CaO_{CLNK\_PR\_wet,y} - RM_{wet,y} \times CaO_{RM\_PR\_wet,y}) + 1.092(CLNK_{BL\_wet,y} \times$$
$$\times MgO_{CLNK\_PR\_wet,y} - RM_{wet,y} \times MgO_{RM\_PR\_wet,y})$$

Where:
0.785 is the stoichiometric emission factor for CaO (tCO2/tCaO)
1.092 is the stoichiometric emission factor for MgO(tCO2/tMgO)
$CaO_{CLNK\_PR\_wet,y}$ is the non-carbonate CaO content in clinker produced by wet kilns in % in year y
$CaO_{RM\_PR\_wet,y}$ is the non-carbonate CaO content in raw meal in % in year y
$MgO_{CLNK\_PR\_wet,y}$ is the non-carbonate MgO content in clinker in % in year y
$MgO_{RM\_PR\_wet,y}$ is the non-carbonate MgO content in raw meal in % in year y
$CLNK_{BLwet,y}$ is the clinker production on wet kilns in baseline scenario in year y (tonnes)
$RM_{wet,y}$ is the consumption of raw meal by wet kilns in baseline scenario in year y (tonnes). It is calculated the following way:

$$RM_{BL\_wet,y} = CLNK_{BL\_wet,y} \times RATIO_{RM/CLNK\_wet,y}$$

Where:
$RATIO_{RM/CLNK\_wet,y}$ is the ratio between raw meal consumed to clinker produced by wet kilns measured in project scenario in year y

$$RATIO_{RM/CLNK\_wet,y} = RM_{PR\_wet,y} \div CLNK_{PR\_wet,y}$$

An explanation of the calcination baseline setting was added to the Annex 2 in PDD version 2.0.

Kiln fuel baseline

Emission of CO_2 due to combustion of fuel in the kilns is calculated using the fixed in the annex 2 value of kiln efficiency for existing on site wet kilns and volume of clinker produced in the baseline scenario on year y according to the following formula*:

$$BE_{kiln\_wet,y} = EF_{fuel\_i,y} \times BKE_{wet} \times CLNK_{BL\_wet,y}$$

Where:

BKE_{wet} is the average for 3 years baseline kiln efficiency for existing on site wet kilns (GJ/ton of clinker)

$CLNK_{BL\_wet,y}$ is the production of clinker in the baseline scenario on wet kilns in year y (tonnes)

$EF_{fuel\_i,y}$ is the fuel of type *i* Emission Factor in year y (tCO_2/GJ)

Raw meal preparation and kiln electricity consumption baseline

$$BE_{RM\_wey,y} = EF_{el,y} \times BEL_{RM\_wet} \times CLNK_{BL\_wet,y}$$

Where:

$BE_{RM\_wet,y}$ is the baseline emission due to electricity consumption for preparation of raw meal and kilns electricity consumption for wet kilns in year y (tCO_2)

$EF_{el,y}$ is the carbon emission factor of electricity grid of Ukraine in year y (tCO_2/MWh)

BEL_{RM_wet} is the average for 3 last years specific electricity consumption of equipment for raw meal preparation and electricity consumption of existing on site wet kilns (MWh/ton of clinker)

$CLNK_{BLwet,y}$ is the production of clinker in the baseline scenario on wet kilns in year y (tonnes)

Coal preparation baseline

$$BE_{coal,y} = BE_{coal\_electr,y} + BE_{coal\_fuel,y}$$

Where $BE_{coal\_electr,y}$ and $BE_{coal\_fuel,y}$ are the baseline emissions due to electricity consumption (for coal milling and conveying) and fuel consumption by heat generator used to dry the coal in year y (tCO_2). They are defined as follows:

* JI0001

In the baseline scenario the coal mill would have to mill more coal than compared to the project scenario for the same amount of clinker produced because of lower kiln efficiencies. In the baseline scenario the coal mill consumes electricity for both wet kilns and kilns producing incremental clinker. The electricity consumed by coal mill to mill coal for wet kilns is defined as follows:

$$BE_{coal\_el\_wet,y} = ELSP_{coalmill\_PR\_y} \times FC_{coal\_BL\_wet,y} \times EF_{el,y}$$

Where:

$EF_{el, y}$ is the carbon emission factor of electricity grid of Ukraine in year y (tCO_2/MWh)

$ELSP_{coalmill\_PR,y}$ is the specific electricity consumption for coal milling and coal conveying in year y (MWh/ton of coal)

$FC_{coal\_BL\_wet,y}$ is the baseline consumption of coal for wet kilns in year y(tonnes)

In the baseline scenario no exhaust gases from the kilns can be used to dry the coal. Therefore in the baseline scenario a heat generator will be installed. The heat generator will start operating at the same time with the coal mill will be put into operation in the middle of 2009 and will continue operating under baseline scenario. The fuel for heat generator will be either natural gas or coal, or mixture of both. Similar to electricity consumption of coal mill, in the baseline scenario the coal dryer would have to dry more coal than in the project scenario for the same amount of clinker produced. And, therefore, the baseline emissions for heat generator fuel consumption are calculated by monitoring the actual fuel consumption by the heat generator and calculating its specific fuel consumption as follows:

$$BE_{coal\_fuel\_wet,y} = \sum_i FSP_{heat\_gen\_i\_PR,y} \times FC_{coal\_BL\_wet,y} \times EF_{fuel\_i,y}$$

Where:

$EF_{fuel\_i, y}$ is the emission factor of fuel of type *i* used in heat generator for drying the coal in year y (tCO_2/GJ)

$FC_{coal\_BL\_wet,y}$ is the baseline consumption of coal for wet kilns in year y(tonnes)

$FSP_{coalmill\_PR,y}$ is the specific consumption of fuel of type *i* for heat generator drying the coal (GJ/ton of coal)

$FC_{coal\_bl\_wet,y}$ is defined the following way:

$$FC_{coal\_BL\_wet,y} = BKE_{wet} \times CLNK_{PR\_wet,y}$$

Slag preparation baseline

At current level of slag addition (4%) slag is not milled (ground), but is only dried. The existing electricity metering system does not allow for separate measurement of electricity used actually for slag preparation and handling. It is metered together with

electricity consumption of kilns and therefore is included in the $BE_{RM,y}$ which includes electricity consumed by raw material preparation and the kilns (fans and drives).

Therefore the portion of $BE_{slag,y}$ which is occurring due to electricity consumption of slag handling in the baseline is included in $BE_{RM,y}$ is not measured and calculated separately. It will be fixed as average for 3 last pre-project years within the $BE_{RM,y}$ value.

Grinding of clinker baseline

The mills grinding clinker in the baseline are consuming electricity to grind clinker from both, wet and incremental kilns.

To separate the electricity used by mills to grind the clinker of wet kilns the following formula will be applied:

$$BE_{grind,y} = ELSP_{grind} \times CLNK_{BL\_wet,y} / CLNKFAC_{y} \times EF_{el,y}$$

Where:

$BE_{grind,y}$ is the baseline emission from grid electricity consumed to grind clinker from wet kilns in year y (tCO_2)

$ELSP_{grind}$ is the specific baseline electricity consumption of mills (it is fixed as average specific consumption for 3 years before the project start) (tCO_2)

Baseline emissions incremental part

$$BE_{incr,y} = CEM_{BLincr,y} xBEF_{incr,y}$$

Where:

BEincr,y Baseline emissions of incremental cement production in year y (tCO2)

CEMBLincr,y Incremental cement production in baseline scenario in year y (tCO2)

BEFincr,y Baseline emission factor for incremental cement production in year y (tCO2/t cement), see annex 2 for explanation.

