TÜV Rheinland (China) Ltd. (TÜV Rheinland)

DETERMINATION REPORT

Determination of the Joint Implementation Large Scale Project

RECULTIVATION OF WASTE HEAPS IN DONETSK REGION IN ORDER TO REDUCE GREENHOUSE GAS EMISSIONS INTO THE ATMOSPHERE

Report No. 01 998 9105071974 - DR
Revision No. 02

Customer: “RS-ARPI” LLC

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DETERMINATION REPORT

Date of first issue: 26/09/2012	Project No.: 01 998 9105071974
Executor: TÜV Rheinland (China) Ltd. (TÜV Rheinland)	Organizational unit: TÜV Rheinland Ukraine Ltd. Technical Competence Center
Customer: "RS-ARPI" LLC	Client ref.: Zhdanov Serhiy Petrovych

Summary:

TÜV Rheinland (China) Ltd. (TÜV Rheinland) has performed a determination of the JI large scale project "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" in Ukraine. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The determination serves as project design objective and complete assessment, and is a requirement for all JI projects. It consists of the following three phases: i) a desk review of the project design documents including analysis of the baseline justification and monitoring plan; ii) follow-up interviews with project stakeholders including on site visit; iii) the resolution of outstanding issues and the issuance of the final determination report and opinion. The overall determination, from Contract signing to Determination Report & Opinion, was conducted using TÜV Rheinland (China) Ltd. (TÜV Rheinland) internal procedures.

To address TÜV Rheinland (China) Ltd. (TÜV Rheinland) corrective action and clarification requests, "RS-ARPI" LLC revised the PDD and resubmitted it on 03/10/2012 as version 2.0.

The determination findings presented in this report relate to the large scale project as described in the PDD version 2.0 dated 03/10/2012.

In summary, it is TÜV Rheinland (China) Ltd. (TÜV Rheinland) opinion that the project complies with the criteria for baseline setting and monitoring methodology according to developed JI specific approach, and meets the relevant UNFCCC requirements for the JI and the relevant host country criteria.

Report No.: 01 998 9105071974 – DR	Subject Group: Large scale JI project
Project title: Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere	
Work carried out by: Dr. Valery Yakubovsky – Team Leader, Technical Competence Center Director Dr. Yuriy Kononov – Technical Expert; Ganna Zadnipriana – Auditor; Dmytro Rakovich – Trainee	
Work verified by: Dr. Lixin Li – Technical Reviewer TÜV Rheinland (China) Ltd. (TÜV Rheinland)	
Determination Report approved by: Mr. Praveen N Urs – Accredited Independent Entity Operational manager, TÜV Rheinland (China) Ltd. (TÜV Rheinland)	

Date of this revision: 11/10/2012	Revision No.: 02	Number of pages: **82**

Abbreviations

AIE	Accredited Independent Entity
CAR	Corrective Action Request
CL	Clarification Request
CO_2	Carbon Dioxide
ERU	Emission Reduction Unit
GHG	Greenhouse Gas
I	Interview
IETA	International Emissions Trading Association
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MoV	Means of Verification
NGO	Nongovernmental organization
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change

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1 DETERMINATION OPINION

The determination team of TÜV Rheinland (China) Ltd. (TÜV Rheinland) has performed a determination of the large scale JI project "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" under the national procedure (Track 1). 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 document (PDD) including analysis of the baseline justification and monitoring plan;

ii) follow-up interviews with project stakeholders including on site visit;

iii) the resolution of outstanding issues and the issuance of the final determination report and opinion.

The project participants of the large scale JI project "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" selected the JI specific approach for identifying the baseline, defined in paragraph 22 (a) of the "Determination and Verification Manual" (DVM).

A baseline for the project was set in accordance with criteria stated in Appendix B to decision 9/CMP.1 (JI guidelines). The JI specific approach is provided in paragraph 9 (a) of the "Guidance on criteria for baseline setting and monitoring", version 03.

The PDD version 2.0 dated 03/10/2012 provides a description of the chosen baseline in a clear and transparent manner according to "Guidelines for users of the joint implementation project design document form", version 04, and paragraphs 23-29 "Guidance on Criteria for Baseline Setting and Monitoring", version 03.

Project participants used JI specific approach to demonstrate the project additionality. PDD provides justification for this approach in a clear and transparent manner and also in accordance with paragraphs 23 and 29 of Guidelines on criteria for baseline setting and monitoring (version 03).

According to paragraph 44 (b) of Annex 1 Guidelines on criteria for baseline setting and monitoring (version 03) approach which consists in providing transparent information that can be tracked and that has already received a positive determination by accredited independent entity as a comparative project, which is implemented under comparative circumstances, is used to demonstrate the project

additionality.

The JI project is likely to result in reductions of GHG emissions in accordance with the project description. An analysis of the investment and technological barriers, prevailing practice 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 (version 1.0, dated 09/09/2012) and the subsequent interviews have provided TÜV Rheinland (China) Ltd. (TÜV Rheinland) with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for JI projects and the relevant host country criteria.

The final version of the PDD (version 2.0 dated 03/10/2012) was revised based on raised corrective action requests and clarification requests by determination team of TÜV Rheinland (China) Ltd. (TÜV Rheinland) that were satisfactory resolved.

The determination is based on the information made available to the determination team of TÜV Rheinland (China) Ltd. (TÜV Rheinland) and the engagement conditions detailed in this report.

2 INTRODUCTION

"RS-ARPI" LLC has commissioned TÜV Rheinland (China) Ltd. (TÜV Rheinland) to determinate its large scale JI project "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" (hereafter called "Project") that is located in Vuhlehirsk, Donetsk region, Ukraine.

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

2.1 Objective

The determination is an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country criteria are determined in order to confirm that the project design, as documented, is sound and reasonable, and meet the stated requirements and identified criteria. Determination is a requirement for all JI projects and is considered 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, Appendix B of the JI guidelines and the subsequent decisions by the JISC, as well as the host country criteria.

2.2 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.

2.3 JI Project Description

The brief information regarding large scale project is provided in Table 1.

Table 1 – JI large scale project brief information

Project Parties involved:	1. Ukraine (Host Party); 2. Estonia.

Title of the project:	Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere
Type of JI activity:	Large scale
Baseline and monitoring methodology:	JI specific approach
Project entity participant:	"RS-ARPI" LLC
Other project participants:	ProEffect OÜ
Location of the project:	Vuhlehirsk, Donetsk region, Ukraine
Starting date of the project:	01.01.2008
Length of the crediting period:	5 years
Length of the part of the crediting period before the first commitment period of the Kyoto Protocol:	Not applicable
Length of the part of crediting period within the first commitment period of the Kyoto Protocol:	01.01.2008-31.12.2012
Length of the part of crediting period after the first commitment period of the Kyoto Protocol:	01.01.2013-31.12.2015

Technical solutions under the project allow producing high-quality coal products that will be used for the needs of the energy industry complex.

Concentrating mill is a compact construction, which consists of a main building, where equipment for classification, enrichment, dewatering, lighting of circulating water and products of enrichment is placed. Rock is transferred to the main building of concentrating mill by belt conveyor, which transports output feedstock (rock mass) to the point of previous classification. The basic technology used under the project is wet method of enrichment. Technological process and project equipment are a reflection of modern engineering practice. Enrichment of rock mass of the waste heaps is performed by jigging machines and steeply inclined separators. The proposed method of enriching rock mass is based on separation of mineral mixture by density in the vertical water flow of variable direction that fluctuates. Final products of jigging: concentrate with high content of useful component (in this case – coal) and wastes, but sometimes intermediate product is released, which consists of intergrowths of useful component from barren rock – industrial product.

Two-stage pistonless jigging machine and steeply inclined separator are taken as basic equipment. Thickening of sludge, captured in spitzkastens, will be implemented in thickening funnels and at the dehydrating screens. Dehydrated sludge together with the concentrate goes to dehydrated bunkers from the screens. This enrichment method allows separating the coal fraction 6-80mm, herewith high quantitative quality indicators of the final product are achieved. Average extraction of the coal-containing fraction varies between 20-19%.

The starting date of the JI project activity was 02.02.2007, when “RS-ARPI” LLC signed an agreement with CCM “Vuhlehirska” on the enrichment of rock mass. The evidence document of starting date was provided by project participants to the determination team as supporting document (please refer to evidence document # /27/ y in Table 2, section 3.1. of the Determination Report).

3 METHODOLOGY

The determination consists of the following three phases:

I) a desk review of the project design documents including analysis of the baseline justification and monitoring plan;

II) follow-up interviews with project stakeholders including on site visit;

III) the resolution of outstanding issues and the issuance of the final Determination report and opinion.

The following sections outline each step in more detail.

3.1 Desk Review of the Project Design Documentation

The Project Design Document (PDD) submitted by "RS-ARPI" LLC, and additional background documents related to the project design to be checked by an Accredited Independent Entity were reviewed. The list of submitted documentation is provided below. To address TÜV Rheinland (China) Ltd. (TÜV Rheinland) corrective action and clarification requests, "RS-ARPI" LLC revised the PDD and resubmitted it on 03/10/2012 as version 2.0.

The determination findings presented in this report relate to the project as described in the PDD version 2.0 dated 03/10/2012.

The following table outlines the documentation reviewed during the determination. The documents provided by "RS-ARPI" LLC, are indicated in Table 2 below. The documents of Category 1 relate directly to the components of the project. The documents of Category 2 relate to the design and/or methodologies employed in the design or other reference documents.

Table 2 – Documents reviewed during the determination

No.	Title of the document
Documents of Category 1	
/1/	PDD. Project Development Document "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere", version 1.0 dated September 9, 2012
/2/	PDD. Project Development Document "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere", version 1.1 dated September 19, 2012
/3/	PDD. Project Development Document "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere", version 2.0 dated October 03, 2012
/4/	Calculations of emission reduction in Excel file (20120914_ER_RS-ARPI_ver_1.0_) dated 16/09/2012

No.	Title of the document
/5/	Calculations of emission reduction in Excel file (20121003_ER_RS-ARPI_ver_2.0_) dated 03/10/2012
/6/	Leakage related to the fugitive methane emissions during the operation of coal mines, Excel document
/7/	Guidelines for users, Form of documents of Joint Implementation Project Development Document, ver. 04, JISC
/8/	"Guidance on Criteria for Baseline Setting and Monitoring", version 03
/9/	Letter of Endorsement for the project "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" No. 2749/23/7 dated 26/09/2012.
Documents of Category 2	
/10/	Acceptance certificates of coal production for September 2008 and 2009 and for January 2011.
/11/	Acceptance certificates of consumed electricity for 2010
/12/	Write-off certificates on the waste heaps dismantling and transportation of rock mass where the amount of consumed diesel fuel for June-July 2012 is indicated.
/13/	Passport of the waste heap #1/8
/14/	Passport of the waste heap #2/9
/15/	Technical passport of electricity meter NIK2303ARP1T
/16/	Technical passport of electricity meter NIK2303ARK1T
/17/	Technical passport of electricity meter LZQM 321.02.534
/18/	Technical passport of electricity meter LZQM 321.02.534
/19/	Technical passport of automobile scales VET-60A-18
/20/	Technical passport of railway scales VVET-150
/21/	Technical passport of railway scales VET-150
/22/	Technical passport of railway scales VVET-150-C
/23/	Certificate of attestation of Coal Chemistry Laboratory of "CCM "Vuhlehirska" CJSC No. 196
/24/	Certificate of attestation of Coal Chemistry Laboratory of "CCM "Vuhlehirska" CJSC No. 270
/25/	Agreement on provision of transport and special machinery services "Victory Tour" LLC No. 22/12-2007 dated 22.12.2007
/26/	Loan agreement of the waste heaps that belong to CCM "Vuhlehirska" No. 246/12 dated December 17, 2007
/27/	Agreement on enriching rock mass of waste heaps No. 12/02-2007 dated 02/02/2007

No.	Title of the document
/28/	Monitoring instruction of “RS-ARPI” LLC
/29/	Order No. 17 on information storage
/30/	Electronic reporting “RS-ARPI” LLC on the amount of shipped coal products, consumed electricity and burned diesel fuel
/31/	Working project. Explanatory note to the technical project of the concentrating mill “Vuhlehirska”
/32/	Comprehensive environmental impact assessment. EIA. 2007 PE PB “Ekoservice”.
/33/	Publication of articles on intentions and consequences of building facilities for processing waste heap.
/34/	Statistical Yearbook – Fuel and energy resources in Ukraine in 2011
/35/	Statistical Yearbook – Fuel and energy resources in Ukraine in 2009
/36/	Collection of Scientific Papers, Matveeva N.G., Opportunities for international best practice use in coal mining waste heap utilization of Donbas 2007
/37/	National Inventory Report of Ukraine 1990-2009
/38/	Order On Approving the Rules of Safety in Coal Mines No. 62 dated 22.03.2012
/39/	Report on the fire risk of Lugansk Region’s waste heaps, Scientific Research Institute “Respirator”, Donetsk, 2012

3.2 Interviews with project stakeholders

TÜV Rheinland (China) Ltd. (TÜV Rheinland) performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of the Limited Liability Company “RS-ARPI” were interviewed and their names are summarized in Table 3. The main topics of the interviews are summarized in Table 4.

