

# DETERMINATION REPORT PJSC "KHMELNYTSKOBLENERGO"

# DETERMINATION OF THE "KHMELNYTSKOBLENERGO PJSC POWER DISTRIBUTION SYSTEM MODERNIZATION"

REPORT NO. UKRAINE-DET/0200/2010
REVISION NO. 02

**BUREAU VERITAS CERTIFICATION** 

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#### **DETERMINATION REPORT**

Date of first issue: 27/01/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client:	Client ref.:
PJSC "Khmelnytskoblenergo"	Oleksandr Shpak

Summarv

Bureau Veritas Certification has made the determination of the «Khmelnytskoblenergo PJSC power distribution system modernization" project of PJSC "Khmelnytskoblenergo" located in Khmelnytskyi city, Ukraine, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

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

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

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

Report No.: UKRAINE-det/0200/2010	Subject Group:	
Project title:  "Khmelnytskoblenergo public system modernization"	JSC power distribution	_
Work carried out by: Oleg Skoblyk – Team Technical Specialist Denis Pishchalov – 1 Specialist	Leader, Lead Verifiet,	No distribution without permission from the Client or responsible organizational unit
Work verified by: Ivan Sokolov - Internal Ted	chnical Reviewer	Limited distribution
Work signed by: Flavio Gomes – Operation	al Mallayer ( )	ertification AS
Date of this revision: Rev. N 02		Unrestricted distribution



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#### 1 INTRODUCTION

PJSC "Khmelnytskoblenergo" has commissioned Bureau Veritas Certification to determinate its JI project "Khmelnytskoblenergo PJSC power distribution system modernization" (hereafter called "the project") in Khmelnytskyi city, Ukraine.

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

#### 1.1 Objective

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

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

#### 1.2 Scope

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

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

#### 1.3 Determination team

The determination team consists of the following personnel:

Oleg Skoblyk

Bureau Veritas Certification Team Leader, Climate Change Lead Verifier Technical Specialist

Denis Pishchalov

Bureau Veritas Certification Team member, Financial Specialist

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This determination report was reviewed by:

Ivan Sokolov Bureau Veritas Certification, Internal reviewer

#### 2 METHODOLOGY

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

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

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

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

#### 2.1 Review of Documents

The Project Design Document (PDD) submitted by PJSC "Khmelnytskoblenergo" and additional background documents related to the project design and baseline, i.e. country Law, Guidelines for users of the joint implementation project design document form, Guidance on criteria for baseline setting and monitoring, Kyoto Protocol, Clarifications on Determination Requirements to be Checked by a Accredited Independent Entity were reviewed.

PDD «Khmelnytskoblenergo PJSC power distribution system modernization" project of PJSC "Khmelnytskoblenergo" version 1.0 was submitted on 25/10/2010.

To address Bureau Veritas Certification corrective action, forward action and clarification requests PJSC "Khmelnytskoblenergo" revised the PDD and resubmitted it as version 2.0 of 29/08/2011 which is deemed final.

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The determination findings presented in this report relate to the project as described in the PDD version 1.0 dated 25/10/2010.

#### 2.2 Follow-up Interviews

On 10/01/2011 Bureau Veritas Certification performed on-site visit interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of PJSC "Khmelnytskoblenergo" and Ltd «EES» were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics** 

Interviewed organization	Interview topics
PJSC "Khmelnytskoblenergo"	> Implementation schedule
	Project management organisation
	Evidence and records on reconstruction and new equipment and its operation
	Environmental Impact Assessment
	Project monitoring responsibilities
	Monitoring equipment
	Quality control and quality assurance procedures
	Environmental impacts affected
	➤ Local authorities and public opinion
CONSULTANT	Applicability of methodology
Ltd «EES»	Baseline and Project scenarios
	Barriers analysis
	<ul> <li>Additionality justification</li> </ul>
	Common practice analysis
	Monitoring plan
	Conformity of PDD to JI requirements

# 2.3 Resolution of Clarification and Corrective Action Requests

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

Corrective Action Requests (CAR) is issued, where:

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

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

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

#### 3 PROJECT DESCRIPTION

The objective of the JI project «Khmelnytskoblenergo PJSC power distribution system modernization» is the realization of the programme of technical reconstruction of electrical network and equipment, introduction of the progressive technologies, organization structure improvement, transition to the higher organizational level of electricity grid transmission and distribution.

Taking measures foreseen by the project will let to increase the reliability and effectiveness of the distribution network of electric power in Khmelnytsk and Khmelnytsk Region, and enhance the quality of consumers service. It will also help to reduce the amount of electric power, that is lost in the distributive and transport electrical networks of PJSC "Khmelnytskoblenergo", and that, in its turn, will help to reduce the amount of the generated electric energy, and, as the result, pollutant emissions in the atmosphere.