The cement production for the incremental part is a follows:

$$CEM_{BL\_incr,y} = \frac{CLNK_{BL\_wet\_cap} - (CLNK_{PR\_wet,y} + CLNK_{PR\_s-dry,y})}{CLNKFAC_{y}} \quad \textbf{(14)}$$

Where:

CEMBL_incr,y Incremental cement production in baseline scenario in year y (tonnes)

CLNKPR_wet,y Clinker production on wet kilns in project scenario in year y (tonnes)

CLNKPR_s-dry,y Clinker production on semi-dry kiln in project scenario in year y (tonnes)

CLNKBL_wet_capClinker production capacity on existing wet kilns (tonnes)

CLNKFACy Clinker factor in project scenario in year y (%)

Equations used are based on recognised principles and are correct.

CL7 was issued at the registration stage concerning calculation methodology for

calculation of the data indicated in tables E5. and E.6 that was clarified.

According to PDD version 2.0 the total estimated emission reductions over the crediting period (2010-2012) is 410934 tonnes of CO2 equivalent.

3.5 Environmental Impacts

Cement production has certain impact on the local environment. In Ukraine emission levels in industry are regulated by operating licenses issued by regional offices of the Ministry for Environmental Protection on the individual basis for every enterprise that has significant impact on the environment. The current levels of the emissions of the main pollutants (dust, sulphur oxides and nitrogen oxides), are in compliance with the requirements of the plant's operational license.

Types of atmospheric emissions (as described in the operational licence) and relevant measurement techniques are presented below.

The project foresees introduction of modern auxiliary equipment, designed to meet the strongest pollution restrictions (mainly enhanced bag filtering systems) instead of existing worn out electrostatic precipitators and outdated systems. Also important is that due to approximately 40% better kiln efficiency and also due to usage of slag as part of raw material less fuel will be combusted. New burners, having modern control systems will allow to better maintain optimal combustion mode thus contributing to reduction of such pollutants, like CO and NO_x.

Currently the design of the new installations has been started and will be followed by detailed assessment of environmental impact (OVNS in Ukrainian abbreviation) when complete.

According to the information from design company in charge of design documentation, including environmental impact assessment, there is no transboundary impact to be expected as all pollution will occur within the sanitary zone of the Volyn-Cement.

Dust

Dust, emitted from cement production processes, is not a toxic substance but is considered a nuisance. The main sources of dust from cement production are the raw materials mill, the kiln, clinker coolers and cement mills. Dust emissions from Volyn-Cement are monitored on a regular basis in compliance with norms and regulations in force.

Dust concentration in the exhaust gases is determined on the basis of changes in filter weight measured in a flow of a dust-laden gas for certain period of time. Dust is sampled by gravimetric method in accordance with the national “Methodology of dust concentration measurement in dust-laden process gases”. Accuracy of the measurement is within +/-25%. Testing (calibration) of measurement equipment used to

measure dust emissions is carried out once a year by an independent state body (State Organization for Standardization, Metrology and Certification).

After the installation of new kiln, new dust modern electrostatic precipitators will be installed. These will impact emissions from the raw materials mill, the kiln and clinker cooler. With the implementation of the JI project, airborne emissions of kiln dust are expected to significantly fall from the current levels of approximately 2100 tonne in 2006 and 1630 tonne during 9 months 2007. According to preliminary assessment, the dust emissions will be reduced about 4 times.

Nitrogen and sulphur oxides
NOx is formed due to the inevitable oxidation reaction of the atmospheric nitrogen at high temperatures in the cement kiln. It is expected that after project commissioning the emissions will stay the requirements of the Ukrainian legislation and within the range the Best Available Technology* levels of IPPC.

SOx emissions in cement production originate mainly from raw material and also from coal with sulphur content combustion. The sulphur content in the raw materials used at Volyn-Cement is insignificant and SOx emissions are not observed and should not increase after the implementation of the project. However, the gas analyzing equipment of Volyn-Cement will allow to monitor the gaseous emissions of sulphur oxide in case they will appear.

Process water consumption
Semi-dry and dry processes have significantly lower water consumption due to the difference in mixing and homogenization of raw materials as to compare with wet process. Therefore, it is expected significant reduction of water consumption by Volyn-Cement after the project implementation.
Below, a transcription of the outstanding issues related to environmental impact.

Corrective Action Request 16(CAR16): Transboundary effects are not addressed.
PP's response: Issue of Transboundary impacts are addressed in PDD rev 1.6 and PDD rev 1.7 as following: The OVNS is to be ready by the end of 2008. According to the information from design company in charge, there no transboundary impacts to be expected as all pollution will occur within the sanitary zone of the Volyn-Cement.
Conclusion: IUS: I did not find comments on transboundary effects in section F.1. of the PDD.

Corrected PDD rev 1.8 section F.1. contains transboundary effects explanation. Obviously they are not significant.

IUS: closed

Clarification Request 5 (CL5): Dust reduction is planned, NOx and SOx are envisaged at legally permitted levels.

* IPPC Reference Document on Best Available Techniques in the Cement and Lime Manufacturing Industries, December 2001

Other environmental impacts are not addressed.

PP's response: Introduction of semi-dry technology instead of wet results in significant reduction of water consumption, as raw materials will be mixed and homogenised in a dry (at natural moisture content of quarried materials) state, without addition of water for this.

Conclusion: Water issues are given in the PDD section F.1. They are discussed sufficiently.

IUS: closed.

3.6 Comments by local stakeholders

According to the modalities for the Determination of JI projects, the AIE shall make publicly available the project design document and receive, within 30 days, comments from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available.
Bureau Veritas Certification published the project documents on the UNFCCC JI website (www.unfccc.int) on DD/MM/YYYY and invited comments within DD/MM/YYYY by Parties, stakeholders and non-governmental organizations.
There are no comments from stakeholders.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

According to the modalities for the Determination of JI projects, the AIE shall make publicly available the project design document and receive, within 30 days, comments from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available.
Bureau Veritas Certification published the project documents on the UNFCCC JI website (www.unfccc.int) on 14/06/2008 and invited comments within 13/07/2008 by Parties, stakeholders and non-governmental organizations.
There are no comments from stakeholders.

Below, a transcription of the outstanding issues related to stakeholder's comments

Clarification Request 6(CL6): No stakeholder consultation is required under JI according to G.1. of PDD. Please clarify with the reference to UNFCCC documents addressing this.

PP's response: Sentence *"JI projects are not required to go through a (local) stakeholders' consultation."* is excluded from PDD rev 1.6. No reference of UNFCCC document can be given as the relevant documents do not explicitly say that is it not necessary to do a (local) stakeholders' consultation (in contrary to CDM projects).

Upon readiness of Environmental Impact Assessment (or EIA, a part of design documents according to Ukrainian legislation) the publication in the press is planned to get stakeholders comments. The preparation of design is under way and is scheduled to be completed, including EIA, at the end of 2008.

Conclusion: Ukrainian legislation is very strict in the respect of EIA and socal effects. Before EIA approval a legal procedure for the stakeholder comment collection and analysis is envisaged.. IUS: closed.

5 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the Slag Usage and switch from wet to semi-dry process at Volyn-Cement, 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 sufficient evidences to demonstrate that the project is additional.