Table 3 – Persons interviewed

No.	Name	Position	Organization
/1/	Shulzhenko Oleksandr Ivanovych	Chief Engineer	“RS-ARPI” LLC
/2/	Bakatura Igor Vasylyovych	Chief Technologist	“RS-ARPI” LLC
/3/	Csonka Victor Ivanovych	Chief Power Engineering Specialist and Metrologist	“RS-ARPI” LLC

No.	Name	Position	Organization
/4/	Shkuray Nadia Yuriyivna	Chief Accountant	"RS-ARPI" LLC

Table 4 – Interview topics

No.	Date	Interviewed organization	Interview topics
/1/	21.09.2012	"RS-ARPI" LLC	• Project decision • Baseline and project scenarios • Barrier analysis, analysis of common practice • Justification of additionality • Monitoring plan • Estimated leakage • Compliance with the requirements of the JI PDD • Organisational structure • Procedures and technology of quality management • Control of measuring equipment • Registration system and database of indicators of measuring equipment • Duties and responsibilities for monitoring project • Monitoring equipment • Environmental impact

3.3 Resolution of Clarification and Corrective Action Requests ï

The overall determination, from Contract signing to Determination Report and Opinion, was conducted using TÜV Rheinland (China) Ltd. (TÜV Rheinland) internal procedures. 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 TÜV Rheinland (China) Ltd. (TÜV Rheinland) positive conclusion on the project design.

In order to ensure transparency, a determination protocol (Annex A to the Determination report) was customized for the project, in accordance with the Annex to "Joint Implementation Determination and Verification Manual", version 01. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from

determining the identified criteria. The determination protocol serves the following purposes:

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

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

To guarantee the transparency of the determination process, the concerns raised are documented in more detail in the determination protocol (Annex A to the Determination report).

The PDD, final version 2.0 of 03/10/2012 was submitted to the determination team of TÜV Rheinland (China) Ltd. (TÜV Rheinland) for final determination. The final version of the PDD (version 2.0 of 03/10/2012) was revised based on the determination protocol (Annex A to the Determination report) with the issued corrective action requests and clarification requests. The major changes include: correcting references to data sources; duration of the crediting period; date of the project start; monitoring plan; assessment of GHG emission reductions; information on the project participants.

Determination Protocol Table 1: Mandatory Requirement for Joint Implementation (JI) Project Activities			
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), a Clarification Request (CL) or a Forward Action Request (FAR) of risk or non-compliance with stated requirements. The CAR's, CL's and FAR's are numbered and presented to the client in the Determination Report.	Used to refer to the relevant protocol questions in Tables 2, 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)**	**Comments**	**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. **Forward action request (FAR)** informs the project participants of an issue that needs to be reviewed during the verification.

Determination Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Report clarifications and corrective action requests	**Ref. to checklist question in tables 1, 2**	**Summary of project owner response**	**Determination team conclusion**
If the conclusions from the Determination are a Corrective Action	Reference to the checklist question number in Tables 2 where the Corrective	The responses given by the Client or other project participants during the communications	This section should summarize the determination team's responses and final conclusions. The conclusions

Request, a Clarification Request or a Forward action request, these should be listed in this section.	Action Request, Clarification Request or a Forward action request is explained.	with the determination team should be summarized in this section.	should also be included in Tables 2, under “Final Conclusion”.

Figure 1 – Determination protocol tables

3.4 Internal Technical Review

Determination report including the determination findings underwent a technical review before requesting registration of the project activity. The technical review was performed by an internal technical reviewer qualified in accordance with TÜV Rheinland (China) Ltd. (TÜV Rheinland) qualification scheme for JI project determination and verification.

3.5 Determination team

The determination team consists of the following personnel indicated in Table 5 below.

Table 5 – Determination team

Name	Role
Mr. Praveen N Urs	AIE Operational manager, TÜV Rheinland (China) Ltd. (TÜV Rheinland)
Dr. Lixin Li	Technical Reviewer
Dr. Valery Yakubovsky	Team Leader
Dr. Yuriy Kononov	Technical Expert
Ganna Zadnipriana	Auditor
Dmitry Rakovich	Trainee

4 DETERMINATION FINDINGS

In the following subsections the determination findings are stated 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 (Annex A to the Determination report);
2) in case TÜV Rheinland (China) Ltd. (TÜV Rheinland) had identified issues that needed clarification or that represented a risk to the fulfilment 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 subsections and are further documented in the Determination Protocol (Annex A to the Determination report). The determination of the Project resulted in 16 Corrective Action Requests (CARs), 5 Clarification Requests (CLs) and 1 Forward Action Request (FAR) that will be considered during the first verification and closed after issuing written project approvals by Parties involved;
3) conclusions for determination subject are presented in each subsection.

The considerations, findings and means of verification for areas of determination are provided below in accordance with the Determination and Verification Manual (DVM). All information indicated in the following subsections relates to the PDD version 2.0 dated 03/10/2012 (hereinafter called “PDD”).

4.1 Project approval by Parties Involved

In accordance with paragraphs 19-20 of the DVM the assessment of this area focuses on whether the designated focal points (DFPs) of all Parties listed as “Parties involved” in the PDD have provided written project approvals. It also should be assessed whether the written project approvals referred to above are unconditional.

The project has no written project approvals by Parties involved. “Glossary of joint implementation terms”, version 03 defines the following:
a) At least the written project approval(s) by the host Party(ies) should be provided to the AIE and made available to the secretariat by the AIE when submitting the determination report regarding the PDD for publication in accordance with paragraph 34 of the JI guidelines;
b) At least one written project approval by a Party involved in the JI project, other than the host Party(ies), should be provided to the AIE and made available to the secretariat by the AIE when submitting the

first verification report for publication in accordance with paragraph 38 of the JI guidelines, at the latest.
Letter of Endorsement #2749/23/7 dated 26/09/2012 was issued by State Environment Investment Agency of Ukraine.

To obtain a written project approval by the host Party (Ukraine) a final Determination Report should be submitted to the State Environmental Investment Agency of Ukraine. Written project approval by *Estonia* (Party involved in the project, other than the host Party), will be obtained before the submission of the first verification report for publication in accordance with paragraph 38 of the JI Guidelines.

The **FAR 01** was raised. It will be closed after issuing written project approvals by Parties involved.

Identified problem areas for project approval, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination Report (refer to FAR 01).

4.2 Authorization of project participants by Parties involved

In accordance with paragraph 21 of the DVM the assessment of this area focuses on whether each of the legal entities listed as project participants in the PDD is authorized by a Party involved, which is also listed in the PDD, through: a written project approval by a Party involved, explicitly stating the name of the legal entity; or any other form of project participant authorization in writing, explicitly stating the name of the legal entity.

The following legal entities were included in the PDD as project participants:

- "RS-ARPI" LLC;
- ProEffect OÜ.

Detailed information on the project participants is listed in Section A.3. of the PDD. Contact information on the project participants, which clearly specify the names of legal entities, is listed in Annex 1 of the PDD.

Identified problem areas for authorization of project participants by Parties involved, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination Report (refer to FAR 01).

4.3 Baseline Setting

In accordance with paragraphs 22-26 of the DVM the assessment of this area focuses on various aspects of the baseline setting by project participants.

The paragraph 22 of the DVM defines two following approaches selected for identifying the baseline:
(a) By using a methodology for baseline setting and monitoring developed in accordance with Appendix B of the JI guidelines (hereinafter referred to as JI specific approach);
(b) By using a baseline and monitoring methodology approved by the CDM Executive Board in its totality (hereinafter referred to as approved CDM methodology approach).

The project participants of the project "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" selected the JI specific approach for identifying the baseline.

A baseline for the project was set in accordance with criteria stated in Appendix B to decision 9/CMP.1 (JI guidelines). The JI specific approach is provided in paragraph 9 (a) of the "Guidance on criteria for baseline setting and monitoring", version 03.

The PDD provides a description of the chosen baseline in a clear and transparent manner according to "Guidelines for users of the joint implementation project design document form", version 04, as well as a justification per the "Guidance on criteria for baseline setting and monitoring", version 03 (paragraphs 23-29).

The desk review of the PDD and follow-up interviews provided enough reasons for TÜV Rheinland (China) Ltd. (TÜV Rheinland) to assess that the baseline for this JI project is established:

a) **By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one.**
Plausible future scenarios are listed below:

Scenario 1. Continuation of existing situation

This scenario requires the implementation of no measures, so there are no barriers.

Scenario 2. Implementation of measures on the use of thermal energy of the waste heap that burns for energy generation.

Technological barrier: This scenario is based on an experimental technology that has not yet been used. This approach is not suitable for all waste heaps, as the project owner will have to balance the availability of energy resources (i.e. waste heap location) and location of the energy consumer. Electricity production at the site addresses this issue, but requires additional capacity connections. Generally, it is also need to prove the feasibility of this technology. Besides it does not allow monitoring and controlling the emission of gases. The proposed technology can be applied only in the presence of waste heap with advanced combustion unit. Even if the probability of waste heap ignition is very high, it is currently impossible to predict the time of its outbreak and therefore to predict the start of thermal energy use released during its combustion.

Investment barrier: Considering the fact that this technology is in its initial phase of the experiment, investment into this project results in a high risk besides Ukraine is ranked as a high-risk country[1]. Investments into such kind of unproven energy projects are unlikely to attract investors more than some other investment opportunities into energy industry with higher profitability. The pioneering character of the project may interest programmes of technical support and governmental incentives, but the cost of the produced energy is likely to be much higher than that of the alternatives.

Scenario 3. Production of construction materials on the basis of raw materials from waste heaps

Technological barrier: This scenario is based on known technology, which, however, is not currently available in Ukraine and there is no evidence that such projects will be implemented in the near future. It is also not suitable for all types of waste heaps as the content of waste heap has to be predictable in order for project owner to be able to produce quality materials[2]. High content of sulphur and moisture can reduce the suitability of the waste heap for processing. A large-scale and detailed exploration of the waste heap has to be performed prior to the start of the project. Pilot projects of this type are implemented only with the support of public funding[3].

Investment barrier: Taking into account the fact that introduction of this technology faces many risks and technological barriers; investment attractiveness of this scenario is very low. Condition of the waste heaps is not controlled by the State, and the owners of the heaps often neglect measures on their monitoring. It is not profitable for private entities to produce construction materials by recycling rock mass, because the level of uncertainty is very large. This scenario is only

[1] AMB Country Risk Report: Ukraine October 29, 2010 http://www3.ambest.com/ratings/cr/reports/Ukraine.pdf
[2] *Opportunities for international best practice use in coal mining waste heap utilization of Donbas*, Matveeva N.G., Ecology: Collection of Scientific Papers, Eastern Ukrainian National University, Luhansk, No.1 2007 http://www.nbuv.gov.ua/portal/natural/Ecology/2007_1/Article_09.pdf
[3] http://www.rostovstroy.ru/archive/articles/1164.html

possible under available financial support from the State, which currently does not make any prerequisites, what is possible.

Scenario 4. Coal extraction from waste heaps without incentives of JI mechanism

Investment barrier: This scenario is financially unattractive and faces barriers. Please refer to Section B.2. for details.

Scenario 5. Systematic monitoring of waste heaps condition, regular fire prevention and application of extinguishing measures

Technological barrier: This scenario does not include any income, but involves additional costs for the owners of the waste heaps. Monitoring of the state of waste heaps is not performed systematically, and all activities are left at the discretion of the owner of the heaps. Basically waste heaps belong to mines or regional associations of mining. Coal mines of Ukraine suffer from limited investment that often causes problems of danger because of poor conditions of extraction and financial difficulties, besides salary of miners is often delayed for several months. In this case, the waste heaps are considered as an additional burden, and mine usually do not make even minimum required measures. Self-ignition and burning of heaps are common practice. Exact statistics are not always available. From a commercial point of view fines, which are usually issued by governments, are lower than the cost of necessary measures highlighted in this project.

Investment barrier: This scenario does not represent any revenues but anticipates additional costs for waste heaps owners. Monitoring of the waste heap status is not carried out systematically and actions are left to the discretion of the individual owner of the waste heaps. Mainly waste heaps belong to mines or regional coal mining associations. Coal mines in Ukraine suffer from limited funding resulting in safety problems due to complicated mining conditions and financial constraints with miners' salaries often being delayed by few months. In this case waste heaps are considered as an additional burden, and mines usually do not make even minimum measures required. Self-heating and burning of heaps are common practice. Exact statistics are not always available. From a commercial view point the fines that are usually levied by the authorities are considerably lower than the costs of all the measures outlined in this project.

All scenarios, except Scenario 1 – Continuation of the existing situation, face prohibitive barriers. Therefore, continuation of the existing situation is the most plausible future scenario and is the baseline scenario for the project.

b) **Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic**

situation in the project sector.

In this context, the TÜV Rheinland (China) Ltd. (TÜV Rheinland) assessed whether the key factors that affect a baseline were taken into account. The project participants established the baseline taking into account the following key factors:

In accordance with the laws and legal norms of Ukraine waste heaps are the source of possible dangerous emissions into the atmosphere. Measures on extinguishing and monitoring of fire-hazardous waste heaps are regulated by "Mine Safety Rules"4. In practice, the legal use of this document is not significant because in certain cases These measures are regulated by Code of Ukraine on Administrative Violations that in Article 41 provides maximum penalty for such violation5 only 10 non-taxable minimum incomes, i.e. subsistence level according to Tax Code (Section 1, Article XX section 5 and section IV of article 169.1.1) and is 1044 hrn as of July 1, 2012. Thus, the maximum penalty is 10 440 hrn (1004 Euros), that is small amount for the company. However, because of the big number of waste heaps and their large sizes, coupled with the limited resources of the owners, they usually do not make even the minimum required monitoring. In case of self-heating of the waste heap, the owners of these objects typically do not apply any measures to extinguish the fire centres, and only pay small penalties for environmental pollution by combustion products. Under such circumstances it is clear that the baseline scenario does not contradict valid laws and legal norms, taking into account their performance in Ukraine.

c) **In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, data sources and key factors.**
The project participants applied the selected approach with transparency. Necessary information on approaches, assumptions, parameters, data sources and key factors is available in the PDD.

d) **Taking into account of uncertainties and using conservativeness assumptions.**
Project participants used default values to the extent possible in order to reduce uncertainty and provide conservative data for emission calculations.

e) **In such a way that emission reduction units (ERUs) cannot be earned for decreases in activity levels outside the project activity or due to force majeure.**
According to the proposed approach emission reductions will be earned only within the project activity, so no emission reductions can be

[4] Chapter IX, Article 7, NPAOP 10.0-1.01-10 Mine Safety Rules. Order No.62 State Committee of Ukraine on industrial security, labour protection and mining supervision – 22.03.2010 http://zakon1.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=z0398-10

[5] Article 41 of the Code of Ukraine on Administrative Violations - http://zakon1.rada.gov.ua/cgi-bin/laws/main.cgi?page=2&nreg=80731-10

earned due to any changes outside the project activity or due to force majeure.

f) **By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate.**

The PDD draws on the list of standard variables contained in Appendix B to "Guidance on criteria for baseline setting and monitoring", version 03 if necessary: amount of consumed diesel fuel, amount of consumed electricity, amount of extracted thermal coal from the waste heap, indicators of ash and water content of extracted from the waste heap coal. These variables are monitoring parameters through the whole monitoring period.