#### Situation at the beginning of the activity of the Project.

PJSC "Khmelnytskoblenergo" is an integral part of the unified energy system (UES) of Ukraine and provide the consumers of Khmelnytsk region with the electric energy regularly and reliably under the uniform tariff.

At the beginning of the project (2002) OJSC EC "Khmelnytskoblenergo" was realizing only such measures that were directed to the maintaining of electrical networks in good working order. These measures mainly included repairing work to eliminate errors, that arise during the operation of power networks. That resulted in the technological consumption, in 2002, in networks of OJSC «Khmelnytskoblenergo» which reached 28,952% from the electric energy amount, that was coming into the company's network.

Most of the equipment that was being used at that moment in the networks of OJSC EC "Khmelnytskoblenergo" was already physically and morally outdated, but because of the insufficient financing and operational reserves of this equipment, it remained still in use. Besides, it was possible to change this situation not only in the case of technical provision of the network modification, but also in the case of company's organizational structure improvement, which also required financing and manpower.

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The possibility to sell greenhouse gas emission reduction units became one of the factors for the start of the introduction program, the goal of which is the reduction of technological power consumption in the PJSC "Khmelnytskoblenergo" electric network.

#### **Project Scenario**

Joint implementation project is based on the implementation of complex of measures on elimination of power losses, which is introduced and financed since 2003.

The measures are taken within the framework of this program, for the implementation and continual monitoring of potential sources of technical losses and prevention of their appearing enabled PJSC "Khmelnytskoblenergo" to reduce power losses in networks.

#### **Baseline Scenario**

Baseline scenario foresees further usage of equipment while performing of planned repairing work without substantial investments. More information about baseline scenario is provided in section B of PDD.

#### History of the project

03/07/2002 - Decisions of Board of «OJSC EC "Khmelnytskoblenergo" on the development and implementation of programs to reduce TPC» (Protocol #10). This date is the date the acceptance of this project as a JI project.

Conducted on OJSC EC "Khmelnytskoblenergo" all - industry conference, "Reducing power technological consumption in the networks of its transport. Measures to improve work with consumers of electricity" - July 2002.

January, 2003 – start of the works on the program of TPC reduction in the electrical network of OJSC EC "Khmelnytskoblenergo"

15/09/2010 - signing of a contract with ImexEnergo. Preparation of PDD.

#### Advantages of the project

Apart from emissions reduction the implementation of project «Khmelnytskoblenergo PJSC power distribution system modernization» has the following advantages:

 Creation of additional jobs, connected with the introducing of new equipment, construction and reconstruction of enterprise facilities;

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- Pollutant emissions reduction by the cut down of the electric energy generation as a result of shortening of losses in the networks;
- Cutting production costs.

The realization of joint implementation project will reduct pollutant emissions by the shortage of electric energy generation, which is delivered to the network of PJSC "Khmelnytskoblenergo". Thus, the realization of the project will reduce the greenhouses gasses emissions and will prevent from their further accumulation in the atmosphere, which in its turn, will loosen the climate changes.

Public-joint stock company, energy supplying company "Khmelnytskoblenergo" (PJSC "Khmelnytskoblenergo") is an integral part of the unified energy system (UES) of Ukraine and provides the consumers of Khmelnytsk region with the electric energy regularly and reliably under the uniform tariff.

project «Khmelnytskoblenergo objective of the PJSC distribution system modernization» is the realization of technical reconstruction of electrical network and equipment programme. introduction of the progressive technologies, organization structure improvement, transition to the higher organizational level of electricity grid transmission and distribution by attracting investments.

The Joint implementation project is based on the implementation complex of organizational and technical measures on electricity losses reduction, which includes:

- realization of scientific and technical support, extension of the exploitation term of the functioning equipment, realization of the equipment diagnostics system and prognostication of its residual operating time;
- introduction of organizational and technical measures for technological power consumption reduction;
- reconstructions and renovations of the electric networks, and substitution of outdated equipment;
- attraction of investments for the development and achievement of high technical and economical level of the Company;
- increase of power supply reliability level for the region consumers;
- implementation of the Automatized system of commercial accounting of power consumption of the energy-supplying company perimeter, ASCAPC of consumers and substations;
- introduction of complex technical power consumption reduction Program;

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• modernization of the equipment in the framework of the electric power development investment programs.

The Project implementation provided the following measures:

- 1. Organizational measures of methodological ensuring.
- 2. Organizing technical measures.
- 3. Technical measures.

All these measures, implementation and continuous monitoring of possible sources of energy losses and prevent possible occurrence of PJSC "Khmelnitskoblenergo" reduce technical electricity losses in their electrical systems.