An analysis of the investment and technological barriers demonstrates that the proposed project activity is not a likely 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 review of the project design documentation 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, pending approval form the involved parties.

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

6 REFERENCES

Category 1 Documents:
Documents provided by Global Carbon BV that related directly to the GHG components of the project.

/1/ PDD version 1.0, dated: 24.12.07
/2/ PDD version 1.5, dated: 30.01.08 (uploaded for comments)
/3/ PDD version 1.6, dated: 16.07.08
/4/ PDD version 1.7, dated: 28.08.08
/5/ PDD version 1.8, dated: 01.09.08
/6/ PDD version 1.9, dated: 22.10.08
/7/ PDD version 2.0, dated: 05.12.09
/8/ PDD version 3.0, dated: 11.02.10
/9/ PDD version 4.0, dated: 18.02.10

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

/1/ SD1 - Coal prices forecast , dated 1/09/08
/2/ SD2 - European cement prices ref.10, dated 1/09/08
/3/ SD3 - European cement prices ref. 11, dated 1/09/08
/4/ SD4 - Emission Reduction calculations, dated 16/07/08
/5/ SD4 - Emission Reduction calculations, dated 18/02/10
/6/ SD5 - Cash flow calculations, dated 1/09/08
/7/ SD6 - Combined margin in cement sector calculations for Ukraine, dated 1/09/08
/8/ SD7 - Baseline kiln efficiency, dated 1/09/08
/9/ SD8 - Capex Guideline, dated 1/09/08
/10/ Slurry metering calibration procedure and approval in 2 files (scanned doc-s), dated 1/09/08
/11/ Letter of endorsement of the JI project “Slag Usage of the switch from wet to semi-dry process at Volyn-cement, Ukraine” issued by the Ministry of Environment Protection of Ukraine # 12036/11/10-07 dated 08/11/2007
/12/ Letter of approval JI project “Slag Usage of the switch from wet to semi-dry process at Volyn-cement, Ukraine” issued by the National Environmental Investment Agency of Ukraine Iss. 23.01.2009 # 49/23/7, Ref.#3257-VTG dated 27.11.2008
/13/ Letter of approval JI project “Slag Usage of the switch from wet to semi-dry process at Volyn-cement, Ukraine” issued by the Federal Republic of Germany through Federal Environment Agency and German Emission Trading Authority Umweltbundesamt dated 23.06.2009

Letter of approval JI project “Slag Usage of the switch from wet to semi-dry process at Volyn-cement, Ukraine” issued by the State of the Netherlands through Ministry of Economic Affairs and its Implementing Agency Senternovem, Reference 2009JI02, Date 13.05.2009

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/ Mr.Lennard de Klerk – general director of Global Carbon

/2/ Mr. Petro Vorobey –technical director of Volyn-cement

/3/ Mr. Stanislav Lukin – financial director of Volyn-cement

/4/ Mr. Roman Naumenko – chief of environmental department at Volyn-cement

/5/ Mr. Anatoly Terlyga – chief technologist at Volyn-cement

/6/ Dr. Otto Lose – Country manager Ukraine

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Appendix A: Company JI Project Determination Protocol

BUREAU VERITAS CERTIFICATION HOLDING S.A

JI PROJECT DETERMINATION PROTOCOL

Table 1 Mandatory Requirements for Joint Implementation (JI) Project Activities

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
1. The project shall have the approval of the Parties involved	Kyoto Protocol Article 6.1 (a)	Letters of approval were issued by the Parties involved. OK	Table 2, Section A.5
2. Emission reductions, or an enhancement of removal by sinks, shall be additional to any that would otherwise occur	Kyoto Protocol Article 6.1 (b)	OK	Table 2, Section B
3. The sponsor Party shall not acquire emission reduction units if it is not in compliance with its obligations under Articles 5 & 7	Kyoto Protocol Article 6.1 (c)	Article 5 requires "…Annex I Parties to having in place, no later than 2007, national systems for the	-

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		estimation of greenhouse gas emissions by sources and removals by sinks." Article 7 requires "… Annex I Parties to submit annual greenhouse gas inventories, as well as national communications, at regular intervals, both including supplementary information to demonstrate compliance with the Protocol". The Netherlands has submitted its Initial Report on 21 December 2006 (http://unfccc.int/national_reports/initial_reports_under_the_kyoto_protocol/items/3765.php). The Germany has submitted its Initial Report on 26 December 2006 (http://unfccc.int/national_rep	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		orts/initial_reports_under_the_kyoto_protocol/items/3765.php).	
4. The acquisition of emission reduction units shall be supplemental to domestic actions for the purpose of meeting commitments under Article 3	Kyoto Protocol Article 6.1 (d)	OK	-
5. Parties participating in JI shall designate national focal points for approving JI projects and have in place national guidelines and procedures for the approval of JI projects	Marrakech Accords, JI Modalities, §20	All countries have designated their Focal Points. National guidelines and procedures for approving JI projects have been published. Contact data in Ukraine:. National Environmental Investment Agency of Ukraine 35, Urytskogo str. 03035 Kiev Ukraine Phone: +380 44 594 9111 Fax: +380 44 594 9115 Email: info.neia@gmail.com; lupaltsov@ukr.net	- -

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		National guidelines and procedures for the approval of JI projects are available at http://ji.unfccc.int/UserManagement/FileStorage/X52UFID75AIJ8E4T1R8MLQQJBAYCC5 Contact data in the Netherlands: **Ministry of Economic Affairs** Catharijnesingel 59 P.O. Box 8242 3503 RE Utrecht Netherlands Phone: +31 30 239 3413 Email: d.de.haan@senternovem.nl National guidelines and procedures for the approving JI projects are available at	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		http://ji.unfccc.int/UserManagement/FileStorage/XQ0CYFTBQDSELQJSZUKHKRMANMD6QD Contact data in Germany: Federal Environment Agency German Emissions Trading Authority PO Box 33 00 22 14191 Berlin, Germany Email: german.dna.dfp@uba.de Phone: +49 30 8903 5050 Fax: +49 30 8903 5103 Email: german.dna.dfp@uba.de National guidelines and procedures for the approving JI projects are available at http://ji.unfccc.int/UserManagement/FileStorage/Q5UJ5LJKROSD12E64EUQ3F	

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
		OBBFYDXZ	
6. The host Party shall be a Party to the Kyoto Protocol	Marrakech Accords, JI Modalities, §21(a)/24	The Ukraine is a Party (Annex I Party) to the Kyoto Protocol and has ratified the Kyoto Protocol at April 12th, 2004.	-
7. The host Party's assigned amount shall have been calculated and recorded in accordance with the modalities for the accounting of assigned amounts	Marrakech Accords, JI Modalities, §21(b)/24	In the Initial Report submitted by Ukraine on 29. Dec. 2006 the AAUs are quantified with: 925 362 174.39 (x 5) = 4 626 810 872 tCO2-e tCO2-e.	-
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4	Marrakech Accords, JI Modalities, §21(d)/24	The designed system of the national registry has been described in the Initial Report mentioned above	-
9. Project participants shall submit to the independent entity a project design document that contains all information needed for the determination	Marrakech Accords, JI Modalities, §31	OK	-
10. The project design document shall be made publicly	Marrakech	The PDD has been made	-