As the result of this analysis TÜV Rheinland (China) Ltd. (TÜV Rheinland) can confirm that the baseline for this project is established in accordance with criteria stated in the Appendix B of the JI guidelines and justified in accordance with paragraphs 23-29 of the "Guidance on criteria for baseline setting and monitoring", version 03.

Identified problem areas for baseline setting, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination report.

4.4 Additionality

In accordance with paragraphs 27 - 31 of the DVM the assessment of this area focuses on whether a project provides "a reduction in emissions by sources, or an enhancement of net removals by sinks, that is additional to any that would otherwise occur" in accordance with Article 6 of the Kyoto Protocol.

The paragraph 28 of the DVM defines three approaches used to demonstrate additionality – items (a), (b), (c) for JI specific approach.

Project participants used specific approach to JI projects to demonstrate the project additionality. PDD provides justification for this approach in a clear and transparent manner and also in accordance with paragraphs 23 and 29 of Guidelines on criteria for baseline setting and monitoring (version 03).

According to paragraph 44 (b) of Annex 1 Guidelines on criteria for baseline setting and monitoring (version 03) approach which consists in providing transparent information that can be tracked and that has already received a positive determination by accredited independent entity as a comparative project, which is implemented under comparative circumstances, is used to demonstrate the project additionality.

The project "Waste heaps dismantling with the aim of decreasing the greenhouse gases emissions into the atmosphere" was selected as the

comparable JI project. Accredited independent entity has already positively determined that it would result in a reduction of anthropogenic emissions by sources or an enhancement of net anthropogenic removals by sinks that is additional to any that would otherwise occur. This determination has already been deemed final by the JISC.

In accordance with paragraphs 44 and 12 of Guidelines on criteria for baseline setting and monitoring version 03 we will demonstrate that projects are implemented under comparable circumstances:

1. Both projects propose **the same measures on GHG emissions reduction into the atmosphere**: complex of measures on thermal coal extraction from the waste heaps is implemented, which were formed as a result of the coal mines activity. The result of processing rock mass of the waste heaps is the reduction of GHG emissions level that would have occurred due to their spontaneous combustion and subsequent burning. Besides additional amount of thermal coal is received, which will replace coal from mine and partly meet the needs in energy production. Same sources of GHG emissions are included in the boundaries of both projects – project equipment and waste heaps.
2. **Projects are implemented in the same geographical area.**
   Both projects are implemented in Donetsk region, Ukraine.
3. **Both projects have a similar scale**:
   Projects are Joint Implementation large-scale projects. Large amount of enrichment and auxiliary equipment is used for processing rock mass of the waste heaps. Both projects process a large amount of rock mass and recultivate wastes of the coal industry. In both projects the processing of waste heaps of comparable scale is implemented. The proposed project consists of one site (concentrating mill), which will run for a certain period of time, whereas a comparable project consists of two sites that will function consistently. Nominal capacity of concentrating facility for processing waste heaps is comparable in both projects: in comparative one – 100,000 tons of material per month, and in the proposed one – 195,000 tons of material per month. That is, the difference between the nominal capacities of the project equipment is less than 50%. Scopes of extracted coal are limited by coal content in the waste heap and size of waste heap.
4. **Both projects are implemented under identical conditions of legislation:**
   During the time interval between the dates of implementation of two JI projects regulatory and legal frameworks bases have not undergone significant changes. The situation around the coal industry remained stable.
5. **Both projects introduce similar technology:**
   Technology, which is implemented in the proposed and comparable projects, is similar. In both projects, waste heaps are dismantled using standard excavators and bulldozers. Material

from heaps is transported to installation for rock mass beneficiation using trucks. In both projects, wet method of rock beneficiation is used. In both projects steeply inclined separators are used that separate coal fraction from barren rock. Both technologies use closed system of water use, preventing additional impact on the environment. Both technologies are modern and efficient, aimed at enriching rock mass of the waste heaps.

Thus the criteria identified by the Guidance are satisfied and the identified project is indeed a comparable projects implemented under comparable circumstances.

Outcome of the analysis: According to Paragraph 44 (b) of Appendix 1 of "Guidance on criteria for baseline setting and monitoring", Version 03, additionality was demonstrated by providing traceable and transparent information that similar approach to demonstrating additionality has already been applied in those cases, where determination is considered final and can be taken as comparable one using criteria for determining the baseline in Paragraph 12 of Guidance, as well as traceable and transparent information that has received positive determination by accredited independent entity that comparative project "Waste heaps dismantling with the aim of decreasing the greenhouse gases emissions into the atmosphere" (ITL Projects ID: UA1000020) is implemented under comparable circumstances (similar technologies, similar technology, similar implementation time, similar project scale), would result in a reduction of anthropogenic emissions sources or an enhancement of net anthropogenic removals by sinks that is additional to any that would otherwise occur and have provided justification on why this determination is relevant for the project at hand. Overall, this project is additional.

4.5 Project boundary

In accordance with paragraphs 32-33 of the DVM the assessment of this area focuses on correct and complete delineation of the project boundary, inclusion and exclusion of any sources of greenhouse gases (GHGs) related to the baseline or the project.

It was assessed through the desk review of submitted documentation and follow-up interviews that project participants used the JI specific approach towards baseline setting in this project and establishing the project boundary.

The details on the project boundary were provided in section B.3. of the PDD. The desk review of submitted documentation enabled TÜV Rheinland (China) Ltd. (TÜV Rheinland) to assess that the project boundary defined in the PDD encompasses all anthropogenic emissions by sources of GHGs that are:

- under the control of the project participants;

- reasonably attributable to the project; and
- significant.

The baseline emission sources of GHGs that are included in the project boundaries are listed below.

The baseline scenario is the continuation of the existing situation. Coal is produced by the underground mines and is used for energy generation. Waste heaps are often self-heating and burning that causes CO_2 emissions into the atmosphere. Emission sources in the baseline that are included into the project boundary are:

- CO_2 emissions related to waste heap combustion.

The project emission sources of GHGs that are included in the project boundaries are listed below.

- Project emissions as a result of consumption of diesel fuel by project activity in period *y*;
- Project emissions as a result of electricity consumption from the grid by project activity in period *y*.

All gases and sources included in the project boundary were explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified.

The delineation of the project boundary and the gases and sources included are appropriately described and justified in the PDD by using figures 8-9 and the details were provided by Table 13 in section B.3. of the PDD.

Identified problem areas for project boundary, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination report.

4.6 Crediting period

In accordance with paragraph 34 of the DVM the assessment of this area focuses on correct and complete provision of information on the projects starting date, expected operational lifetime and the length of the crediting period.

It was assessed through the desk review of submitted documentation and follow-up interviews that the project participants had correctly stated in the PDD:

the starting date of the project is 02.02.2007 (date when *single source contract on the modernization of concentrating mill "Vuhlehirska" and on further enrichment of the rock mass, using fixed assets of this enterprise was concluded)*. The starting date of the project is after the beginning of 2000.

- **the expected operational lifetime** of the project in years and months is 8 years or 96 months.

- **the length of the crediting period** (from 01.01.2008 to 31.12.2012) in years and months is 5 years or 60 months.
  Project participants stated 2 parts of crediting period in years and months in the PDD for this project that are:
  - **Part of crediting period within the first commitment period of the Kyoto Protocol –** from 01.01.2008 to 31.12.2012.
    Length of the part of crediting period within the first commitment period of the Kyoto Protocol is 5 years or 60 months.
  - **Part of the crediting period after the end of the first commitment period of the Kyoto Protocol** – from 01.01.2013 to 31.12.2015.
    Length of the part of crediting period after the first commitment period of the Kyoto Protocol is 3 years or 36 months.

The starting date of the crediting period is start of generating ERUs under the project.

The desk review of submitted documentation and follow-up interviews enabled TÜV Rheinland (China) Ltd. (TÜV Rheinland) to assess that all information on the projects starting date, expected operational lifetime and the length of the crediting period is correct and complete.

The evidence documents of projects' starting date, operational lifetime, starting date of the crediting period were provided by project participants to the determination team as supporting documents (please refer to evidence documents # /12/ in Table 2, section 3.1. of the Determination Report).

Identified problem areas for crediting period, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination report.

4.7 Monitoring plan

In accordance with paragraphs 35-39 of the DVM the assessment of this area focuses on assessing the completeness and correctness of the established monitoring plan and whether it meets the necessary requirements.

The paragraph 35 of the DVM defines two following approaches selected for establishment of the monitoring plan:
(a) JI specific approach;
(b) Approved CDM methodology approach.

The project participants of the project "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" selected the JI specific approach for establishment of the monitoring plan.

The monitoring plan was established in accordance with criteria stated in Appendix B to decision 9/CMP.1 (JI guidelines). JI specific approach is defined in paragraph 9 (a) of the "Guidance on criteria for baseline setting and monitoring", version 03.

The information indicated below, that refers to the components of monitoring plan, was assessed by TÜV Rheinland (China) Ltd. (TÜV Rheinland) through the desk review of the submitted documentation and follow-up interviews.

I. The chosen monitoring plan includes all procedures necessary for accurate and conservative calculation of emission reductions, describes all relevant factors and key characteristics that will be monitored, and the period in which they will be monitored, in particular also all decisive factors for the control and reporting of project performance.

II. The established monitoring plan specifies the indicators, constants and variables that are reliable and provide consistent and accurate values; are valid and clearly connected with the effect to be measured, and that provide a transparent picture of the emission reductions to be monitored. The default values which were used in the monitoring plan were selected by carefully balancing accuracy and reasonableness. These values originate from recognized sources, are supported by statistical analyses providing reasonable confidence levels and are presented in a transparent manner in the PDD.

III. For those values that are to be provided by the project participants it is clearly indicated, how the values are to be selected and justified by explanation of what types of sources are to be used and the vintage of data to be used. For all values the precise references from which these values are taken are clearly indicated in section D of the PDD and the conservativeness of the values is justified. The sources from which the data are obtained do not foresee the situations where the expected data are not available.

IV. The International System Units (SI units) are used for values provided by the project participants.

V. Any parameters, coefficients, variables that are used to calculate baseline emissions but are obtained through monitoring are noted. The desk review of the documentation showed that the consistency between the baseline and monitoring plan is ensured.

VI. The project activity will include monitoring of GHG emissions in the

baseline and project scenarios. Variables to be monitored in the baseline and project scenarios include the parameters listed in tables 6, 7 and 8 below.

Table 6. Data and parameters that are not monitored throughout the crediting period, but are determined only once and that are available already at the stage of determination regarding the PDD.

Parameter	Unit	Description
GWP_{CH4}	$tCO_2e/ t CH_4$	Global warming potential of methane
ρ_{CH4}	t/m^3	Methane density
p_{WHB}	dimensionless unit	Correction factor, determining the probability of spontaneous combustion of the waste heap
$EF_{CH_4,CM}$	m^3/t	Fugitive methane emissions factor during coal mines operation
$NCV_{Coal,y}$	TJ/kt	Net calorific value of coal in year *y*
$OXID_{Coal,y}$	ratio	Carbon oxidation factor of coal in year *y*
$k^C_{Coal,y}$	t C/TJ	Carbon content of coal in year *y*
$A_{coal,y}$	%	Average ash content of thermal coal extracted in Donetsk region, Ukraine
$W_{coal,y}$	%	Average water content of thermal coal extracted in Donetsk region, Ukraine
$N^e_{coal,y}$	MWh/t	Average consumption of electricity per tonne of extracted coal in Ukraine in year *y*
$NCV_{diesel,y}$	TJ/kt	Net calorific value of diesel fuel in year *y*
$OXID_{diesel,y}$	ratio	Carbon oxidation factor of diesel fuel in period *y*
$k^C_{diesel,y}$	t C/TJ	Carbon content of diesel fuel in period *y*
$EF_{grid,y}$	tCO_2/MWh	Specific indirect carbon dioxide emissions during the consumption of electric energy by the 2nd class electricity consumers according to Procedure for determining consumers' classes.

Table 7. Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination regarding the PDD.

Data and parameters that are not determined during the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but are not available at the stage of determination of the PDD are absent in this project.

Table 8. Data and parameters that are monitored throughout the

crediting period.