Reduction of technological power losses in the Company networks allowed reducing CO2 emissions caused by generation oh electricity that lost.

Duration of the project is unlimited, since the measures taken to detect and remove TPC in separate power network units and feeders, power network areas, as well as to reduce general technological power consumption in the PJSC «Khmelnytskoblenergo», are a constant and continual process. CO2 eq emissions reduction are affirmed on one crediting period (22years) according to the modality and JI Mechanism procedures(3).

General characteristics of new equipment (transformers, substations and distributive stations, appliances and power account systems, electricity transmission lines, automatic equipment, etc), installed in the networks 110-35-10-6-0,38kV of PJSC «Khmelnytskoblenergo» from 2002 till 2011 as well as the equipment which is to be installed till 2025 are shown in the Annex 4, including the characteristics of equipment which was bought for improvement of networks exploitation and power supply processes (thermal imagers, measuring equipment, vehicles, etc).

Purchase of equipment and supplies as well as carrying out of project assembly and commissioning operations are accomplished by contract organizations by tender in the order, established in Ukraine. Besides the equipment and work cost, the main criteria of equipment selection is its quality and reliability, as well as professionatism and responsiveness to ISO-9000 of executors. The equipment suppliers are national and foreign producers which have proved themselves in the power.

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During the period of the TPC reduction program in the networks of PJSC «Khmelnytskoblenergo» implementation, according to the power audit resolutions recommendations such institutions as Department of energy audit and registration, High-voltage networks department, Distributive netwoks department, Information technologies and development of management system board, Quality management department were created, the post of power sales technical security associate director was introduced, the stuff was trained, the power accounting automatization subunits were fomed. Monthly technical and selling subunits power audit was implemented. The stuff of Power audit and accounting department carries out power specialty training and obligatory advanced training according to the program "Power audit " on the basis of NTU of Ukraine "KPI". Leading specialists of the Company have an opportunity to raise their educational level and to obtain second higher education in the higher education institutions of Ukraine.

Works on technological power losses reduction are held in the framework of investment Programs of the Company, Plans of current and capital repairs, Plans of power networks maintenance that are annually approved by "Minpalyvenergo" of Ukraine and NPRC of Ukraine.

CARS (CAR01-CAR06), CLs (CL01-CL02) and their resolutions/conclusions applicable to project description are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

#### 4 DETERMINATION CONCLUSIONS

In the following sections, the conclusions of the determination are stated.

The findings from the desk review of the original project design documents and the findings from interviews during the follow up visit are described in the Determination Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Determination Protocol in Appendix A. The determination of the Project resulted in 16 Corrective Action Requests and 10 Clarification Requests.

#### 4.1 Project approvals by Parties involved (19-20)

After receiving Determination Report from the Accredited Independent Entity the project documentation will be submitted to the State Environmental Investment Agency of Ukraine for receiving a Letter of Approval.

Ministry of the Environment of Poland provided Letter of Approval #17/19916/11/MK dated 04/05/2011.

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CAR07, CL03 and their resolutions/conclusions applicable to project approvals by Parties involved are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

The project has no approvals by the Parties involved, therefore CAR07 remains pending. This CAR will be closed after the Host Party and Sponsor Party Letters of Approval presentation..

## 4.2 Authorization of project participants by Parties involved (21)

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

CAR07, CL03 and their resolutions/conclusions applicable to authorization of project participants by Parties involved are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

The project has no approvals by the Parties involved, therefore CAR07 remains pending. This CAR will be closed the Host Party and Sponsor Party Letters of Approval presentation.

#### 4.3 Baseline setting (22-26)

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

The baseline scenario has been established in accordance with Appendix B of the JI Guidelines and in accordance with the 'Guidance on Criteria for Baseline Setting and Monitoring' (Version 2) adopted at 18<sup>th</sup> Meeting of the JISC and used Methodological Tool "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0).

The 'Guidance on Criteria for Baseline Setting and Monitoring' established by the JISC states: "The baseline for a JI project is the scenario that reasonably represents the anthropogenic emissions by sources or anthropogenic removals by sinks of GHG that would occur in the absence of the proposed project."

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

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



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  - a. continuation of the existing practice of power grid operation;
  - b. implementation of the above project without JI mechanism.
  - (b) Taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector. In this context, the following key factors that affect a baseline are taken into account:
    - Electricity and main fuel prices are fixed by the government and change independently from the enterprise needs.
    - The Power Grid is a very complicated system, which consists of the groups of power transformation, transmission and distributing equipment, management and monitoring systems and only if these groups work coherently the result will be positive. It means that all of the groups of measures implemented in the PJSC «Khmelnytskoblenergo» power grid should be coordinated with the other parts of the system. Besides, some new equipment will be implemented on the Units and there is no experience or historical data that could show the possibility of the effective work of such a system.
    - Ukraine has one of the lowest electricity tariffs in Europe. Therefore, it is really hard invest some cost for the reconstruction or the rehabilitation of the equipment.