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments	Accords, JI Modalities, §32	public available via UNFCCC website from 14 June 2008 to 13 July 2008.	
11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, in accordance with procedures as determined by the host Party shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out	Marrakech Accords, JI Modalities, §33(d)	OK	Table 2, Section F
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG emissions or removal by sources that would occur in absence of the proposed project	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B
13. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B
14. The baseline methodology shall exclude to earn ERUs for decreases in activity levels outside the project activity or due to force majeure	Marrakech Accords, JI Modalities, Appendix B	OK	Table 2, Section B
15. The project shall have an appropriate monitoring plan	Marrakech Accords,	OK	Table 2, Section D

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference to this protocol
	JI Modalities, §33(c)		
16. Are project participants authorized by a Party involved	JISC "Modalities of communication of Project Participants with the JISC" Version 01, Clause A.3	Letters of Approval authorizing the project participants by Parties involved are issued. OK	Table 2, Section A

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A. General Description of the project					
A.1. Title of the project					
A.1.1. Is the title of the project activity presented?		DR	Slag usage and switch from wet to semi-dry process at Volyn-Cement, Ukraine.	OK	OK
A.1.2. Is the current version number of the document presented?		DR	PDD version 1.5	OK	OK
Is the date when the document was completed presented?		DR	30 January 2008	OK	OK
A.2. Description of the project					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.2.1. Is the purpose of the project activity included?		DR	The project aims to significantly decrease the emissions of the two sources (fossil fuel combustion and calcination) at Volyn-Cement Cement factory in Ukraine.	OK	OK
A.2.2. Is it explained how the proposed project activity reduces greenhouse gas emissions?		DR	Firstly, it is foreseen to increase the addition of non-carbonated raw material in the raw meal fed to the kilns. Currently, about 4% of ungrounded blast furnace slag is being added. According to the plan, from 2010 on the share of slag will be increased to some 15% which is regarded as the project target. This reduces the emission due to the calcination process (subproject 1). Secondly, the project will decrease the emissions of fossil fuel combustion by changing the technology of cement production from a wet production process to a semi-dry production process (subproject 2).	OK	OK
A.3. Project participants					
A.3.1. Are project participants and Party(ies) involved in the project listed?		DR	Please, refer to point A.3 of PDD.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.3.2. The data of the project participants are presented in tabular format?		DR	Please, refer to point A.3 of PDD.	OK	OK
A.3.3. Is contact information provided in annex 1 of the PDD?		DR	Please, refer to Annex 1 of PDD.	OK	OK
A.3.4. Is it indicated, if it is the case, if the Party involved is a host Party?		DR	Please, refer to point A.3 of PDD.	OK	OK
A.4. Technical description of the project					
A.4.1. Location of the project activity					
A.4.1.1. Host Party(ies)		DR	Ukraine	OK	OK
A.4.1.2. Region/State/Province etc.		DR	Rivnenskaya oblast (region)	OK	OK
A.4.1.3. City/Town/Community etc.		DR	Town of Zdolbuniv is located about 10 km south-east from Rivne, one of regional centers of Western Ukraine.	OK	OK
A.4.1.4. Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)		DR	Physical location is divided into two parts, one of which given before A.4.1.1. Please, clarify.	CL1	OK
A.4.2 Technology(ies) to be employed, or measures, operations or actions to be implemented by the project					
A.4.2.1. Does the project design engineering reflect current good practices?		DR	Energy consumption per ton of clinker for new kiln and other characteristics need confirmation. Assumptions/calculations must be presented.	CAR1	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
A.4.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?		DR	In Ukraine, semi-dry production is a technology that results in a better performance than any commonly used technologies applied locally.	OK	OK
A.4.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?		DR	Please, clarify if the project technology is likely to be substituted by other or more efficient technologies within the project period.	CL2	OK
A.4.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?		DR	The project involves new technology to Ukraine and therefore an extensive training program will be put in place.	OK	OK
A.4.2.5. Does the project make provisions for meeting training and maintenance needs?		DR	Dyckerhoff AG will provide training and assistance to Volyn-Cement during the design, construction and commissioning phases of the project. The chosen supplier of the equipment will also be contracted by Dyckerhoff AG to provide extensive training and on-site assistance.	OK	OK
A.4.3. 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					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
proposed project, taking into account national and/or sectoral policies and circumstances					
A.4.3.1. Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)		DR	The project will allow to reducing the emissions of CO2 due to less raw material to be calcinated in the kiln (effect of slag addition to the raw mill) and reduction of kiln fuel consumption (effect of introduction of semi-dry kiln with better efficiency). Reduction of emissions due to better electrical efficiency of clinker milling is also expected.	OK	OK
A.4.3.2. Is it provided the estimation of emission reductions over the crediting period?		DR	1.132.371 tones of CO2eq	OK	OK
A.4.3.3. Is it provided the estimated annual reduction for the chosen credit period in tCO_2e?		DR	377.457 tones of CO2eq	OK	OK
A.4.3.4. Are the data from questions A.4.3.2 to A.4.3.4 above presented in tabular format?		DR	Please refer to point A.4.3.1. of PDD	OK	OK
A.5. Project approval by the Parties involved					
A.5.1. Are written project approvals by the Parties involved attached?		DR	There is no evidence of written project approvals by the Parties involved	CAR2	OK
B. Baseline					
B.1. Description and justification of the baseline chosen					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.1.1. Is the chosen baseline described?		DR	Description is given, see PDD B.1.	OK	OK
B.1.2. Is it justified the choice of the applicable baseline for the project category?		DR	Justification is given, see PDD B.1.	OK	OK
B.1.3. Is it described how the methodology is applied in the context of the project?		DR	It is not explained why none of the approved methodologies can be applied.	CL3	OK
B.1.4. Are the basic assumptions of the baseline methodology in the context of the project activity presented (See Annex 2)?		DR	Baseline electricity factor calculation document attached contains only 2 pages of 4. Hence, this information could not be evaluated.	CAR3	OK
B.1.5. Is all literature and sources clearly referenced?		DR	Literature and sources are not referenced	CAR4	OK
B.2. Description of how the anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the JI project					
B.2.1. Is the proposed project activity additional?		DR	IRR 15% justifications is grounded on the internal document. The reference is done to Capex Guidelines Dyckerhoff AG that is not available. The assumptions of the price change are not justified (except of the coal). Calculations of IRR values mentioned in	CAR5	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			tables 6-8 are not available. Please, apply latest version of additionality tool.		
B.2.2. Is the baseline scenario described?		DR	See B.1.1.	-	-
B.2.3. Is the project scenario described?		DR	See PDD A.2	OK	OK
B.2.4. Is an analysis showing why the emissions in the baseline scenario would likely exceed the emissions in the project scenario including?		DR	See PDD B.1	OK	OK
B.2.5. Is it demonstrated that the project activity itself is not a likely baseline scenario?		DR	There are no evidences in the PDD of a description that the project activity itself is not a likely baseline scenario.	CAR6	OK
B.2.6. Are national policies and circumstances relevant to the baseline of the proposed project activity summarized?		DR	There are no evidences of a summary of national policies and circumstances relevant to the baseline of the proposed project activity.	CAR7	OK
B.3. Description of how the definition of the project boundary is applied to the project activity					
B.3.1. Are the project's spatial (geographical) boundaries clearly defined?		DR	Slag is not taken into account as a raw material, table 9.	CAR8	OK
B.4. Further baseline information, including the date of baseline setting and the name(s) of the person(s)/entity(ies) setting the baseline					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
B.4.1. Is the date of the baseline setting presented (in DD/MM/YYYY)?		DR	Please present the date of completing in the DD/MM/YYYY format.	CAR9	OK
B.4.2. Is the contact information provided?		DR	Person name and address are not indicated.	CAR10	OK
B.4.3. Is the person/entity also a project participant listed in Annex 1 of PDD?		DR	Yes	OK	OK
C. Duration of the small-scale project and crediting period					
C.1. Starting date of the project					
C.1.1. Is the project's starting date clearly defined?		DR	1 January 2010	OK	OK
C.2. Expected operational lifetime of the project					
C.2.1. Is the project's operational lifetime clearly defined in years and months?		DR	At least 30 years	OK	OK
C.3. Length of the crediting period					
C.3.1. Is the length of the crediting period specified in years and months?		DR	Three years (1/1/2010-31/12/2012)	OK	OK
D. Monitoring Plan					
D.1. Description of monitoring plan chosen					
D.1.1. Is the monitoring plan defined?		DR I	Assumptions: emissions at the quarry are not addressed. The first column title refers D.3 instead of D.2.	CAR11	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			Only electronic data carrier is not realistic (site visit results). Plant records only can not be considered as initial data source. At page 35 an excessive formulae element description.		
D.1.2. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario.		DR	Refer to item D.1.1.	-	-
D.1.3. Data to be collected in order to monitor emissions from the project, and how these data will be archived.		DR	Refer to item D.1.1.	-	-
D.1.4. Description of the formulae used to estimate project emissions (for each gas, source etc; emissions in units of CO2 equivalent).		DR	Refer to item D.1.1.	-	-
D.1.5. Relevant data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary, and how such data will be collected and archived.		DR	Refer to item D.1.1.	-	-
D.1.6. Description of the formulae used to estimate baseline emissions (for each gas, source etc; emissions in units of CO2 equivalent).		DR	Refer to item D.1.1.	-	-
D.1.7. Option 2 – Direct monitoring of emissions reductions from the project (values should be consistent with those in section E)		DR	Not applicable	OK	OK
D.1.8. Data to be collected in order to monitor emission		DR	Refer to item D.1.7.	-	-