Parameter	Unit	Description
$EC_{PJ,y}$	MWh	Amount of electricity that was consumed by the project activity in the relevant period *y*;
$FC_{PJ,Diesel,y}$	l	Amount of diesel fuel that was consumed by transport as a result of the project activity in the relevant period *y*;
$FR_{Coal,y}$	t	Amount of enriched coal of energy class, extracted from the waste heaps as a result of the project activity in the relevant period *y*;
$A_{enrich,y}$	%	Average ash content of enriched coal extracted from the waste heaps in the relevant period *y*
$W_{enrich,y}$	%	Average water content of enriched coal extracted from the waste heaps in the relevant period *y*.

VII. The monitoring plan draws on the list of standard variables contained in Appendix B to "Guidance on criteria for baseline setting and monitoring", version 03, as appropriate: amount of consumed diesel fuel, amount of consumed electricity, amount of extracted thermal coal from the waste heap, indicators of ash and water content of extracted from the waste heap coal. These variables are monitoring parameters through the whole monitoring period.

VIII. The established monitoring plan described the methods employed for data monitoring (including its frequency) and recording. This information is provided in the tabular format in section D.2. of the PDD. The monitoring plan also elaborates all algorithms and formulae used for the calculation of baseline emissions and project emissions. The underlying rationale for the algorithms and formulae is sounded and explained as necessary. The project participants used consistent variables, equation formats, subscripts etc.; numbered all equations throughout the PDD; defined and indicated all variables and constants with units.

IX. The conservativeness of the algorithms and procedures is justified and methods to quantitatively account for uncertainty in key parameters are included, to the extent possible (Annex 2 to the PDD provides quantitative estimations of uncertainty in key baseline parameters). References for all parameters are provided as necessary. It is clearly stated in Annex 2 to the PDD which assumptions and procedures have significant uncertainty associated

with them, and how such uncertainty is to be addressed. The desk review of the documentation showed that the consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions of the baseline is ensured.

X. The national and international monitoring standards are not applied to monitor certain aspects of the project.

XI. A clear management structure will be identified to establish the division of responsibilities for gathering monitoring data. Respective services of the plant will collect relevant data in the form of technical reports and other statistical documents. All monitored data will be stored both electronically and in hard copy. The quality of collected data will be secured by conducting regular calibrations of applied meters and sensors. Calibration interval will be chosen as per passport or technical manual data.

XII. The document which indicates that data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project was provided to the AIE in supporting documentation (please refer to the evidence document # /28/ in Table 2, Section 3.1. of the Determination Report).

XIII. The monitoring plan, on the whole, reflects good monitoring practices: the structure of data collection is clearly defined; all data concerning the greenhouse gas emissions within the project boundaries is monitored and used in calculations appropriately; all meters are properly calibrated and precisely indicate values of the measured parameters.

The evidence documents that relates to the completeness and correctness of the established monitoring plan were provided by project participants to the determination team as supporting documents (please refer to evidence documents # /27/ in Table 2, section 3.1. of the Determination Report).

Identified problem areas for monitoring plan, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination report.

4.8 Leakage

In accordance with paragraphs 40-41 of the DVM this area focuses on checking of the assessment of the potential leakage in the project.

Project participants of "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" selected the JI specific approach for baseline setting.

Leakages in period *y* are calculated as follows:

$$LE_y = LE_{CH_4,y} + LE_{EL,y} \quad \text{(Equation 1)}$$

where:

LE_y - Leakages as a result of the project implementation in period *y*, tCO_2e;

$LE_{CH_4,y}$ - Leakages related to fugitive emissions of methane during operation of mines in period *y*, tCO_2e;

$LE_{EL,y}$ - Leakages as a result of electricity consumption from energy grid during coal mining in period *y*, tCO_2e.

Leakages related to fugitive emissions of methane during operation of mines in period *y* are calculated as follows:

$$LE_{CH_4,y} = -FC_{BE,Coal,y} \cdot EF_{CH_4,CM} \cdot \rho_{CH_4} \cdot GWP_{CH_4} \quad \text{(Equation 2)}$$

where:

$FC_{BE,Coal,y}$ - Amount of coal, mined in the baseline and consumed in the energy sector for energy production in the relevant period *y*, t;

$EF_{CH_4,CM}$ - Fugitive methane emissions factor during coal mining , m^3/t;

ρ_{CH4} - Methane density[6], t/m^3;

GWP_{CH4} - Global Warming Potential of Methane, tCO_2e/tCH_4.

Amount of coal that would be mined in the baseline scenario and combusted for energy production is calculated according to equation (3) of this PDD.

Leakages related to electricity consumption from energy grid during coal mining in period *y* are calculated as follows:

$$LE_{EL,y} = -(FC_{BE,Coal,y} \cdot N^{e}_{coal,y} \cdot EF_{grid,y}) \quad \text{(Equation 3)}$$

where:

$FC_{BE,coal,y}$ - Amount of coal, mined in the baseline and consumed in the energy sector for energy production in the relevant period *y*, t;

$N^{E}_{coal,y}$ - Average consumption of electricity per tonne of extracted coal in Ukraine in period *y*, MWh/t;

$EF_{grid,y}$ - Specific indirect carbon dioxide emissions from electricity consumption under the project activity.

Problem issues concerning leakage of the project were not detected.

[6] *GOST 31369-2008 DIN ISO 6976 (1995): Density of methane under standard conditions of temperature (293.15 °K) and pressure (1013 mbar).*

4.9 Estimation of emission reductions

In accordance with paragraphs 42-47 of the DVM the assessment of this area focuses on checking the completeness and correctness of the provided methods and results of emission reduction estimates in the JI project.

The paragraph 42 of the DVM defines two following approaches to estimate the emission reductions or enhancement of net removals generated by the project selected the JI specific approach:
(a) Assessment of emissions or net removals in the baseline scenario and in the project scenario; or
(b) Direct assessment of emission reductions.

As per JI specific approach project participants chose the following approach to estimate the emission reductions generated by the project: assessment of emissions in the baseline scenario and in the project scenario. According to this approach emission reductions were calculated as follows:

$$ER_y = BE_y - PE_y - LE_y \qquad \text{(Equation 4)}$$

where:

ER_y – Emission reductions in JI project in year y [tCO_2e];
BE_y – Baseline emissions in year y [tCO_2e];
PE_y – Project emissions in year y [tCO_2e];
LE_y – Leakage in year y [tCO_2e].

Ex ante estimates of emissions for the project scenario (within the project boundary), emissions for the baseline scenario (within the project boundary) and emission reductions are provided in Section E of the PDD. These estimates in the PDD are given on a periodic basis, from the beginning until the end of the crediting period, in tonnes of CO_2 equivalent, using appropriate emission factors. The formula used for calculating these estimates are consistent throughout the PDD.

The baseline emissions of the project are calculated under the formula:

$$BE_y = BE_{WHB,y} \qquad \text{(Equation 5)}$$

where:

BE_y, - Baseline emissions in period y, tCO_2e;

$BE_{WHB,y}$ - Baseline emissions related to waste heaps combustion in period y, tCO_2e.

Baseline emissions related to waste heaps combustion are in turn calculated as:

$$BE_{WHB} = \frac{FC_{BE,Coal,y}}{1000} \cdot p_{WHB} \cdot NCV_{Coal,y} \cdot OXID_{Coal,y} \cdot k^{C}_{Coal,y} \cdot 44/12 \quad \text{(Equation 6)}$$

where:

$FC_{BE,Coal,y}$ - Amount of coal, mined in the baseline and consumed in the energy sector for energy production in the relevant period *y*, t;

ρ_{WHB} - Correction factor, determining the probability of spontaneous combustion of the waste heap, dimensionless unit;

$NCV_{Coal,y}$ - Net calorific value of coal in period *y*, TJ/kt;

$OXID_{Coal,y}$ - Carbon oxidation factor for coal in period *y*, ratio;

$k^{C}_{Coal,y}$ - Carbon content of coal in period *y*, t C/TJ;

$\frac{44}{12}$ - Ration between molecular mass of CO_2 and C. Reflect oxidation of C to CO_2;

1/1000 - Physical transformation [t] in [kt] for calculation convenience.

Amount of coal that would have been mined in the baseline scenario and combusted for energy production is calculated as follows:

$$FC_{BE,coal,y} = FR_{coal,y} \cdot \frac{\left(1 - \frac{A_{enrich,y}}{100} - \frac{W_{enrich,y}}{100}\right)}{\left(1 - \frac{A_{coal,y}}{100} - \frac{W_{coal,y}}{100}\right)} \quad \text{(Equation 7)}$$

where:

$FR_{coal,y}$ -	Amount of enriched coal of energy class, extracted from the waste heaps as a result of the project activity in period *y*, t;
$A_{enrich,y}$ -	Average ash content of enriched coal of energy class, extracted from the waste heaps as a result of the project activity in period *y*,%;
$W_{enrich,y}$ -	Average water content of enriched coal of energy class, extracted from the waste heaps as a result of the project activity in period *y*,%;
$A_{coal,y}$ -	Average ash content of thermal coal extracted in Donetsk region of Ukraine in period *y*, %;
$W_{coal,y}$ -	Average water content of thermal coal extracted in Donetsk region of Ukraine in period *y*;
1/100 -	Mathematical conversion to fraction, ratio.

All algorithms and formulae for estimating emissions in the baseline

scenario of the project are described under sections B.1 and D.1. of the PDD. The details of the calculation are provided in the GHG emission reductions calculation spreadsheet in Excel format.

The project emissions of the project are calculated under the formula:

$$PE_{y} = PE_{EL,y} + PE_{Diesel,y}, \quad \text{(Equation 8)}$$

where:

PE_{y}, - Project emissions due to project activity in period *y*, tCO_2e;

$PE_{EL,y}$ - Project emissions due to consumption of electricity from the grid by the project activity in period *y*, tCO_2e;

$PE_{Diesel,y}$ - Project emissions due to consumption of diesel fuel by the project activity in period *y*, tCO_2e.

Project emissions due to consumption of electricity from the grid by the project activity are calculated as follows:

$$PE_{EL,y} = EC_{PJ,y} \cdot EF_{grid,y}, \quad \text{(Equation 9)}$$

where:

$EC_{PJ,y}$ - Additional electricity consumed in period *y* as a result of the implementation of the project activity, MWh;

$EF_{grid,y}$ - Specific indirect carbon dioxide emissions during the consumption of electric energy by the 2nd class electricity consumers according to Procedure for determining consumers' classes, approved by Resolution of the National Electricity Regulatory Commission of Ukraine dated 13.08.1998 No. 1052, tCO_2/MWh.

Project emissions due to consumption of diesel fuel by the project activity are calculated as follows:

$$PE_{Diesel,y} = \frac{FC_{PJ,Diesel,y}}{1000} \cdot NCV_{Diesel,y} \cdot OXID_{Diesel,y} \cdot k^{C}_{Diesel,y} \cdot 44/12, \quad \text{(Equation 10)}$$

where:

$FC_{PJ,Diesel,y}$ - Amount of diesel fuel consumed as a result of the project activity in period *y*, t;

$NCV_{Diesel,y}$ - Net calorific value of diesel fuel in period *y*, TJ/kt;

$OXID_{Diesel,y}$ - Carbon oxidation factor of diesel fuel in period *y*, ratio;

$k^{C}_{Diesel,y}$ - Carbon content of diesel fuel in period *y*, t C/TJ;

$\frac{44}{12}$ - Ration between molecular mass of CO_2 and C. Reflect oxidation of C to CO_2.

All algorithms and formulae for estimating emissions in the project scenario of each subproject are described under section D.1. of the PDD. The details of the calculation are provided in the GHG emission reductions calculation spreadsheet in Excel format.

Leakages in period *y* are calculated as follows:

$$LE_{y} = LE_{CH_4,y} + LE_{EL,y} \quad \text{(Equation 11)}$$

where:

LE_{y} - Leakages as a result of the project implementation in period *y*, tCO_2e;

$LE_{CH_4,y}$ - Leakages related to fugitive emissions of methane during operation of mines in period *y,* tCO_2e;

$LE_{EL,y}$ - Leakages related to electricity consumption during operation of mines in period *y*, tCO_2e.

Leakages related to fugitive emissions of methane during operation of mines in period *y* are calculated as follows:

$$LE_{CH_4,y} = -FC_{BE,Coal,y} \cdot EF_{CH_4,CM} \cdot \rho_{CH_4} \cdot GWP_{CH_4} \quad \text{(Equation 12)}$$

where:

$FC_{BE,Coal,y}$ - Amount of enriched coal of energy class, extracted from the waste heaps as a result of the project activity in period *y*, t;

$EF_{CH_4,CM}$ - Fugitive methane emissions factor during coal mining , m^3/t;

ρ_{CH4} - Methane density, t/m^3;

GWP_{CH4} - Global Warming Potential of Methane, tCO_2e/tCH_4.

Amount of coal, mined in the baseline and consumed in the energy sector for energy production in the relevant period is calculated under the equation “3” of Section B.1 (Equation 7 of this report).

Leakages related to electricity consumption from energy grid during coal mining in period *y* are calculated as follows:

$$LE_{EL,y} = -FC_{BE,Coal,y} \cdot N^{e}_{coal,y} \cdot EF_{grid,y} \quad \text{(Equation 13)}$$

where:

$FC_{BE,coal,y}$ - Amount of enriched coal of energy class, extracted from the waste heaps as a result of the project activity in period *y*, t;

$N^{E}_{coal,y}$ - Average electricity consumption per ton of coal, produced in Ukraine in period *y*, MWh/t;

$EF_{grid,y}$ - Specific indirect carbon dioxide emissions during the consumption of electric energy by the 2nd class electricity consumers in period *y*, t CO_2/MWh.