In order to establish the baseline scenario project participants has chosen the use of JI specific approach and "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0). Default multi-project emission factors for Ukraine National Power Grid defined by National Environmental Investment Agency of Ukraine have been applied for calculation of greenhouse gases emissions.

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

CAR08, CL04 and and their resolutions/conclusions applicable to baseline setting are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

#### 4.4 Additionality (27-31)

Brriers analysis and common practice analysis were used to demonstrate additionality of the project activity. All explanations, descriptions and analyses are made in accordance with the selected tool or method.

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The following additionality proofs are provided:

- 1. there are two alternative scenarios to the project activity identified:
- 2. the identified financial barrier would credibly prevent the implementation of the proposed project activity undertaken without being registered as a JI activity;
- 3. the common practice analyses carried out bγ the PP's, complementing the investment and barrier analysis

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

CAR09 and its resolution/conclusion applicable to additionality are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

#### 4.5 Project boundary (32-33)

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

Reasonably attributable to the project:

• CO2 emissions related to electric energy production for electrical grid

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

The AIE determinated the project boundary by:

- a) Detailed review of relevant documentation (list of all determinated documents provided in "Category 2 Document" below).
- observations Interviews and during site visit «Khmelnytskoblenergo» dated 10/01/2011 (list of interviewd persons provided in "Persons interviewed" below).

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

CAR10, CLs (CL05, CL06) and their resolutions/conclusions applicable to project boundary are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

#### 4.6 Crediting period (34)

The PDD states the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began, and the starting date is 03/07/2002, which is after the beginning of 2000.

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The PDD states the expected operational lifetime of the project in years and months, which is 25 years (300 months).

The PDD states the length of the crediting period in years and months, which is 22 years or 264 months, and its starting date as 01/01/2004, which is the date the first emission reductions or enhancements of net removals are generated by the project.

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

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

CLs (CL07, CL08) and their resolutions/conclusions applicable to crediting period are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

#### **4.7 Monitoring plan (35-39)**

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

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

The monitoring plan specifies the indicators, constants and variables that are reliable (i.e. provide consistent and accurate values), valid (i.e. be clearly connected with the effect to be measured), and that provide a transparent picture of the emission reductions or enhancements of net removals to be monitored such as:

- 1. Actual receiving of electricity to the grid
- 2. Total reduction of technical power losses
- CO2 emission factor for Ukranian Grid

The monitoring plan draws on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring" developed by the JISC, such as PE<sub>v</sub>; BE<sub>v</sub>; CEF<sub>v</sub>.

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The monitoring plan explicitly and clearly distinguishes:

- (i) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination, such as: N/A.
- (ii) Data and parameters that are monitored throughout the crediting period, such as:  $PE_v$ ;  $BE_v$ ;  $CEF_v$ ,  $V_v$ .

The monitoring plan describes the methods employed for data monitoring (including its frequency) and recording depending on its kind. It is provided in comprehensive manner in Tables for the key-parameters in Section B.1. of the PDD.

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

#### **Project emissions**

The mission reduction will be achieved by reducing power losses in the company's power grids which in its turn will be achieved as a result of the project implementation.

Since the baseline emissions are calculated based on difference between of power loss before and after the project implementation, consequently the project emission will equal zero.

$$PE_{v} = 0$$

#### **Baseline emissions**

Baseline emissions are defined by the following equation:

$$BE_{y} = V_{y} \cdot CEF_{y}, \tag{1}$$

where

 $BE_{\nu}$  = baseline emissions (tCO2e);

 $V_y$  = total technical loss reduction in the power distribution system during the period y of the project scenario compared with the baseline, MWh:

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 $CEF_y = CO_2$  emission factor in UPS of Ukraine for the power replacement projects in the year y,  $tCO_2e/MWh$ ;

y = the year for which estimates are made.

#### **Emission reduction**

Emissions reductions are defined by the following equation:

$$ER_{v} = BE_{v} - (PE_{v} + LE_{v}), \tag{2}$$

Where:

 $ER_v$  = emission reduction during the year y, t CO2e;

 $BE_y$  = baseline emission of the greenhouse gases in the year y, t

CO2e;

 $PE_y$  = greenhouse gases emission caused by the project activity in

the year y, t CO2e;

 $LE_y$  = escape emission in the year y, t CO2e.

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

Data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project.

The monitoring plan clearly identifies the responsibilities and the authority regarding the monitoring activities. The roles and responsibilities of the persons involved to monitoring process are described in full in section D.3 of PDD and vividely demonstrated on the Scheme of data collection for Monitoring Report.