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
reductions from the project, and how these data will be archived.					
D.1.9. Description of the formulae used to calculate emission reductions from the project (for each gas, source etc; emissions/emission reductions in units of CO2 equivalent).		DR	Refer to item D.1.7.	-	-
D.1.10. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project.		DR	Leakage of slag transportation is not identified.	CAR12	OK
D.1.11. Description of the formulae used to estimate leakage (for each gas, source etc; emissions in units of CO2 equivalent).		DR	Refer to item D.1.10.	-	-
D.1.12. Description of the formulae used to estimate emission reductions for the project (for each gas, source etc; emissions in units of CO2 equivalent).		DR	ERy = BEy – PEy Leakage is not included. Refer to item D.1.10	-	-
D.1.13. Is information on the collection and archiving of information on the environmental impacts of the project provided?		DR, I	State emission reporting Forms and other records are not mentioned in the PDD.	CAR13	OK
D.1.14. Is reference to the relevant host Party regulation(s) provided?		DR, I	No host Party regulation is mentioned. Permission issued by the State Rivno Region Environmental and Natural Resources Control to the Volyn-Cement allowing to emit from stationary sources	CAR14	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			(14 compounds listed) No. 560475 of 13/07/2005 valid till 01/11/2008 was seen on the site.		
D.1.15. If not applicable, is it stated so?		DR, I	See D.1.14.	-	-
D.2. Qualitative control (QC) and quality assurance (QA) procedures undertaken for data monitored					
D.2.1. Are there quality control and quality assurance procedures to be used in the monitoring of the measured data established?		DR I	QC&QA System procedures are documented within certified Laboratory, and measuring equipment calibration and maintenance planning and records evidencing calibration were seen onsite. All devices belonging to the initial data monitoring (gas and electricity counters, flow meters) are calibrated, and corresponding certificates are in place. Responsible personnel demonstrated adequate competency and was confident answering questions. It was concluded that the quality control and quality assurance procedures to be used in the monitoring of the measured data are established.	CL4	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			The only exception was sludge meter, calibrated using own method that needs approval.		
D.3. Please describe of the operational and management structure that the project operator will apply in implementing the monitoring plan					
D.3.1. Is it described briefly the operational and management structure that the project participants(s) will implement in order to monitor emission reduction and any leakage effects generated by the project activity		DR	Structure and Responsibilities necessary for emission monitoring are defined. Regarding leakage, refer to item D.1.10.	OK	OK
D.4. Name of person(s)/entity(ies) establishing the monitoring plan					
D.4.1. Is the contact information provided?		DR	Persons are not indicated.	CAR15	OK
D.4.2. Is the person/entity also a project participant listed in Annex 1 of PDD?		DR	See D.4.1.	-	-
E. Estimation of greenhouse gases emission reductions					
E.1. Estimated project emissions					
E.1.1.Are described the formulae used to estimate anthropogenic emissions by source of GHGs due the project?		DR	Refer to item D.1.1 of PDD. In section E.1. estimated emission reductions are provided. There are no calculations in this section.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.1.2. Is there a description of calculation of GHG project emissions in accordance with the formula specified in for the applicable project category?		DR	See E.1.1.	-	-
E.1.3. Have conservative assumptions been used to calculate project GHG emissions?		DR	Assumptions are plausibly conservative.	OK	OK
E.2. Estimated leakage					
E.2.1. Are described the formulae used to estimate leakage due to the project activity where required?		DR	Refer to item D.1.10.	-	-
E.2.2. Is there a description of calculation of leakage in accordance with the formula specified in for the applicable project category?		DR	See E.2.1.	-	-
E.2.3. Have conservative assumptions been used to calculate leakage?		DR	See E.2.1.	-	-
E.3. The sum of E.1 and E.2.					
E.3.1. Does the sum of E.1. and E.2. represent the project activity emissions?		DR	See E.2.1., since leakage was not calculated.	-	-
E.4. Estimated baseline emissions					
E.4.1. Are described the formulae used to estimate the anthropogenic emissions by source of GHGs in the baseline using the baseline methodology for the applicable project category?		DR	Refer to item D.1.1 of PDD for formulas.	-	-
E.4.2. Is there a description of calculation of GHG baseline emissions in accordance with the formula specified in for the applicable project category?		DR	See E.4.1.	-	-