It was assessed by the desk review of submitted documentation, especially GHG emission reductions calculation spreadsheet in Excel format that key factors influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account. Data sources used for calculating the estimates referred above are clearly identified, reliable and transparent. Emission factors used for calculating the estimates referred to above, were selected by carefully balancing accuracy and reasonableness, and the choice is appropriately justified. The estimation referred to above is based on conservative assumptions and the most plausible scenarios in a transparent manner. The estimates of emission reductions are consistent throughout the PDD. The annual average of estimated emission reductions over the crediting period is calculated by dividing the total estimated emission reductions over the crediting period by the total months of the crediting period, and multiplying by twelve.

According to the PDD and GHG emission reductions calculation spreadsheet in Excel format the emissions for the project scenario, emissions for the baseline scenario and emission reductions are provided in Tables 9, 10 and 11 below.

Table 9 – Estimated emission reductions generated by the project over the part of crediting period before the first commitment period of the Kyoto Protocol

There are no emission reductions during the part of the crediting period before the first commitment period under the Kyoto Protocol.

Table 10 – Estimated emission reductions generated by the project over the part of crediting period within the first commitment period of the Kyoto Protocol

Period:	01.01.2008 – 31.12.2012

Emissions for the project scenario, tCO_2e	37 741
Leakage, tCO_2e	-1 135 195
Emissions for the baseline scenario, tCO_2e	3 981 994
Emission reductions, tCO_2e	5 079 448
Annual average of estimated emission reductions, tCO_2e	1 015 890

Table 11 – Estimated emission reductions generated by the project over the part of the crediting period after the end of the first commitment period of the Kyoto Protocol

Period:	**01.01.2013 – 31.12.2015**
Emissions for the project scenario, tCO_2e	22 650
Leakage, tCO_2e	-671 898
Emissions for the baseline scenario, tCO_2e	2 377 455
Emission reductions, tCO_2e	3 026 703
Annual average of estimated emission reductions, tCO_2e	1 008 901

Identified problem areas for calculation of GHG emission reductions, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination report.

4.10 Environmental impacts

In accordance with paragraph 48 of the DVM the assessment of this area focuses on checking the completeness and correctness of the provided information on the assessment of the environmental impacts of the JI project.

The host Party for the project is Ukraine.

The Host Party for this project is Ukraine. Environmental Impact Assessment (EIA) is the part of the Ukrainian project planning and permitting procedures. Implementation regulations for EIA are included in the Ukrainian State Construction Standard DBN A.2.2.-1-2003[7] (Title: "Structure and Contents of the Environmental Impact Assessment Report (EIR) for Designing and Construction of Production Facilities, Buildings and Structures").

In Annex F of this standard there is a list of "types of projects or activities that are of high environmental hazard" for which full-scale EIA

[7] *State Construction Standard DBN A.2.2.-1-2003: "Structure and Contents of the Environmental Impact Assessment Report (EIR) for Designing and Construction of Production Facilities, Buildings and Structures"* State Committee Of Ukraine On Construction And Architecture, 2004

is obligatory, Ministry of Environment and Natural Resources of Ukraine is competent authority for performing of it. Project activities that consist of utilization of wastes of coal industry and of coal production are included in this list.

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

- The main impact of the project activity on the environment is the impact on air. Additional amount of coal dust and dust of coal concentrate will be released to the atmosphere as a result the project activity. However, the study of emission levels and pollutant distribution schemes show that during the project lifetime maximum concentration boundaries will not be exceeded. Fugitive emissions of dust and hazardous substances from the waste heap can also be avoided;
- Impact on water is insignificant. During the project activity water will be used in a closed cycle without draining wastewater. For replenishment of water cycle drainage water from a nearby mine will be used. Thus discharge of this water (treated with chlorine) into the environment will be reduced;
- Impact on flora and fauna is mixed. As a result of the project activity the existing landscape will change, but the aggregate final effect is positive. Grass and trees will be planted on the recultivated land. Rare or endangered species will avoid impact. Place of the project activity implementation is not located near national parks or areas that are protected;
- Noise impact is limited. The main source of noise will be at the minimum desired distance from residential areas, mobile sources as for noise (traffic) provisions of local standards will be met;
- Impact on land use is positive. Considerable areas of land will be exempt from waste heaps and available for building;
- There are no transboundary effects. There are no impacts which occur on the territory of any other country, and which are caused by the implementation of this project that is physically located entirely within Ukraine.

Comprehensive EIA was performed in 2007 by PE PB "Ekoservice". This study was focused on the impact of waste heaps dismantling on the environment. Conclusions of the report are above in section F.1. Project impact on the environment is not significant and harmful. According to Ukrainian laws and regulations, preparation of reports from Environmental Impact Assessment and positive conclusions of State Department of Ecology and Natural Resources makes procedure of environmental impact assessment.

The evidence documents of environmental impacts were provided by project participants to the determination team as supporting documents (please refer to evidence documents # /16/ in Table 2 – Documents

reviewed during the determination in section 3.1. of the Determination Report).

Identified problem areas for environmental impacts, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination report.

4.11 Stakeholder consultation

In accordance with paragraph 49 of the DVM the assessment of this area focuses on checking if stakeholder consultation was undertaken in accordance with procedures as required by the host Party.

The host Party for the project is Ukraine.

The evidence documents related to the stakeholder consultation were provided by project participants to the determination team as supporting documents (please refer to evidence documents # /32/ in Table 2, section 3.1. of the Determination Report).

Identified problem areas for comments by local stakeholders, project participants' responses and conclusions of TÜV Rheinland (China) Ltd. (TÜV Rheinland) are described in Annex A to the Determination report.

4.12 Other areas

In accordance with paragraphs 50-73 of the DVM the assessment of the areas such as additional elements for assessment in determination regarding large scale projects, determination regarding land use, land-use change and forestry projects, determination regarding programmes of activities is not applicable to this JI project.

5 SUMMARY OF COMMENTS RECEIVED PURSUANT TO PARAGRAPH 32 OF THE JI GUIDELINES

According to paragraph 32 of the JI Guidelines, the AIE shall make the project design document publicly available through the secretariat, subject to confidentiality provisions set out in paragraph 40 of the JI Guidelines, and receive comments from Parties, stakeholders and UNFCCC accredited observers on the project design document and any supporting information for 30 days from the date the project design document is made publicly available.

TÜV Rheinland (China) Ltd. (TÜV Rheinland) published the project design document (version 1.0 dated 09/09/2012) on the website (http://www.tuv.com.ua/content/view/75/79/) 10/09/2012 and invited comments by Parties, stakeholders and UNFCCC accredited observers.

There were no comments from Parties, stakeholders and UNFCCC accredited observers received.

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ANNEX A: JI PROJECT DETERMINATION PROTOCOL

Table 1 – Mandatory Requirement for Joint Implementation (JI) Project Activities

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference/Comment
1. The project shall have the approval of the Parties involved.	Kyoto Protocol Article 6.1 (a)	**FAR 01**	Table 2, section A.5. **FAR 01.** The project has no written project approvals by Parties involved. "Glossary of joint implementation terms", version 03 defines the following: a) At least the written project approval(s) by the host Party(ies) should be provided to the AIE and made available to the secretariat by the AIE when submitting the determination report regarding the PDD for publication in accordance with paragraph 34 of the JI guidelines; b) At least one written project approval by a Party involved in the JI project, other than the host Party(ies), should be provided to the AIE and made available to the secretariat by the AIE when submitting the first verification report for publication in accordance with paragraph 38 of the JI guidelines, at the latest. To obtain a written project

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference/Comment
			approval (Letter of Approval) a final Determination Report should be submitted to the State Environmental Investment Agency of Ukraine. Written project approval by a Party involved in the JI project, other than the host Party will be obtained before the first verification.
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**	Please refer to 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)	**OK**	Article 5 requires: "Each Party included in Annex I shall have in place, no later than one year prior to the start of the first commitment period, a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases". According to the Article 7: "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

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference/Comment
			the Protocol". Ukraine has submitted its Initial Report on December 29, 2006: http://unfccc.int/files/national_reports/initial_reports_under_the_kyoto_protocol/application/pdf/ukraine_aa_report.pdf
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**	Please refer to Table 2, section B.2.
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	**OK**	Ukraine has designated its Focal Point. National guidelines and procedures for approving JI projects have been published. Contact data in Ukraine: State Environmental Investment Agency of Ukraine 35 Urytskogo St, Kyiv, P.O. 03035 Phone: +380 44 594 91 11 Fax: +380 44 5949115 Ukrainian national guidelines and procedures for the approval of JI projects are available on the site www.neia.gov.ua. On February 22, 2006 the Cabinet of Ministers of Ukraine adopted the Regulation № 206, which

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference/Comment
			established assessment and implementation procedures of JI projects within the Kyoto Protocol.
6. The host Party shall be a Party to the Kyoto Protocol.	Marrakech Accords, JI Modalities, §21(a)/24	**OK**	The Ukraine is a Party (Annex I Party) to the Kyoto Protocol and has ratified the Kyoto Protocol at February 4th, 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	**OK**	The arranged extent for Ukraine is 100% of its emissions by 1990. In the Initial Report (Ukraine's Initial Report Under Article 7, Paragraph 4, Of The Kyoto Protocol) submitted by Ukraine to the UNFCCC Secretariat, on the 26 May 2006 the AAUs are quantified with: 925 362 174.39 (x 5) = 4 626 810 872 tCO_2e http://unfccc.int/files/national_reports/initial_reports_under_the_kyoto_protocol/application/pdf/ukraine_aa_report.pdf Currently Ukraine has submitted to the UNFCCC its fifth national communication on climate change under the Kyoto Protocol.
8. The host Party shall have in place a national registry in accordance with Article 7, paragraph 4.	Marrakech Accords,	**OK**	The designed system of the national registry has been

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference/Comment
	JI Modalities, §21(d)/24		described in the Initial Report: http://unfccc.int/files/national_reports/initial_reports_under_the_kyoto_protocol/application/pdf/ukraine_aa_report.pdf
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**	Project participants provided PDD, which contains all the necessary information for the determination.
10. The project design document shall be made publicly available and Parties, stakeholders and UNFCCC accredited observers shall be invited to, within 30 days, provide comments.	Marrakech Accords, JI Modalities, §32	**OK**	TÜV Rheinland (China) Ltd. (TÜV Rheinland) published the project design document on the http://www.tuv.com.ua website from 10/09/2012 to 09/10/2012. There were no comments from Parties, stakeholders and UNFCCC accredited observers received.
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**	Please refer to Table 2, section F.
12. The baseline for a JI project shall be the scenario that reasonably represents the GHG	Marrakech Accords,	**OK**	Please refer to Table 2, section B.

REQUIREMENT	REFERENCE	CONCLUSION	Cross Reference/Comment
emissions or removal by sources that would occur in absence of the proposed project.	JI Modalities, Appendix 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**	Please refer to 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**	Please refer to Table 2, section B.
15. The project shall have an appropriate monitoring plan.	Marrakech Accords, JI Modalities, §33(c)	**OK**	Please refer to Table 2, section D.
16. A project participant is a legal entity authorized by a Party involved to participate in the JI project.	"Glossary of Joint Implementation Terms", Version 03.	Conclusion is pending a follow-up on **FAR 01**.	Please refer to 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					
1.1. Does the provided title of the JI project represent project activity?			"Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere"	**OK**	**OK**
1.2. Is (are) the sectoral scope(s) to which the project pertains presented?			The sectoral scope: Mining/mineral production	**OK**	**OK**
1.3. Are the version number and date of the document presented?			Initial version of the PDD: 09/09/2012 version 1.0 Final version of the PDD: 03/10/2012 version 2.0	**OK**	**OK**
A.2. Description of the project					
2.1. Is the purpose of the project indicated (with the concise, summarizing explanation of the situation existing prior to the starting date of the project, baseline scenario and project scenario)?			Thus, this section includes brief summary of the project: *The purpose of the project:* The proposed project is aimed at recultivation of the waste heaps by extracting ROM coal from rock mass and its subsequent use in the energy industry sector. The purpose of this project is to reduce greenhouse gases in the atmosphere due to extraction of black coal from the waste heaps.	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			Preventing self-heating and spontaneous combustion of the waste heaps will reduce negative impact on the environment. *Situation in the baseline scenario:* Baseline scenario assumes that the problem of waste heaps combustion will not be effectively resolved, rock mass of waste heaps will undergo self-ignition until all volume of coal contained in it does not burn. Continuation of existing situation will lead to large emissions of greenhouse gases in the atmosphere and to the general pollution of the ecosystem of the region. In addition, the coal production in the coal mines will lead to fugitive methane emissions. *Project scenario:* The project "Recultivation of waste heaps in Donetsk region in order to reduce greenhouse gas emissions into the atmosphere" involves the introduction of complex of measures aimed at waste heaps dismantling with the aim of black coal extraction, which will partially replace coal that would otherwise be extracted by mining method, which would in turn lead to fugitive emissions of methane and carbon dioxide by electricity		

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			consumption. The project is implemented in Vuhlehirsk, Donetsk region, Ukraine.		
2.2 Is the history of the Project including its JI component summarized?	PDD	DR	Yes, the history of the Project including its JI component is presented in section A.2. of the PDD.	**OK**	**OK**
2.2.1. Is it clarified how the proposed project activity reduces emissions GHG that would occur in the baseline scenario?	PDD	DR	Yes, the proposed project involves implementation of series of works on waste heap dismantling, from rock loading to automobile transport to the enrichment of the rock mass of the waste heap	**OK**	**OK**
A.3. Project participants					
3.1. Are project participants and Party(ies) involved in the project listed?	PDD	DR	Two project participants are indicated In Section A.3, Table 1 of the PDD: - Limited Liability Company "RS-ARPI" and - "ProEffect OÜ"	**OK**	**OK**
3.2. Is contact information provided in Annex 1 of the PDD that is indicated in section A.3?	PDD	DR	Contact information of project participants is given in Annex 1 of the PDD	**OK**	**OK**
3.3. Is it indicated, if the Party involved is a host Party?	PDD	DR	Host Party is Ukraine	**OK**	**OK**
3.4. Is it indicated, if it is the case, if the Party involved wishes to be considered as a project participant?	PDD	DR	Parties involved do not want to be participants of the project.	**OK**	**OK**
A.4. Technical description of the project					
A.4.1. Location of the project					