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

The monitoring plan provides, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources (e.g. official statistics, IPCC, commercial and scientific literature etc.) but not including data that are calculated with equations.

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



CARS (CAR11-CAR15), CLs (CL09, CL10) and their resolutions/conclusions applicable to monitoring plan are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

#### 4.8 Leakage (40-41)

The PDD appropriately describes an assessment of the potential Indirect external leakage of CO2, CH4, N2O generated by fuel production and its transportation and appropriately explains that they are neglected.

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

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

The PDD provides the ex ante estimates of:

(a) Emissions for the project scenario (within the project boundary), which are:

The mission reduction will be achieved by reducing power losses in the company's power grids which in its turn will be achieved as a result of the project implementation.

Since the baseline emissions are calculated based on difference between of power loss before and after the project implementation, consequently the project emission will equal zero.

$$PE_{y} = 0$$

- (b) No leakage is expected during the project activity;
- (c) Emissions for the baseline scenario (within the project boundary), which are:

	Greenhouse gases baseline emission
Year	(tonnes of CO2 equivalent)
2004	68429
2005	177229
2006	202596
2007	206635
Total 2004-2007:	654889



Average number of reduction	400700
2004-2007:	163722
2008	256864
2009	250141
2010	240446
2011	249107
2012	249107
Total 2008-2012:	1245665
Average number of reduction	
2008-2012:	249133
2013	249107
2014	249107
2015	249107
2016	249107
2017	249107
2018	249107
2019	249107
2020	249107
2021	249107
2022	249107
2023	249107
2024	249107
2025	249107
Total 2013-2025:	3238391
Average number of reduction	
2013-2025:	249107
Total 2004-2025:	5138944
Average number of reduction	
2004-2025:	233588

(d) Emission reductions adjusted by leakage (based on (a)-(c) above), which are:

	Estimated emission redactions
Year	(tonnes of CO2 equivalent)
2004	68429
2005	177229
2006	202596
2007	206635
Total 2004-2007:	654889
Average number of reduction	
2004-2007:	163722
2008	256864

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2009	250141
2010	240446
2011	249107
2012	249107
Total 2008-2012:	1245665
Average number of reduction	
2008-2012:	249133
2013	249107
2014	249107
2015	249107
2016	249107
2017	249107
2018	249107
2019	249107
2020	249107
2021	249107
2022	249107
2023	249107
2024	249107
2025	249107
Total 2013-2025:	3238391
Average number of reduction	
2013-2025:	249107
Total 2004-2025:	5138944
Average number of reduction	
2004-2025:	233588

Emission reductions estimation after the first commitment period

The estimates referred to above are given:

- (a) On a periodic basis;
- (b) From 01/01/2004 to 31/12/2025, covering the whole crediting period;
- (c) On a source-by-source basis;
- (d) For CO2
- (e) In tonnes of CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol;

The formula used for calculating the estimates referred above, which is

$$ER_{y} = BE_{y} - (PE_{y} + LE_{y}),$$

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де

 $ER_v$  = emission reduction for year y, t CO<sub>2</sub>e;

 $BE_y$  = baseline emissions for year y, t CO<sub>2</sub>e;

 $PE_v$  = project emissions for year y, t CO<sub>2</sub>e;

 $LE_v$  = leakages for year y, t  $CO_2e$ 

is consistent throughout the PDD.

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

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

The estimates referred to above are consistent throughout the PDD.

No issues applicable to estimation of emission reductions or enhancements of net removals were found.

#### 4.10 Environmental impacts (48)

The analysis of the environmental impacts of the project is done by the specialized companies. They also issued documents in which there is the estimation of emissions into the atmosphere by permanent sources industrial areas (mechanical, welding, woodworking enterprises etc). According to the expert's report this enterprise belongs to the 3rd group, as its emissions do not exceed immission limit. Due to the low level of emissions, the enterprise meets the pollution standard and its risk level is considered as harmless to the environment.

Aiming at increasing efficiency of the operating plans of harmful environmental impacts restriction, every year all the energy objects of the enterprise are subjected to complex verification, held by the State Ecological Inspection in Khmelnytskyi Region, as to check whether they abide the environmental legislation, to estimate the technical condition of the power plants and the general condition of the environmental protection, to check whether they take appropriate measures to minimize emissions, water discharge and wastes

Ecological audit of the enterprise is submitted to: The State Department of water economy in Khmelnytskyi Region – quarterly and yearly report on water usage; The State Statistics Department - the report on the

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environmental protection expenses and the ecological payments for the year (№1-Ecological expenses), report on wastes management for the year (№1-Wastes).