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
E.4.3. Have conservative assumptions been used to calculate baseline GHG emissions?		DR	See E.4.1.	-	-
E.5. Difference between E.4. and E.3. representing the emission reductions of the project					
E.5.1. Does the difference between E.4. and E.3. represent the emission reductions due to the project during a given period?		DR	Difference between E.4. and E.3. representing the emission reductions due to the project during a given period is given. However, final result depends on conclusion of CAR raised in item D.1.10.	OK	OK
E.6. Table providing values obtained when applying formulae above					
E.6.1. Is there a table providing values of total CO2 abated?		DR	Total amount of reductions indicated on table in section E.6 of the PDD version 3.0 differs from the value given on E.5 table, the same is observed in the Emissions Reductions Calculations spreadsheet. Please clarify.	CL7	OK
F. Environmental Impacts					
F.1. Documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party					
F.1.1. Has an analysis of the environmental impacts of the		DR,	Analysis of environmental impacts	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
project been sufficiently described?		I	(OVOS in Ukrainian abbreviation) necessity is reflected in PDD Item F.1. and possible impacts are described.		
F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is and EIA approved?		DR, I	Host Party requirements are identified in PDD Item F.1. The project design documentation including EIA is not developed yet (nor approved) as the project starting year is 2010. Design Scientific Complex "NTK Cement" was contracted to perform design and produce design documentation, one of the stages is EIA (OVOS). Contract agreement No. 3603/547/04/3.6 of 12/11/2007 was seen onsite as well as attachment No. 3 to the agreement stipulating EIA. EIA is identified in the Technical Tasks document (attachment No. 2), item 15. According Ukrainian legislation a construction permission simultaneously includes EIA approval. If construction will start, EIA will be approved.	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
F.1.3. Are the requirements of the National Focal Point being met?		DR, I	The National Focal Point issued letter of endorsement. Letter of approval need to be received (refer to item A.5.1).	-	-
F.1.4. Will the project create any adverse environmental effects?		DR, I	Dust reduction is planned, NOx and SOx are envisaged at legally permitted levels. Other environmental impacts are not addressed.	CL5	OK
F.1.5. Are transboundary environmental considered in the analysis?		DR, I	Transboundary effects are not addressed.	CAR16	OK
F.1.6. Have identified environmental impacts been addressed in the project design?		DR, I	See F.1.2.	-	-
G. Stakeholders' comments					
G.1. Information on stakeholders' comments on the project, as appropriate					
G.1.1. Is there a list of stakeholders from whom comments on the project have been received?		DR	No stakeholder consultation is required under JI according to G.1. of PDD. Please clarify with the reference to UNFCCC documents addressing this.	CL6	OK
G.1.2. The nature of comments is provided?		DR	See G.1.1.	-	-
G.1.3. Has due account been taken of any stakeholder		DR	See G.1.1.	-	-

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
comments received?					

Table 3 Baseline and Monitoring Methodologies: Own format

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Baseline Methodology					
1. 1. General					
1.1.1. Does the baseline cover emissions from all gases, sectors and source categories listed in Annex A, and anthropogenic removals by sinks, within the project boundary?		DRI	Section B.3 of the PDD establishes project boundaries. Only CO2 emissions are taken into account by the project.	OK	OK
1.1.2. Is baseline established on a project-specific basis and/or using a multi-project emission factor?		DRI	A multi-project emission factor is used for baseline establishing.	OK	OK
1.1.3 Is baseline established in a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors?		DRI	The baseline is established in a transparent manner. Choice of approach was described, assumptions, methodologies, parameters, data sources are clearly indicated (Sections B.1. and B.2. of the PDD)	OK	OK
1.1.4 Is baseline established 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?		DR	Applicable local laws and regulations are taken into account. Economic situation in the project sector is taken into account (Sections B.1. and B.2. of the PDD)	OK	OK
1.1.5 Is baseline established in such a way that ERUs cannot be earned for decreases in activity levels outside the project activity or due to *force*		DRI	Baseline does not envisage earning ERUs for activity level decrease outside the project or due to *force majeure.*	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
majeure?					
1.1.6 Is baseline established taking account of uncertainties and using conservative assumptions?		DRI	Uncertainties and conservative assumptions are taken into account (Section B of the PDD)	OK	OK
1.2. Additionality					
1.2.1. Was the additionality of the project activity demonstrated and assessed?		DR	Project is additional on the basis of justification and assessment.	OK	OK
2. Monitoring Methodology					
2.1. Monitoring plan					
2.1.1. Is a monitoring plan included?		DRI	Yes, monitoring plan is included.	OK	OK
2.1.2. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimating or measuring anthropogenic emissions by sources and/or anthropogenic removals by sinks of greenhouse gases occurring within the project boundary during the crediting period?		DRI	Monitoring plan provides for the collection and archiving of all relevant data necessary for estimating or measuring anthropogenic emissions by sources of greenhouse gases occurring within the project boundary during the crediting period (see section D.1.1.1. of the PDD).	OK	OK
2.1.3. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining the baseline of anthropogenic emissions by sources and/or anthropogenic removals by sinks of greenhouse gases within the project boundary during the crediting period?		DRI	Monitoring plan provides for the collection and archiving of all relevant data necessary for determining the baseline of anthropogenic emissions by sources of greenhouse gases within the project boundary during the crediting period (see section D.1.1.3. of the PDD).	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
2.1.4. Does the monitoring plan provide for the identification of all potential sources of, and the collection and archiving of data on increased anthropogenic emissions by sources and/or reduced anthropogenic removals by sinks of greenhouse gases outside the project boundary that are significant and reasonably attributable to the project during the crediting period?		DR	Increase of anthropogenic emissions outside the project boundary that are significant and reasonably attributable to the project during the crediting period is not anticipated.	OK	OK
2.1.5. Does the project boundary encompass all anthropogenic emissions by sources and/or removals by sinks of greenhouse gases under the control of the project participants that are significant and reasonably attributable to the JI project?		DR	Significant anthropogenic emissions by sources and/or removals by sinks of greenhouse gases under the control of the project participants are not envisaged by the project. Validated onsite.	OK	OK
2.1.6. Does the monitoring plan provide for the collection and archiving of information on environmental impacts, in accordance with procedures as required by the host Party, where applicable?		DR	No adverse environmental impacts are foreseen. Validated onsite.	OK	OK
2.1.7. Does the monitoring plan provide for quality assurance and control procedures for the monitoring process?		DR	Quality assurance is planned , see section D.2. of the PDD, that was validated onsite.	OK	OK
2.1.8. Does the monitoring plan provide for procedures for the periodic calculation of the reductions of anthropogenic emissions by sources and/or enhancements of anthropogenic removals by		DR I	The monitoring plan provides formulae for the periodic calculation of the reductions of anthropogenic emissions (see section D.1.1.2.). Leakage is addressed in the section	OK	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
sinks by the proposed JI project, and for leakage effects, if any?			D.1.3.		
2.1.9. Does the monitoring plan provide for documentation of all steps involved in the calculations?		DRI	The monitoring plan provide for documentation of all steps involved in the calculations.	OK	OK
2.2. Quality Control (QC) and Quality Assurance (QA) Procedures					
2.2.1. Did all measurements use calibrated measurement equipment that is regularly checked for its functioning?		DRI	Control of the measuring equipment is implemented and followed, that was validated onsite.	OK	OK
2.2.2 Is frequency of monitoring the parameters defined?		DRI	Frequency of monitoring the parameters is defined.	OK	OK

Table 4 Legal requirements

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
1. Legal requirements					
1.1. Is the project activity environmentally licensed by the competent authority?		DR, I	Design Scientific Complex "NTK Cement" contracted to perform design and produce design documentation, is licensed to perform this task EIA (OVOS) including. Contract agreement No. 3603/547/04/3.6 of 12/11/2007 between "Volyn-Cement" and "NTK Cement" was seen onsite. The National Focal Point issued a letter of endorsement.	OK	OK
1.2. Are there conditions of the environmental permit? In case of yes, are they already being met?		DR, I	See F.1.2.	-	-
1.3. Is the project in line with relevant legislation and plans in the host country?		DR, I	See F.1.2.	-	-