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
4.1.1. Host Party(ies)	PDD	DR	Ukraine	**OK**	**OK**
4.1.2. Region/State/Province etc.	PDD	DR	Donetsk region	**OK**	**OK**
4.1.3. City/Town/Community etc.	PDD	DR	See Section A 4.1.4	**OK**	**OK**
4.1.4. Detail of the physical location, including information allowing the unique identification of the project (maximum one page)					
4.1.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s) (this section should not exceed one page)?	PDD	DR	Detailed information is presented in Section A.4.1.4. **CAR 01.** Please provide the geographical coordinates of the location of waste heaps. **CL 01.** Please correct the reference to the location of the project (replace the word to enrichment complex)	CAR 01 CL 01	**OK**
A.4.2. Technology(ies) to be employed, or measures, operations or actions to be implemented by the project					
4.2.1. Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project described?	PDD	DR	See the detailed description in the Section A.4.2 of the PDD.	**OK**	**OK**
4.2.1.1. Does the project design engineering reflect current good practices?	PDD	DR	Project design engineering reflects current good practices.	**OK**	**OK**
4.2.1.2. 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?	PDD	DR	Two-stage pistonless jigging machine and steeply inclined separator are taken as basic equipment. Thickening of sludge, captured in spitzkastens, will be implemented in thickening funnels and at the dehydrating	CAR 02	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			screens. Dehydrated sludge together with the concentrate goes to dehydrated bunkers from the screens. This enrichment method allows separating the coal fraction 6-80mm, herewith high quantitative quality indicators of the final product are achieved. Average extraction of the coal-containing fraction varies between 20-19%. Description of the applicable project equipment with the provision of technical specifications is given in Section A.4.2. **CAR 02.** Please provide more information on the further use of enrichment wastes.		
4.2.1.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	PDD	DR	Technology used in this project is modern, and there is no probability that it will be replaced by any other technology during the project lifetime. **CL 02**. Please provide an explanation that the applied technology will not undergo any changes in the case of transition to other heap dismantling with other sieve-factional characteristics	CL 02	**OK**
4.2.2. Are all relevant technical data and the implementation schedule indicated?	PDD	DR	Yes. Please see Section A.4.2. of the PDD.	CAR 03	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			CAR 03. Please change the location of names of the tables, moving them above.		
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 proposed project, taking into account national and/or sectoral policies and circumstances:					
4.3.1. Is it indicated how the anthropogenic emissions of greenhouse gases by sources are to be reduced by the proposed project?	PDD	DR	Emission reductions resulting from this project will come from three main sources: ▪ Elimination of carbon dioxide emissions sources from combustion of waste heap by extraction of thermal coal from it; ▪ Reduction of the fugitive methane emissions volume related to coal mining by substitution of amount of such coal to the coal that is produced from the waste heaps as a result of the project activity; ▪ Reducing electricity consumption from the grid during recultivation of the waste heaps in comparison with energy consumption during coal production in the mine	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
4.3.2. Is it stated why the emission reductions would not occur in the absence of the proposed project, taking into account national and/or sectoral policies and circumstances?	PDD	DR	Yes, this section contains the relevant information. The process of waste heaps recultivation is very expensive, the investment effect of which is lower than capital investment. There are also many other negative factors in realization of such measures, such as uncertainty of early coal content in the total rock mass, instability of sales market of coal production in Ukraine. Besides, Ukraine does not resolve this issue on a systematic basis. Efforts to stop waste heaps burning and their full dismantling, corresponds the current Legislation of Ukraine on Environmental Protection. Proposed project is positively estimated by local authorities. **CAR 04**. Please provide the correct reference to the research of the heaps of Donetsk region	CAR 04	**OK**
4.3.3. Are the estimates of anticipated total reductions provided in tonnes of CO_2 equivalent as determined in section E of the PDD. (This section should not exceed one page).	PDD	DR	Yes. Section A.4.3.1 of the PDD contains tables with estimated annual emission reductions for the chosen crediting period in tCO_2e. Average annual emission reductions over the crediting period are 1,015,890 tons of CO_2 equivalent.	**OK**	**OK**
A.4.3.1. Estimated amount of emission reductions over the crediting period					
4.3.1.1. Is it provided the length of the	PDD	DR	Yes, the relevant information is	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
crediting period and estimates of total as well as annual emission reductions using the appropriate tabular format?			presented in tabular format. - Duration of the crediting period is 5 years; - Duration of the crediting period after 2012 is 3 years.		
4.3.1.2. Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?	PDD	DR	Yes, annual average of estimated emission reductions is calculated by appropriate method.	**OK**	**OK**
A.5. Project approval by the Parties involved					
5.1. Are written project approvals by the Parties involved attached? Are they unconditional?	PDD	DR	According to the national Ukrainian procedure Letter of Approval from Ukraine is expected after determination of the project. **CL 03.** Please provide an explanation of the procedure for receiving Letter of Approval from Estonia.	CL 03	**OK**
B. Baseline					
B.1 Description and justification of the baseline chosen					
1.1. Is it indicated in the PDD: - a detailed theoretical description of the baseline in a complete and transparent	PDD	DR	Yes, there is the description of the chosen baseline. Specific approach to JI projects is used to establish baseline. Justification of the chosen	CAR 05	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
manner, as well as a justification of chosen baseline using the step-wise approach; - a justification of baseline setting; - references on regulations according to baseline setting.			baseline and detailed theoretical description are in Section B.1. of the PDD. **CAR 05.** Please identify more accurately the source, on which Project participants refer during baseline setting and monitoring		
1.2. Does the PDD explicitly indicate the approach used for identifying the baseline with references on regulations?	PDD	DR	Approach for baseline setting and monitoring already taken in comparable JI cases (JI specific approach).	**OK**	**OK**
1.3. Is it indicated in the PDD that baseline was established:					
1.3.1. by listing and describing plausible (alternative) future scenarios on the basis of conservative assumptions and selecting the most plausible one?	PDD	DR	Yes, there is the description of the chosen baseline. Specific approach to JI projects is used for baseline setting. Justification of the chosen baseline and detailed theoretical description are in Section B.1. PDD.	**OK**	**OK**
1.3.2. 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?	PDD	DR	In view of valid political demands and circumstances, key factors influencing the baseline scenario are taken into account	**OK**	**OK**
1.3.3. in a transparent manner with regard to the choice of approaches, assumptions, methodologies,	PDD	DR	Specific approach to JI projects is used for baseline setting. Baseline was identified by the	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
parameters, data sources and key factors?			enumeration and analysis of plausible future scenarios based on conservative assumptions and selecting the most probable of them.		
1.3.4. taking into account of uncertainties and using conservative assumptions?	PDD	DR	Baseline was set taking into account of uncertainties and using conservative assumptions.	**OK**	**OK**
1.3.5. in such a way that emission reduction units (ERUs) cannot be earned for decreases in activity levels outside the project activity or due to force majeure?	PDD	DR	ERUs cannot be earned for decreases in activity levels outside the project activity or due to force majeure	**OK**	**OK**
1.3.6. by drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring"?	PDD	DR	Yes, baseline was set by drawing on the list of variables contained in appendix B	**OK**	**OK**
1.4. If a multi-project emission factor is used, does the PDD provide appropriate justification?	PDD	DR	Multi-project emission factor is not used	**OK**	**OK**
1.5. Are the title, reference number and version of the approved CDM methodology clearly indicated in the context of the project?	PDD	DR	Yes, approved CDM methodology used to calculate leakage under the project is given in Section B.3 of the PDD.	**OK**	**OK**
1.6. Is the applied version of the CDM methodology the most recent one and/or is this version still applicable?	PDD	DR	Yes, the applied version of the CDM methodology ACM0009, version 03.2, is the most recent.	**OK**	**OK**
1.7. Is it described how the chosen approach is applied in the context of the project?	PDD	DR	JI specific approach, applied in the context of this project, completely and clearly described in Section B.1. of the PDD.	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
1.8. Are the key information and data used to establish the baseline (variables, parameters, data sources etc.) indicated in tabular form?	PDD	DR	Yes, necessary information is provided in tabular form in Section B. 1. of the PDD.	**OK**	**OK**
1.9. Are all regulations and sources clearly referenced?	PDD	DR	Yes, references to regulations are clearly indicated and are available **CAR 06.** Please provide the reference to regulation that is the data source for carbon oxidation factor for coal. **CAR 07.** Please provide the reference to regulation that is the data source for carbon content in coal.	CAR 06 CAR 07	**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					
2.1. Is the demonstration of project additionality indicated and described in the PDD using the step-wise approach?	PDD	DR	Step-wise approach is used for this project in order to demonstrate that the project will reduce emissions from sources that are additional to any reductions that would have occurred without the project. Besides, comparable project is considered to be final under the JISC, which confirms that the project, according to the documentation, is clear and reasonable and meets the stated requirements and identified criteria and is aimed at the generation of emission reduction units (ERUs). More detailed description of comparability is given in Section 4.2.:	CL 04	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			http://ji.unfccc.int/UserManagement/FileStorage/IE7LK2SZF1NOXRVB4CYG65WQPJMHA3 **CL 04.** Please explain in more detail why the two projects are similar in scope.		
2.2. Does the PDD provide a justification of the applicability of the approach with a clear and transparent description with relevant reference on regulations?	PDD	DR	PDD provides a justification of the applicability of this approach in accordance with paragraph 44 (b) of Annex 1 of Guidance. See Section B.2 of the PDD	**OK**	**OK**
2.3. Is it described how the chosen approach is applied in the context of the project?	PDD	DR	Yes, in Section B.2. of the PDD it is described how the chosen approach is applied in the context of this project.	**OK**	**OK**
2.4. Are additionality proofs provided?					
2.4.1. If the application of the most recent version of the "Tool for the demonstration and assessment of additionality" is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	PDD	DR	Yes, Section B.2. of the PDD contains all explanations, descriptions and analyzes.	**OK**	**OK**
2.4.2. Is an analysis showing why the emissions in the baseline scenario would likely exceed the emissions in the project scenario included?	PDD	DR	Detailed analysis in Sections A.4.3., B.1. and B.2. of the PDD shows that emissions in the project scenario will be less than the emissions in the baseline scenario due to the implementation of the project activity.	**OK**	**OK**
2.4.3. Is it demonstrated that the project activity itself is not a likely baseline	PDD	DR	Yes, in Sections A.2., B.1. and B.2. of the PDD it is clearly demonstrated that the activity under this project is not a	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
scenario?			probable baseline scenario.		
2.5. Are national policies and circumstances relevant to the baseline of the proposed project activity summarized?	PDD	DR	Baseline is set taking into account relevant national policies and circumstances (please see Sections B.1. and B.2. of the PDD). None of the alternatives listed in Section B.1., does not contradict the laws of Ukraine.	**OK**	**OK**
B.3. Description of how the definition of the project boundary is applied to the project					
3.1. Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: - under the control of the project participants; - reasonably attributable to the project; - significant?	PDD	DR	The project boundary defined in the PDD encompasses all anthropogenic emissions by sources of GHGs that are: - under the control of the project participants, such as emissions from the consumption of electricity and diesel fuel during dismantling waste heaps; - reasonably attributable to the project, such as CO_2 emissions as a result of burning waste heaps, methane leakage as a result of coal mining, emissions as a result of electricity consumption during the operation of coal mines. - significant, as it is stated above **CAR 08.** During the project implementation a large amount of rock mass containing a certain percentage of carbon is processed. Please provide a justification that enrichment wastes	CAR 08 CAR 09	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			do not affect the level of project emissions. Also, please justify that methane emissions from enriched coal stored at the factory is neglected. **CAR 09.** Please correct the name of comparable project in Section B.3, or justify the belonging of the given project to the proposed one.		
3.2. Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 3.1. above?	PDD	DR	Some sources were excluded from the project boundary based on the assessment of individual cases and taking into account the criteria indicated in paragraph 3.1.	**OK**	**OK**
3.3. Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	PDD	DR	Project boundary and emission sources of the relevant gases are listed in Section B.3. of the PDD in Figures 9-10.	**OK**	**OK**
3.4. Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	PDD	DR	Yes, there is justification of the exclusion of sources.	**OK**	**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					
4.1 . Is the date of the baseline setting presented (in DD/MM/YYYY)?			The date of the baseline setting: 07.09.2012	**OK**	**OK**
4.2 . Is the contact information of persons setting the baseline provided?			Baseline is set by "RS-ARPI" LLC. Contact information is provided in	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			Section B.4. of the PDD.		
4.3 . Is the person/entity also a project participant listed in Annex 1 of the PDD?	PDD	DR	"RS-ARPI" LLC is a project participant listed in Annex 1. **CL 05.** Please indicate that "RS-ARPI" LLC is a project participant	CL 05	**OK**
C. Duration of the project/crediting period					
C.1. Starting date of the project					
1.1. Is the project's starting date clearly defined?	PDD	DR	Project's starting date is not correct in Section C.1. of the PDD – 01.01.2008. **CAR 10.** Please provide the relevant date of the project start, which would mean the beginning of any actions related with the activities under the project (beginning of the investment phase).	CAR 10	**OK**
1.2. Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	PDD	DR	No. Start of the project does not depend on the starting date of the installation operation. There is the modernization of the project equipment and setting concentrating complex for new operating modes. **CAR 11.** Please provide the document that regulates project's starting date	CAR 11	**OK**
1.3. Is the starting date after the beginning of 2000?	PDD	DR	Yes. The starting date is after the beginning of 2000	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
C.2. Expected operational lifetime of the project					
2.1. Is the project's operational lifetime clearly defined in years and months?	PDD	DR	Implemented measures subject to proper maintenance can operate over at least 8 years and 11 months.	**OK**	**OK**
C.3. Length of the crediting period					
3.1. Is the length of the crediting period specified in years and months?	PDD	DR	Crediting period is from 01.01.2008 to 31.12.2012. Duration is 5 years or 60 months	**OK**	**OK**
3.2. Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	PDD	DR	Crediting period starts only after 2008, the corresponding statement is present in the PDD. **CAR 12.** Please indicate that the ERUs issuance starts only after the beginning of 2008.	CAR 12	**OK**
3.3. If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval? Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?	PDD	DR	Yes, it is states in Section C.3. of the PDD that the extension of the crediting period can occur with the consent of the host Party. Estimates of emission reductions for the periods before and after 2012 are presented separately in Section A.4.3.1. of the PDD.	**OK**	**OK**
D. Monitoring Plan					
D.1. Description of monitoring plan chosen					
1.1. Is it indicated in PDD a detailed theoretical description in a complete and transparent manner, as well as a justification	PDD	DR	Justification of chosen monitoring plan is sufficient, its theoretical description is presented in Section D.1. of the	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
of chosen monitoring plan using the step-wise approach?			PDD.		
1.2. Does the PDD explicitly indicate the chosen approach used for monitoring with references on regulations?	PDD	DR	Project participant chose JI specific approach on monitoring in accordance with "Guidance on criteria for baseline setting and monitoring", version 03.	**OK**	**OK**
1.3. Is the applied methodology considered being the most appropriate one?	PDD	DR	Yes, chosen JI specific approach is relevant to this project.	**OK**	**OK**
1.4. If national or international monitoring standard has to be applied to monitor certain aspects of the project, is this standard identified and is the reference as to where a detailed description of the standard can be found provided?	PDD	DR	Yes, all relevant references are listed in Section D of the PDD.	**OK**	**OK**
1.5. Are the description of the assumptions, formulas, parameters, data sources and key factors indicated?	PDD	DR	Yes, it is in Section D.1. of the PDD.	**OK**	**OK**
1.5.1. Is it stated how uncertainties are taken into account and conservativeness is safeguarded?	PDD	DR	Yes, it is indicated in Section D.1. of the PDD.	**OK**	**OK**
1.6. Is it described how the chosen approach is applied in the context of the project?	PDD	DR	Monitoring of projects will be assessed using option (a) of Annex 2 "Guidance on criteria for baseline setting and monitoring", version 03.	**OK**	**OK**
1.7. Does the monitoring plan explicitly and clearly distinguish: 1) data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and	PDD	DR	All necessary information is explicitly and clearly stated in accordance with "Guidelines for users of the joint implementation project design document form", version 04.	**OK**	**OK**