In accordance with the laws of Ukraine "On fire safety" and "On environmental protection", aiming at organization and control of meeting the requirements of the regulatory documents on fire and ecological security, taking organizational and other kinds of measures for preventing fires, reduction of the harmful impact of the production factor on the environment, life and health of the workers; coordination and improvement of the work, connected with fire and ecological safeguarding in the company units, in 2006 Environmental protection and fire safety service was created, which consists of: a service chief, an engineer and a technician. The main tasks and functions of the Service are:

- to conduct the internal fire and ecological safety audit in the administration of the Company and in the military and industrial complex to check their conformity with the regulatory acts;
- coordination of the fire-preventive work, organization of the complex measures elaboration to improve fire and ecological security, control of their performance;
- methodological management and control in the sphere of fire and ecological;
- registration of fires and accidents having impact on ecology, analysis of causes and their prevention;
- elaboration of the effective system of the environmental protection management;
- introduction of the achievements in science and technics, progressive and environmentally sound technologies into the manufacture;
- to hold meetings, seminars, conferences on ecological security;
- organization of briefings on fire and ecological security for the employees who are accepted on a permanent or temporary job;
- providing with the national, sectoral and intersectoral regulatory acts on fire and ecological security;
- organization of the complex measures elaboration to improve fire and ecological security, control of their performance;
- to prepare the draft orders, decrees, information materials on fire and ecological security and to bring the to the knowledge of the subunits;
- propagation of fire and ecological security;
- control the abidance by the legislative and other kinds of regulatory acts on fire and ecological security, fulfilment of orders, directions and

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the requirements of the instructions and ordinances of the State and internal monitoring;

- organization of the official investigation of fires and accidents;
- make reportings according to the set forms;
- ensuring the appropriate issuance and keeping of documentation according to the standard practice;
- consideration of the letters, applications, complaints from the employees and other organizations as to the keeping the laws on environmental protection and fire security.

According to the standard mass threshold for identification of hazardous substances of high-risk determined by the Resolution of CMU №956 of 11<sup>th</sup> of July, 2002, the specialized organization has defined the categories of equipment having characteristics that refer them to the hazardous substances (Form SHR-1). These are toxic substances of the 3<sup>rd</sup> group (harmful for people and the environment), namely: nickel compounds (fine-dispersed powder), quicksilver and its compounds, lead and its compounds, sulfuric acid, which can be found in fluorescent lamps and storage batteries; and of the 1<sup>st</sup> group (explosive substances), namely: combustible gasses and highly inflammable substances, that can be found in machinery and pipilenes of the 2 warehousesof fuels and lubricants and gas boiler houses.

Other equipment which has the characteristics of hazardous substances of high-risk is not found.

There are specially equipped places on the enterprise for storage of such equipment, which are inspected and adjusted by the appropriate resolutions of the sanitary-and-epidemiological control and environmental protection bodies. Resolution of the State sanitary-and-epidemiological examination - №187 of 29<sup>th</sup> of June, 2010.

Measures preventing harmful environmental impact of carbon oxide and nitric oxide escaping from boiler houses:

- exploitation of boilers according to the regime map;
- prohibition to regulate units and blocks of the equipment on one's own;
- timely carrying out of the technical inspection according to the recommendations of the equipment manufacturer;



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- periodical quality control of the combustion materials to detect the exceeding limits of emissions:
- control and registration of gross emissions.

Measures preventing harmful environmental impact of fumes of highly inflammable substances from fuels and lubricants namely:

- timely carrying out of the technical inspection according to the recommendations of the equipment manufacturer;
- intensification of the control over the technological regime of the equipment, evolving emissions;
- reducing the burden of the equipment.

According to the registration card№ 391 of 07.04.2010 the enterprise is one of the waste generation objects (WGO) and according to the permission it temporarily holds the wastes within the set limits (before their utilization or removal) by the specialized enterprizes. The enterprise does not utilize any wastes apart from processed engine oils, which are used in tractors hydraulic systems and hoisting apparatus.

The main part of scrap metal is formed by exploitation of transformer substation, a part of which after refitment and regeneration of transformer oil is put into operation again and other part which is beyond repair and its regenerated oil is unfit, is discharged and submitted for utilization to the specialized enterprises according to concluded agreements.

During 7 years starting from 2004 out of 2805 transformer substations (TS) submitted to refitment: 1501 TS are repaired and put into operation again; 1301 TS (638190 kg) are discharged and submitted for utilization; 4200 kg of unfit oil is discharged and submitted for utilization.

The project will not result in significant environmental impacts in addition to reducing greenhouse gas emissions.

Transboundary Environmental Impact project activities are anticipated.

CAR16 and its resolution/conclusion applicable to environmental impacts are listed in the APPENDIX A: DETERMINATION PROTOCOL (Table 2) below.