Table 5 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
CAR1 Energy consumption per ton of clinker for new kiln and other characteristics need confirmation. Assumptions/calculations must be presented.	A.4.2.1.	Kiln efficiency of new dry kiln in GJ/ton of clinker is based on preliminary supplier's data. Once the kiln is started in 2010, only the actual kiln efficiency will be monitored annually and these data will be used for ER calculations. Therefore preliminary data will be used until the commissioning of the new kiln and first monitoring. The assumptions for the kiln economy can be found in section A.4 of the PDD. Other assumption can be found in the ER calculations sheet SD4.	Calculations are provided. IUS: closed
CAR2 There is no evidence of written project approvals by the Parties involved	A.5.1.	Letter of Approval from National Agency of Environmental Investments as DFP will be issued upon final determination. Only Letter of Endorsement is currently issued (see reference in PDD). Total amount of ERUs for the crediting period does not coincide with the figure approved by Germany (see the German LoA). Please explain.	Written project approvals by the Parties involved are attached. PDD version 3.0 dated 11 February 2010 was issued. After issuance of German LoA in June 2009 as described in PDD section A.5 the project owner decided to postpone

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
			one of the subprojects (new semidry kiln) by two years: from 1 January 2010 to 2012 which will result in decrease of expected total amount of ER. Due to this a discrepancy occurred between the amount of ER in German LoA and in the PDD since version 2.0. IUS: closed
CAR3 Baseline electricity factor calculation document attached contains only 2 pages of 4. Hence, this information could not be evaluated.	B.1.4.	Full document on BEF of Ukrainian grid is now integrated in the PDD rev. 1.6	Baseline electricity factor calculation of Ukrainian grid was a part of the JI Project №001, which is already registered by JISC. That is why baseline electricity factor is generally applicable to this project as it belongs to the same industrial sector and is similar in many respects. IUS: closed

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
CAR4 Literature and sources are not referenced	B.1.5.	Documents are provided as SD (supporting documents)	Supporting documents are provided, see References. IUS: closed
CAR5 IRR 15% justifications are grounded on the internal document. The reference is done to Capex Guidelines Dyckerhoff AG that is not available. The assumptions of the price change are not justified (except of the coal). Calculations of IRR values mentioned in tables 6-8 are not available. Please, apply latest version of additionality tool.	B.2.1.	Recent tool version 05 was applied Additionality Tool version corrected to 05 at pg.16 in PDD rev. 1.7 dated 28 of August 2008	Capex Guidelines Dyckerhoff AG is provided for verification purposes as a confidential document, and it is mentioned on the pg.17 without making it available to public. It will be uploaded as a confidential document. Supporting documents for assumption of the price change and IRR calculations provided. PPs are using internal benchmarking (comparison of project IRR (refer to the calculations and table 6 in the version 1.8 of the PDD and

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
			detailed calculations in SD5) with internal Dyckerhoff Capex Guidelines (refer to SD8, it is marked as confidential document).There are 2 subprojects in the proposed JI project SP1 (slag addition) and SP2 (new semi-dry kiln). PPs are comparing the IRR required by Dyckerhoff internal investment requirements (15% or higher) with IRRs of the subprojects, which are lower (refer to table 6 of PDD rev.1.8, SP1 has IRR 13% and SP2 has negative IRR). As a result of analysis the both sub-projects are economically not attractive. In this respect PPs decided not to refer as a comparison to project IRR. Latest version 5.2 of "Tool for

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
			the demonstration and assessment of additionality" was used. Additionality tool version 05 is mentioned in the PDD. IUS: closed
CAR6 There are no evidences in the PDD of a description that the project activity itself is not a likely baseline scenario.	B.2.5.	The proof that the project activity is not a likely baseline scenario is proven in the additionality section. In the baseline section a reference has been made that the project scenario could be a likely baseline scenario, however given the financial constraints, as proven in the additionality section, the project scenario is not a likely baseline scenario.	In section B1 of the PDD 9 possible scenarios were identified and analyzed. Only Sc1 and Sc2 are credible and plausible (continuation of wet process in both, and 0 or 4% slag addition in Sc1 and Sc2). Other scenarios, including the project scenario (new semi-dry kiln and 15% slag), were proven to be not credible or not plausible ones. The fact that the project scenario is not credible/plausible (and therefore it can not be the baseline scenario) is proven in

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
			next section B2 of the PDD, where it is shown that it is economically not attractive (internal benchmarking if project IRR). IUS: closed
CAR7 There are no evidences of a summary of national policies and circumstances relevant to the baseline of the proposed project activity.	B.2.6.	The two main factors are relevant to the baseline: type of fuel used and the production process of cement (wet or semi-dry/dry). Concerning fuel used in the baseline the usage of coal is justified in a similar way to the registered JI project 0001 “Switch from wet-to-dry process at Podilsky Cement, Ukraine” There is no national policy or regulation in force, which would restrict usage of natural gas or require switching from gas to coal as fuel. Concerning the process type, similarly to fuel type in the baseline, there is no national policy or regulation in force which would oblige cement producers to switch	The legislative basis of Ukraine for cement production was monitored on the web-site of Ukrainian Supreme Rada (www.rada.org.ua) as a main legislative body of Ukraine and on the web-site of the Ukrainian Cement Association (www.ukrcement.com.ua). There was not found any legislative laws or regulatory acts which forbidded usage of gas as a fuel for cement production, usage of wet cement production or require switch from wet to dry or semi-

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		from wet process, being predominant at the moment in the industry, to more efficient dry or semi-dry process.	dry process in cement production. IUS: closed
CAR8 Slag is not taken into account as a raw material, table 9.	B.3.1.	Leakage due to slag is included in table 9 in PDD rev.1.6	Slag is taken into account and leacage effect was calculated properly. IUS: closed
CAR9 Please present the date of completing in the DD/MM/YYYY format.	B.4.1.	Date is presented in DD/MM/YYYY in the PDD rev. 1.7 dated 28 August 2008 as 28/08/2008	17/07/2008 was indicated. Done. IUS: closed
CAR10 Person name and address is not indicated.	B.4.2.	Person name and address is indicated in PDD rev.1.6	Person name and address is indicated. IUS: closed
CAR11 Assumptions: emissions at the quarry are not addressed. The first column title refers D.3 instead of D.2.	D.1.1.	The borders of project has been changed in PDD rev.1.6 First column corrected, D.2. instead of D.3. in PDD rev.1.6 First column font corrected to italic in Table D1.1.1. in PDD rev.1.7 dated 28 of	Done

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
Only electronic data carrier is not realistic (site visit results). Plant records only can not be considered as initial data source. At page 35 an excessive formulae element description.		August 2008 CAR 11 is addressed: Emissions at the quarry occurring due to raw materials extraction are not included in the project borders in order to be conservative. In the project scenario, due to partial replacement of raw materials by slag, less material will be extracted and the quarry emissions will be lower. Electronic and paper data carriers will be used Measuring devices readings and indications will be used Corrected, excessive formulae element description has been deleted in PDD rev.1.6	OK OK OK Measuring devices in general are described, also in comments in Table D.1.1.1. All indicated deficiencie are eliminated. IUS: closed
CAR12 Leakage of slag transportation is not identified.	D.1.10.	Leakage due slag transportation to the project site, with respective formulae and	PDD D.1.3.2. is amended properly. Leakage of slag