<table>
<tr><th>CHECKLIST QUESTION</th><th>Ref.*</th><th>MoV**</th><th>COMMENTS</th><th>Draft Concl.</th><th>Final Concl.</th></tr>
<tr><td>that are available already at the stage of determination regarding the PDD;
2) data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination regarding the PDD;
3) data and parameters that are monitored throughout the crediting period?</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>1.8. Are alternative tables used instead of using the tables provided in sections D.1.1.1., D.1.1.3., D.1.2.1., D.1.3.1. and D.2. in line with the approach regarding monitoring chosen for all data/parameters?</td><td>PDD</td><td>DR</td><td>Not applicable</td><td>OK</td><td>OK</td></tr>
<tr><td>1.8.1. Are all the required data / parameters according to the used methodology indicated?</td><td>PDD</td><td>DR</td><td>Not applicable</td><td>OK</td><td>OK</td></tr>
<tr><td>1.9. Checklist for parameters
<table>
<tr><th>Data Checklist</th><th>Parameter Title</th></tr>
<tr><td>Is the title in line with methodology?</td><td></td></tr>
<tr><td>Are data unit correctly expressed?</td><td></td></tr>
<tr><td>Is the appropriate description of parameter indicated?</td><td></td></tr>
<tr><td>Is the time of monitoring clearly indicated?</td><td></td></tr>
<tr><td>Is the source clearly referenced?</td><td></td></tr>
<tr><td>Is the correct value provided?</td><td></td></tr>
</table></td><td>PDD</td><td>DR</td><td>Not applicable</td><td>OK</td><td>OK</td></tr>
</table>

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
Has this value been verified?					
Is the choice of data correctly justified or is the measurement method correctly described?	$A_{coal,y}$ $W_{coal,y}$				
Are quality control and quality assurance procedures indicated?	$A_{enrich,y}$. $W_{enrich,y}$				
D.1.1. Option 1 – Monitoring of the emissions in the project scenario and the baseline scenario.					
1.1.1. Is the option 1 used for monitoring of the emissions in the project scenario and the baseline scenario?	PDD	DR	The option 1 is used for monitoring of the emissions in the project scenario and the baseline scenario.	**OK**	**OK**
D.1.1.1. Data to be collected in order to monitor emissions from the project, and how these data will be archived.					
1.1.1.1. Are the data to be collected in order to monitor emissions from the project described?	PDD	DR	Table D.1.1.1. of the PDD includes data to be collected in order to monitor emissions from the project.	**OK**	**OK**
1.1.1.2. Is it indicated how the data will be archived?	PDD	DR	It is indicated how the data will be archived in Table D.1.1.1. of the PDD.	**OK**	**OK**
1.1.1.3. Is it indicated that data monitored are to be kept for two years after the last transfer of ERUs for the project?	PDD	DR	Documents and other data, verified by the monitoring and necessary for the determination and verification, as well as any other data relevant to the works under the project, will be kept at least for two years after the last transfer of ERUs.	**OK**	**OK**
D.1.1.2. Description of formulae used to estimate project emissions (for each gas, source etc.; emissions in units of CO_2 equivalent).					

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
1.1.2.1 Are the formulae clearly and consistently indicated throughout the PDD?	PDD	DR	Formulae are clearly and consistently indicated throughout the PDD.	**OK**	**OK**
D.1.1.3. 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					
1.1.3.1. Are the data necessary for determining the baseline of anthropogenic emissions of greenhouse gases by sources within the project boundary described?	PDD	DR	Table D.1.1.3. of the PDD presents data to be collected for monitoring emissions from the project. **CAR 13**. Please justify why the frequency of registration of such parameters as ash and water content coal is held annually, since in this case the high level of uncertainty of emissions calculation is achieved. **CAR 14.** Please correct the parameters B-5 and B-6 of Section D.1.1.3. of the PDD concerning the method of measurement.	CAR 13 CAR 14	**OK**
1.1.3.2. Is it indicated how data will be archived?	PDD	DR	In is indicated in Table D.1.1.3 of the PDD how this data will be archived.	**OK**	**OK**
D.1.1.4. Description of formulae used to estimate baseline emissions (for each gas, source etc.; emissions in units of CO_2 equivalent)					
1.1.4.1. Are the formulae clearly and consistently indicated throughout the PDD?	PDD	DR	Formulae are clearly and consistently indicated in Section D.1.1.4. of the PDD and throughout the PDD.	**OK**	**OK**
D.1.2. Option 2 - Direct monitoring of emission reductions from the project (values should be consistent with those in section E)					

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
1.2.1. Is the option 2 used for monitoring of the emissions in the project scenario and the baseline scenario?	PDD	DR	This option is used for monitoring emission reductions received due to sub-projects of Group 3.	**OK**	**OK**
D.1.2.1. Data to be collected in order to monitor emission reductions from the project, and how these data will be archived					
1.2.1.1. Are the data to be collected in order to monitor emissions from the project described?	PDD	DR	Table D.1.2.1. of the PDD includes data to be collected in order to monitor emissions from the project.	**OK**	**OK**
1.2.1.2. Is it indicated how the data will be archived?	PDD	DR	Table D.1.2.1. of the PDD indicates how the data will be archived.	**OK**	**OK**
1.2.1.3. Is it indicated that data monitored are to be kept for two years after the last transfer of ERUs for the project?	PDD	DR	Please see Section D.1 "Archiving, storage and procedure of documentation turnover"	**OK**	**OK**
D.1.2.2. Description of formulae used to calculate emission reductions from the project (for each gas, source etc.; emissions/emission reductions in units of CO2 equivalent)					
1.2.2.1. Are the formulae clearly and consistently indicated throughout the PDD?	PDD	DR	The formulae are clearly and consistently indicated in the PDD.	**OK**	**OK**
D.1.3. Treatment of leakage in the monitoring plan					
1.3.1. Are data and information that will be collected in order to monitor leakage effects of the project described, if applicable?	PDD	DR	Fugitive methane emissions resulting from coal extraction from mines in Ukraine are considered to be leakage. Data that should be collected to monitor leakage under the project is indicated in Table D.1.3.1. of the PDD. **CAR 15.** Please add the parameter of	CAR 15	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			indirect CO2 emission factor by electricity consumption in Section D.1.3.		
1.3.2. Are formulae used to estimate leakage (for each gas, source etc.; emissions in units of CO_2 equivalent) described?	PDD	DR	These formulae are clearly and consistently indicated in Section D.1.3.2. of the PDD and throughout the PDD.	**OK**	**OK**
D.1.4. Description of formulae used to estimate emission reductions for the project (for each gas, source etc.; emissions/emission reductions in units of CO_2 equivalent)					
1.4.1. Are the formulae clearly and consistently indicated throughout the PDD?	PDD	DR	Description of formulas is clearly and consistently indicated in Section D.1.4. of the PDD.	**OK**	**OK**
D.1.5. Where applicable, in accordance with procedures as required by the host Party, information on the collection and archiving of information on the environmental impacts of the project					
1.5.1. Is information on the collection and archiving of information on the environmental impacts of the project indicated?	PDD	DR	Collection and archiving of the information on the environmental impacts of the project will be done based on the approved EIA in accordance with the Host Party legislation.	**OK**	**OK**
1.5.2. Is reference to the relevant host Party regulation(s) provided?	PDD	DR	All references presented in Section F.1	**OK**	**OK**
1.5.3. If not applicable is it stated so?	PDD	DR	-	**OK**	**OK**
D.2. Quality control (QC) and quality assurance (QA) procedures undertaken for data monitored					
2.1. Are the quality assurance and control procedures for the monitoring process established? This includes, as appropriate, information on calibration and on how records	PDD	DR	Quality control and quality assurance procedures undertaken for data monitored are indicated in tabular format in Section D.2. of the PDD.	CAR 16	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
on data and/or method validity and accuracy are kept and made available on request?			**CAR 16.** Please justify how the quality control of all parameters that are collected for monitoring emissions from the project, and that were identified in Sections D.1.1.1, D.1.1.2, D.1.3.1 will be achieved.		
2.2. Are data corresponded with those in section D.1?	PDD	DR	Yes. Data are corresponded with those in section D.1 of the PDD.	**OK**	**OK**
D.3. Please describe the operational and management structure that the project operator will apply in implementing the monitoring plan					
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?	PDD	DR	The project owner – RS-ARPI, has made all the required actions to implement provisions of this monitoring plan into its organizational and quality management structure. The operational and management structure are presented in section D.3. of the PDD in figure 12.	**OK**	**OK**
3.2. Are responsibilities and institutional arrangements for data collection and archiving clearly provided?	PDD	DR	Yes. All relevant responsibilities and institutional arrangements for data collection and archiving clearly are provided.	**OK**	**OK**
3.3. Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type?	PDD	DR	Monitoring plan, on the whole, reflects good monitoring practices appropriate to the project type.	**OK**	**OK**
D.4. Name of person(s)/entity(ies) establishing the monitoring plan					
4.1. Is the contact information of person(s)/entity(ies) establishing the monitoring plan provided?	PDD	DR	Reference to Annex 1 of the PDD is provided.	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
4.2. Is the person/entity also a project participant listed in Annex 1 of the PDD?	PDD	DR	Necessary information is given in Section D.4. of the PDD.	**OK**	**OK**
E. Estimation of greenhouse gases emission reductions					
E.1. Estimated project emissions					
1.1. Are described the formulae used to estimate anthropogenic emissions by source of GHGs due to the project (for each gas, source etc.; emissions in units of CO_2 equivalent)?	PDD	DR	Yes, there is such explanation. Formulas used to estimate project emissions (through energy consumption and for fugitive methane emissions from coal extraction in the mines) are described in Section D of the PDD.	**OK**	**OK**
1.1.1. Is there a description of calculation of GHG project emissions in accordance with the formula? (Supporting documentation)	PDD	DR	The description of calculation of GHG project emissions is provided in EXCEL electronic files as supporting documentation. Calculations are performed according to these formulas. The results of these calculations are presented in Section E.1. of the PDD.	**OK**	**OK**
1.1.2. Have conservative assumptions been used to calculate project GHG emissions?	PDD	DR	Yes. Assumptions which were used to calculate project GHG emissions are conservative.	**OK**	**OK**
E.2. Estimated leakage					
2.1. Are described the formulae used to estimate leakage due to the project activity where required (for each gas, source etc.; emissions in units of CO_2 equivalent)?	PDD	DR	Yes. There are all formulae explanations in Section D, which were used to estimate leakage caused by the activities under the project.	**OK**	**OK**
2.1.1. Is there a description of calculation	PDD	DR	Yes. Explanation of calculating project	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
of leakage in accordance with the formula? (supporting documentation)			leakage is given in electronic files EXCEL as supporting documentation. Calculations are performed according to specified formulae. The results of these calculations are presented in Section E.2. of the PDD.		
2.2. Have conservative assumptions been used to calculate leakage?	PDD	DR	Yes. Assumptions, which were used to calculate project GHG emissions, are conservative and are described in Section B.3 of the PDD.	**OK**	**OK**
2.3. If not applicable, is it stated in the PDD?	PDD	DR	-	**OK**	**OK**
E.3. Sum of E.1 and E.2.					
3.1. Does the sum of E.1. and E.2. represent the project activity emissions?	PDD	DR	Yes. The sum of E.1. and E.2. represents the project activity emissions.	**OK**	**OK**
E.4. Estimated baseline emissions					
4.1. Are the formulae used to estimate the anthropogenic emissions by source of GHGs in the baseline described (for each gas, source etc.; emissions in units of CO2 equivalent)?	PDD	DR	Formulae used to estimate baseline emissions, are explained in Section D. of the PDD.	**OK**	**OK**
4.1.1. Is there a description of calculation of GHG baseline emissions in accordance with the formula? (supporting documentation)	PDD	DR	Explanation of calculating baseline emissions is given in electronic files EXCEL as supporting documentation. Calculations are performed according to specified formulae. The results of these calculations are presented in Section E.1. of the PDD.	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
4.2. Have conservative assumptions been used to calculate baseline emissions?	PDD	DR	Yes, they have. Conservative assumptions were used to calculate baseline emissions.	**OK**	**OK**
E.5. Difference between E.4. and E.3. representing the emission reductions of the project					
5.1. Does the difference between E.4. and E.3. represent the emission reductions due to the project during a given period?	PDD	DR	Emission reductions achieved due to the project are listed in Section E.6.	**OK**	**OK**
E.6. Table providing values obtained when applying formulae above					
6.1. Is the data provided under this section in consistency with data as presented by other chapters E of the PDD?	PDD	DR	The data provided under section E.6. is in consistency with data as presented by other chapters of the PDD.	**OK**	**OK**
6.2. Is there a table providing the total value of emission reductions?	PDD	DR	Yes. A table which providing the total value of emission reductions located in section E.	**OK**	**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					
1.1. Has an analysis of the possible environmental impacts of the project been sufficiently described?	PDD	DR	Yes, please see Section F of the PDD.	**OK**	**OK**
1.2. Are transboundary environmental impacts considered in the analysis?	PDD	DR	Transboundary impacts are not observed. There are no impacts that manifest within the area of any other country and that are caused by a proposed project activity which wholly physically originates within the area of	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
			Ukraine.		
1.3. Are all regulations and sources clearly referenced?	PDD	DR	The Host Party for this project is Ukraine. Environmental Impact Assessment (EIA) is the part of the Ukrainian project planning and permitting procedures. Implementation regulations for EIA are included in the Ukrainian State Construction Standard DBN A.2.2.-1-2003.	**OK**	**OK**
F.2. If environmental impacts are considered significant by the project participants or the host Party, provision of conclusions and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party					
2.1. Is a viewpoint regarding significant environmental impacts of the project participants or the host Party indicated?	PDD	DR	Yes, in Section F.2. of the PDD the project participants concluded that the proposed project has a positive impact on the environment.	**OK**	**OK**
2.2. Are there any host Party requirements for an Environmental Impact Assessment (EIA)?	PDD	DR	Yes, in Section F.2. of the PDD the project participants concluded that the proposed project has a positive impact on the environment.	**OK**	**OK**
2.3. Have conclusions and all references to the supporting documentation on the analysis of the environmental impacts been indicated?	PDD	DR	Yes. All references and conclusions to the supporting documentation on the analysis of the environmental impacts have been indicated.	**OK**	**OK**
G. Stakeholders' comments					
G.1. Information on stakeholders' comments on the project, as appropriate					