#### 4.11 Stakeholder consultation (49)

No stakeholders' comments were received.

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## **4.12 Determination regarding small scale projects (50-57)**Not applicable

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

Not applicable

## **4.14 Determination regarding programmes of activities (65-73)**Not applicable

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

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

#### 6 DETERMINATION OPINION

Bureau Veritas Certification has performed a determination of the "Khmelnytskoblenergo PJSC power distribution system modernization" project of PJSC "Khmelnytskoblenergo" located in Khmelnytskyi city, Ukraine. The determination was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

Project participant/s used the latest "Combined tool to identify the baseline scenario and demonstrate additionality". In line with this tool, the PDD provides barrier analysis, investment analysis and common practice analysis, to determine that the project activity itself is not the baseline scenario.

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

The determination revealed two pending issues related to the current determination stage of the project: the issue of the written approval of the project and the authorization of the project participant by the host Party.

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If the written approval and the authorization by the host Party are awarded, it is our opinion that the project as described in the Project Design Document, Version 2.0 meets all the relevant UNFCCC requirements for the determination stage and the relevant host Party criteria.

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

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

#### 7 REFERENCES

#### **Category 1 Documents:**

Documents provided by PJSC "Khmelnytskoblenergo" that relate directly to the GHG components of the project.

- /1/ PDD "Khmelnytskoblenergo PJSC power distribution system modernization" version 1.0 dated 25/10/2010
- /2/ PDD «Khmelnytskoblenergo PJSC power distribution system modernization version 2.0 dated 29/08/2011
- /3/ XM-15TBE-2002-2010-26-08-2011-ok.xls excel file
- /4/ Letter of Approval #17/19916/11/MK dated 04/05/2011 issued by Ministry of the Environment of Poland

#### **Category 2 Documents:**

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

- /1/ Decree of Cabinet of Ministers of Ukraine #206, dated 22/02/2006
- /2/ Joint Implementation Project Design Document Form, version 01
- /3/ Guidelines for Users of the Joint Implementation Project Design Document Form/Version 04, JISC.
- /4/ JISC Guidance on criteria for baseline setting and monitoring. Version 02.
- /5/ "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0)
- /6/ Glossary of Joint Implementation Terms, Version 03.
- /7/ Decree #43 on approval of indexes of specific carbon dioxide emissions in the year 2010 issued by NEIA dated 28.03.2011.
- /8/ Decree #62 on approval of indexes of specific carbon dioxide emissions in the year 2008 issued by NEIA dated 15.04.2011.



- /9/ Decree #63 on approval of indexes of specific carbon dioxide emissions in the year 2009 issued by NEIA dated 15.04.2011.
- /10/ Decree #75 on approval of indexes of specific carbon dioxide emissions in the year 2011 issued by NEIA dated 12.05.2011.
- /11/ The methodology of technical power losses amount determination, in 150-0,38 kV tension power grids power supply company for the indirect carbon dioxide emissions estimation
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- /22/ Balance of electrical and thermal energy and calculation of technical and economical indications for october 2010.
- /23/ Group of modes ODS
- /24/ Department of high-voltage power networks
- /25/ State classification of goods and services ДК 016-97
- /26/ State Committee of Ukraine for Energy Saving. Letter to deputy minister of fuel and energy of Ukraine
- /27/ Diplomas and awards of PJSC "Khmelnytskoblenergo"
- /28/ Dispatching room ODS
- /29/ Contract # 1201 on electric energy supply to legal and physical persons - subjects of business activity of 29.12.2008
- /30/ Contract # 1212 on electrical energy supply to legal and physical persons - subjects of business activity
- /31/ Annex # 2 to Contract № 1212 of 13.07.2007, List of places of installation of calculation accounting units
- /32/ Annex # 5 to Contract № 1212 of 13.07.2007. Statement of delimiting of balance independence of electric networks and parties' operational responsibility
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- /37/ Annex # 3 to the order # 2 of 04.01.11. Conclusion on reached level of qualification
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- /41/ Log-book of generation of electrical energy at TPP and HPP
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- /43/ Log-book of accounting of mono-phase electricity meters calibration ЦРПО
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- /45/ Log-book of daily accounting of electrical energy at substations "Khmelnytskoblenergo" and adjacent EC. Started 01.05.2010
- /46/ The task of the analysis
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- /49/ Journal of certificate registration
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- /54/ Switching room
- /55/ Control panel of system protection and substation automatics
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- /132 Standard educational plans and programs for vocational education of workers.
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- /134, Form # 46. Net power output of electric power calculations for it with cumulative
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- company "Khmelnytskoblenergo" for April 2010
- /207/ Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" for March 2010
- /208/ Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" for February 2010
- /209/ Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" for January 2010
- /210/ Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" for December 2010
- /211, Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" for November 2010
- /212/ Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" for October 2010
- /213/ Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" for September 2010
- /214 Energy supply, distribution and technological consumption at PJSC energy supply company "Khmelnytskoblenergo" for 2010, monthly data
- /215, Energy supply, distribution and technological consumption at PJSC energy supply company "Khmelnytskoblenergo" for the period 2001 -2010
- /216/ Report on serviceable energy distribution calculation (actual data for 12 months 2001)
- /217/ Report on serviceable energy distribution calculation (actual data for 12 months 2002)
- /218/ Report on serviceable energy distribution calculation (actual data for 12 months 2003)
- /219/ Report on serviceable energy distribution calculation (actual data for 12 months 2004)
- /220, Report on serviceable energy distribution calculation (actual data for 12 months 2005)
- /221, Power and heat energy balance with technical and economical parameters calculation (model 8111) for 12 months 2006
- /222/ Power and heat energy balance with technical and economical parameters calculation (model 8111) for 2007
- /223/ Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" 2008
- /224 Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply