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		description was included in the PDD rev.1.6	transportation calculations are correctly performed. IUS: closed
CAR13 State emission reporting Forms and other records are not mentioned in the PDD.	D.1.13.	Reporting forms are mentioned in PDD rev 1.6	Necessary compulsory emission records areenvisagerd by the PDD. IUS: closed
CAR14 No host Party regulation is mentioned. Permission issued by the State Rivno Region Environmental and Natural Resources Control to the Volyn-Cement allowing to emit from stationary sources (14 compounds listed) No. 560475 of 13/07/2005 valid till 01/11/2008 was seen on the site.	D.1.14.	Procedure of obtaining permissions for emissions is explained in PDD rev 1.6	The procedure is described in sufficien manner. IUS: closed
CAR15 Structure and Responsibilities necessary for emission monitoring are defined. Leakage effects are not mentioned.	D.3.1.	See section D.3. for Structure and Responsibilities in PDD rev.1.6. Responsibilities to monitor leakages are included.	PDD D.3. section is amended with structure and responsibilities description.. IUS: closed
CAR16 Transboundary effects are not	F.1.5.	Issue of Transboundary impacts are addressed in PDD rev 1.6 and PDD rev	Corrected PDD rev 1.8 section F.1. contains transboundary

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
addressed.		1.7 as following: The OVNS is to be ready by the end of 2008. According to the information from design company in charge, there no transboundary impacts to be expected as all pollution will occur within the sanitary zone of the Volyn-Cement.	effects explanation. Obviously they are not significant. IUS: closed
CL1 Physical location is divided into two parts, one of which given before A.4.1.1. Please clarify.	A.4.1.4.	Information is arranged in one part, starting from A.4.1.1. in PDD rev 1.6	Done. IUS: closed
CL2 Please, clarify if the project technology is likely to be substituted by other or more efficient technologies within the project period.	A.4.2.3.	The project technology is the new semi-dry kiln system with pre-calciner and multi-cyclone stages tailored to Volyn cement raw materials composition and site requirements. It is a highly expensive (190 MEuro) investment in a major process equipment dedicated for more than 20 years of operation. Therefore it will not be substituted by other more efficient technologies. At the moment dry and semi-dry process (multi-stage cyclone system with precalciner) are	Determination Team has checked the web-site of the Ukrainian Cement Association (www.ukrcement.com.ua) and has not found any indications of efforts to stimulate technological innovations in cement production. IUS: closed

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		regarded as BAT in the clinker production and has a very big number of installations.	
CL3 It is not explained why none of the approved methodologies can be applied.	B.1.3.	None of existing methodologies (CDM ones exist only) can be directly applied to the proposed JI project which foresees process switch combined with the increase of production and increased slag usage. In accordance with the"Guidance on criteria for baseline setting and monitoring", the project participants may use approved CDM methodologies (article 20 (a) of the Guidance) or can establish a baseline in accordance with appendix B of the JI guidelines using selected elements or combinations approved CDM baseline and monitoring methodologies (….) as appropriate (article 20 (b) of the Guidance). For the cement industry four approved methodologies exist being ACM0003, ACM0005, ACM0015 (consolidating	The explanation was accepted as sufficient and logic. IUS: closed

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
		AM0033 and AM0040) and AM0024. None of these methodologies can be applied directly to the project, but these methodologies have been carefully studied to identify the main principles underlying the approach to baseline setting, additionality and monitoring. Furthermore the approach for baseline setting in the JI project JI0001 "Switch from wet-to-dry process at Podilsky Cement, Ukraine", for which the determination has been made final, has been applied over the existing capacity. Extended explanation in B.1. is used in PDD rev.1.7	
CL4 QC&QA System procedures are documented within certified Laboratory, and measuring equipment calibration and maintenance planning and records evidencing calibration were seen onsite. All devices belonging to the initial data monitoring (gas and electricity counters,	D.2.1.	Routine of slurry metering and meter calibration issued 10/07/2008 and approved by Volyn-Cement General Director. Scanned documents slurry_metering_volyn_1.jpeg and slurry_metering_volyn_2.jpeg are included as attachment to project owner	Approved calibration method for sludge meter was attached as supporting document in Russian. It was reviewed and found adequate.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
flow meters) are calibrated, and corresponding certificates are in place. Responsible personnel demonstrated adequate competency and was confident answering questions. It was concluded that the quality control and quality assurance procedures to be used in the monitoring of the measured data are established. The only exception was sludge meter, calibrated using own method that needs approval.		response together with Supporting Documents.	IUS: closed.
CL5 Dust reduction is planned, NOx and SOx are envisaged at legally permitted levels. Other environmental impacts are not addressed.	F.1.4.	Introduction of semi-dry technology instead of wet results in significant reduction of water consumption, as raw materials will be mixed and homogenised in a dry (at natural moisture content of quarried materials) state, without addition of water for this.	Water issues are given in the PDD section F.1. They are discussed sufficiently. IUS: closed.
CL6 No stakeholder consultation is required under JI according to G.1. of	G.1.1.	Sentence *"JI projects are not required to go through a (local) stakeholders'*	Ukrainian legislation is very strict in the respect of EIA and

y	Ref. to checklist question in tables 2, 3 and 4	Summary of project owner response	Determination team conclusion
PDD. Please clarify with the reference to UNFCCC documents addressing this.		*consultation."* is excluded from PDD rev 1.6. No reference of UNFCCC document can be given as the relevant documents do not explicitly say that is it not necessary to do a (local) stakeholders' consultation (in contrary to CDM projects). Upon readiness of Environmental Impact Assessment (or EIA, a part of design documents according to Ukrainian legislation) the publication in the press is planned to get stakeholders comments. The preparation of design is under way and is scheduled to be completed, including EIA, at the end of 2008.	socal effects. Before EIA approval legal procedure for the stakeholder comment collection and analysis is envisaged. IUS: closed.
CL7 Total amount of reductions indicated on table in section E.6 of the PDD version 3.0 differs from the value given on E.5 table, the same is observed in the Emissions Reductions Calculations spreadsheet. Please clarify.	E.6	This was missed during recalculation. Correct methodology was used for calculation. Emissions Reductions Calculations spreadsheet and E.6. table were corrected.	PDD version 4.0 was checked. IUS: closed.

Appendix B: Verifiers Cv's

Claudia Freitas
Team Leader, Lead Verifier

Cláudia Freitas is a chemical engineer with extension courses in industrial management and environmental management tools. She has worked in environmental control and management engineer in several industrials fields and also has significant experience with landfill collection systems as well as waste-to-energy systems. Cláudia is qualified as ISO 14001 lead auditor and lead verifier GHG - Green House Gases.

Ivan G. Sokolov, Dr. Sci. (biology, microbiology)
Team member, Verifier.

Bureau Veritas Ukraine HSE Department manager.

He has over 25 years of experience in Research Institute in the field of biochemistry, biotechnology, and microbiology. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered), Quality Management System (IRCA registered), Occupational Health and Safety Management System, and Food Safety Management System. He performed over 130 audits since 1999. Also he is Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and Lead Tutor of the IRCA registered ISO 9000 QMS Lead Auditor Training Course. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the validation of 3 JI projects.

Flavio Gomes
Internal Reviewer

Flavio Gomes is a Chemical and Safety Engineer graduated from «UNICAMP – Universidade Estadual de Campinas», with a MSc title in Civil Engineer (Sanitation). He spent four years at RIPASA Pulp and Paper as Environmental Process Engineer. He is, since 2006 the Global Manager for Climate Change. Previously and since 1997, he was senior consultant for Bureau Veritas Consulting in fields of Environment, Health, Safety, Social Accountability and Sustainability audit and management systems. He also acted as Clean Development Mechanism verifier, and Social/Environmental Report auditor, in the name of Bureau Veritas Certification. Flavio is pursuing this PhD on Energy Management at the Imperial College – London.