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
1.1. Have relevant stakeholders been consulted and how?	PDD	DR	No stakeholder consultation process for the JI projects is required by the Host Party. Stakeholder comments will be collected during the time of this PDD publication in the internet during the determination procedure. As a part of EIA, stakeholders must be informed via mass media about the proposed project as provided in *State construction standards of Ukraine DBN A.2.2.-1-2003: "Structure and Contents of the Environmental Impact Assessment (EIA) materials during design and construction of enterprises, buildings and structures"* issued by State Committee of Construction and Architecture in 2004. In accordance with the mentioned regulations, the relevant information was published in the local newspaper "Nash Kray" #38 from September 18, 2007 and # 45 (486) from November 6, 2007. No comments were received.	**OK**	**OK**
1.1.1. Have appropriate media been used to invite comments by local stakeholders?	PDD	DR	-	**OK**	**OK**
1.2. Is there a list of stakeholders from whom comments on the project have been received?	PDD	DR	-	**OK**	**OK**
1.3. Is the nature of comments provided?	PDD	DR	-	**OK**	**OK**
1.4. Has due account been taken of any stakeholder comments received?	PDD	DR	-	**OK**	**OK**

CHECKLIST QUESTION	Ref.*	MoV**	COMMENTS	Draft Concl.	Final Concl.
Annexes					
Annex 1. Contact information on project participants					
1.6. Is the information provided in consistency with the one given under section A.3?	PDD	DR	The information provided in Annex 1 is in a consistency with the one given under Section A.3.	**OK**	**OK**
1.7. Are the mandatory fields for each organisation listed in section A.3. of the PDD filled notably organisation, name of contact person, street, city, postal code, country, telephone number(s) and fax number or e-mail address?	PDD	DR	Yes. The mandatory fields for each organization listed in section A.3. of the PDD are filled.	**OK**	**OK**
Annex 2. Baseline information					
2.1. Is a table containing the key elements of the baseline (including variables, parameters and data sources) provided?	PDD	DR	Baseline information is provided in Section B of this PDD.	**OK**	**OK**
2.2. If additional background information on baseline data is provided: is this information in consistency with data presented by other sections of the PDD?	PDD	DR	There is no additional background information.	**OK**	**OK**
Annex 3. Monitoring plan					
3.1. Is the detail description of all key elements of monitoring plan provided?	PDD	DR	All necessary information is presented in Section D of the PDD.	**OK**	**OK**
3.2. Is the provided information on monitoring plan in consistency with data presented in section D of the PDD?	PDD	DR	The information on monitoring plan is in a consistency with the one given under Section D of the PDD.	**OK**	**OK**

Ref.* - gives reference to Category 1 and Category 2 documents (see section 3.1. of the Determination Report) where the answer to the checklist question or item is found.

MoV** - 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.

TABLE 3 – RESOLUTION OF CORRECTIVE ACTION AND CLARIFICATION REQUESTS

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2	Summary of project owner response	Determination team conclusion
FAR 01. The project has no written project approvals by Parties involved.	Table 1, checklist question 1	Approval by the participating Parties will be involved after a positive determination report, under the law of the relevant Parties.	**FAR 01** will be closed after the parties will provide letters of approval.
CAR 01. Please provide the geographical coordinates of the location of waste heaps.	Table 2, control question 4.1.4.1.	Relevant corrections were made. Please see Section A.4.1.4. of the PDD	Conclusion 1: Issue is closed.
CAR 02. Please provide more information on the further use of enrichment wastes.	Table 2, control question 4.2.1.2	Relevant corrections were made. Please see Section A.2. of the PDD	Conclusion 1: Issue is closed.
CAR 03. Please change the location of names of the tables, moving them above.	Table 2, control question 4.2.1.2	Relevant corrections were made. Please see the PDD	Conclusion 1: Issue is closed.
CAR 04. Please provide the correct reference to the research of the heaps of Donetsk region	Table 2, control question 4.3.2	Relevant corrections were made. Please see Section A.3. of the PDD	Conclusion 1: Issue is closed.
CAR 05. Please identify more accurately the source, on which Project participants refer during baseline setting and monitoring	Table 2, control question 1.1	Paragraph 9a was determined more correctly. Please see Section B.1. of the PDD	Conclusion 1: Issue is closed.
CAR 06. Please provide the reference to regulation that is the data source for carbon oxidation factor for coal.	Table 2, control question 1.9	Reference to the necessary source is done. Please see Section B.1. of the PDD	Conclusion 1: Issue is closed.
CAR 07. Please provide the	Table 2, control	Reference to the necessary source is	Conclusion 1: Issue is

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2	Summary of project owner response	Determination team conclusion
reference to regulation that is the data source for carbon content in coal.	question 1.9	done. Please see Section B.1. of the PDD	closed.
CAR 08. During the project implementation a large amount of rock mass containing a certain percentage of carbon is processed. Please provide a justification that enrichment wastes do not affect the level of project emissions. Also, please justify that methane emissions from enriched coal stored at the factory is neglected.	Table 2, control question 3.1	The aim of the project activity is the processing the waste heaps and extracting carbon from the rock mass. Sorted fraction of high carbon content is used for energy purposes in the national economy. Enrichment wastes are inert rock mass which has very low carbon content. Besides waste heap is formed of flat form from enrichment wastes that does not lead to erosion and allows effectively monitor the condition of the heap. Due to these factors the possibility of forming emissions from burning heaps with enrichment wastes is excluded. Emission factors as consumption of fuel and electricity for waste enrichment treatment (export, warehousing, etc.) are already included in the calculation of project emissions as the whole volume of consumption of fuel and electricity by the enterprise is taken into consideration. Methane emissions from enriched coal, which is stored at the site of the project realization is neglected because this coal is already degassed	Conclusion 1: Issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2	Summary of project owner response	Determination team conclusion
		during the initial production from the mine and subsequent storage in the heap. In any case, the amount of coal that would be mined in the baseline scenario would be subject to the same storage and transportation leading to the same emissions. Therefore, this potential source of emissions is neglected and such that does not affect the calculation of the project emission reductions.	
CAR 09. Please correct the name of comparable project in Section B.3, or justify the belonging of the given project to the proposed one.	Table 2, control question 3.1	Relevant mistake is corrected. Please see Section B.3. of the PDD	Conclusion 1: Issue is closed.
CAR 10. Please provide the relevant date of the project start, which would mean the beginning of any actions related with the activities under the project (beginning of the investment phase).	Table 2, control question 1.1	Relevant date is provided. Please see Section C.1. of the PDD	Conclusion 1: Issue is closed.
CAR 11. Please provide the document that regulates project's starting date	Table 2, control question 1.2	The starting date of the project is the date of signing the contract on the modernization of concentrating mill with subsequent possibility of processing rock mass of waste heaps. Relevant document was provided. Please see Section C.1. of the PDD, as well as supporting documents.	Conclusion 1: Issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2	Summary of project owner response	Determination team conclusion
CAR 12. Please indicate that the ERUs issuance starts only after the beginning of 2008.	Table 2, control question 3.2	Relevant explanation is provided. Please see Section C.2. of the PDD.	Conclusion 1: Issue is closed.
CAR 13. Please justify why the frequency of registration of such parameters as ash and water content coal is held annually, since in this case the high level of uncertainty of emissions calculation is achieved.	Table 2, control question 1.1.3.1	Frequency of coal samples analysis is once per month. Also, analysis of samples can be conducted more frequently at the request of the buyer. Research results are archived and at end of each year the annual average rate is calculated. In this PDD relevant remarks were corrected to the monthly frequency of monitoring this parameter.	Conclusion 1: Issue is closed.
CAR 14. Please correct the parameters B-5 and B-6 of Section D.1.1.3. of the PDD concerning the method of measurement.	Table 2, control question 1.1.3.1	Relevant change is done. Please see Section D.1.1.3. of the PDD	Conclusion 1: Issue is closed.
CAR 15. Please add the parameter of indirect CO2 emission factor by electricity consumption in Section D.1.3.	Table 2, control question 1.3.1	Relevant parameter was added. Please see Section D.1.3. of the PDD	Conclusion 1: Issue is closed.
CAR 16. Please justify how the quality control of all parameters that are collected for monitoring emissions from the project, and that were identified in Sections D.1.1.1, D.1.1.2, D.1.3.1 will be achieved.	Table 2, control question 2.1	Relevant explanations are given in Section D.2. of the PDD. Please see the PDD.	Conclusion 1: Issue is closed.
CL 01. Please correct the	Table 2, control	Relevant corrections were made.	Issue is closed.

Draft report clarifications and corrective action requests by determination team	Ref. to checklist question in tables 1, 2	Summary of project owner response	Determination team conclusion
reference to the location of the project (replace the word to enrichment complex)	question 4.1.4.1	Reference to the concentrating mill. Please see Section A.1 of the PDD.	
CL 02. Please provide an explanation that the applied technology will not undergo any changes in the case of transition to other heap dismantling with other sieve-factional characteristics.	Table 2, control question 4.2.1.3	Concentrating mill passed comprehensive modernization. New technologies and new links of technological complex are introduced. Proposed technology allows processing any rock in order to extract useful component (thermal coal). In case of transition to dismantling other heaps, it does not affect in any way the possibilities of concentrating mill. Project equipment has great resource of work that may extend the term of the project realization. Use of jigging machines and steeply inclined separators allows enriching any bulk material.	Issue is closed.
CL 03. Please provide an explanation of the procedure for receiving Letter of Approval from Estonia.	Table 2, control question 4.2.1.3	Relevant explanation is provided. Please see Section A.5. of the PDD.	Issue is closed.
CL 04. Please explain in more detail why the two projects are similar in scope.	Table 2, control question 4.2.1	Relevant explanations are provided. Please see Section B.2. of the PDD	Issue is closed.
CL 05. Please indicate that "RS-ARPI" LLC is a project participant.	Table 2, control question 4.3	Relevant information is provided. Please see Section B.4. of the PDD.	Issue is closed.