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- company "Khmelnytskoblenergo" for 12 months 2009
- /225/ Power and heat energy balance with technical and economical parameters calculation (model 8111) at PJSC energy supply company "Khmelnytskoblenergo" for 12 months 2010
- /226, Official instructions and regulations #01-07-ΠI-02-2006 dated 27/12/2006 of environmental protection and fire safety service chief Victor Palamarchuk
- /227, Official instructions and regulations #06-02-ΠI-01-2009 dated 30/04/2009 of environmental protection and fire safety service environmental protection engineer Anton Tomusiak
- /228, Official instructions and regulations #06-02-ΠΙ-01-2009 dated 08/11/2010 of environmental protection and fire safety service technician Liudmyla Prokopchuk
- /229, Order #126 dated 07/12/2007 on environment control system implementation
- /230 Objectives of environmental protection and fire safety executive director for 2011
- /231, Enterprise Different Levels Correlation Contact and Coordination Ensuring, Methodology M-8-4.4.3.-2006 dated 27/12/2006
- /232/ Regulations dated 27/12/2006 on environmental protection and fire safety service at PJSC energy supply company "Khmelnytskoblenergo"
- /233/ Ecological Aspects Determination and Assessment. Methodology M-01-4.3.1-2006 dated 27/12/2006
- /234/ Preparedness and Respond to Emergency Situations. Methodology M-10-4.4.7-2006 dated 27/12/2006
- /235, Public Informing and Complaints Consideration. Methodology M-8.1-4.4.3-2006 dated 27/12/2006
- /236, Permit #6810100000-450 on air pollutant emissions by stationary sources, issued to PJSC energy supply company "Khmelnytskoblenergo" by Ministry of Environmental Protection of Ukraine
- /237, Permit #6810100000-451 on air pollutant emissions by stationary sources, issued to PJSC energy supply company "Khmelnytskoblenergo" by Ministry of Environmental Protection of Ukraine
- /238/ Regime card of wastes formation, handling and utilization, registration #391, dated 07/04/2010
- /239/ Technical passport on wastes. Fluorescent lamps and wastes that contain mercury, 7710.3.1.26
- /240/ Technical passport on wastes. Engine, transmission and other corrupt or consumed oils. 6000.2.8.10
- /241, Technical passport on wastes. Wasted and consumed batteries and accumulators. 6000.2.9.08
- /242/ Technical passport on wastes. Wasted, consumed, faulty and dirty tyres. 6000.2.9.03
- /243, Passport on wastes storage location. Fluorescent lamps and



- wastes that contain mercury.
- /244/ Passport on wastes storage location. Engine, transmission and other corrupt or consumed oils.
- /245, Passport on wastes storage location. Wasted and consumed batteries and accumulators.
- /246/ Passport on wastes storage location. Wasted, consumed, faulty and dirty tyres.
- /247, Passport on wastes. Consumed fluorescent lamps.
- /248/ Passport on wastes. Consumed oils and engine oils.
- /249/ Passport on wastes. Consumed lead batteries.
- /250/ Passport on wastes. Consumed tyres.
- /251, Information on wastes handling operations for 2010
- /252, Supply contract #10/10-35 dated 12/10/2010
- /253, Contract #13/02-09 dated 20/02/2009 on proving the hazardous wastes handling services
- /254/ Agreement #10/05-18 dated 12/05/2010
- /255/ Letter #06/02-117 dated 12/01/2010 concerning the Report on water consumption for 4<sup>th</sup> quarter 2009
- /256/ Report dated 11/01/2010 on water consumption for 4<sup>th</sup> quarter 2009
- /257/ Expenses report on environment protection and ecological fees for 2009
- /258, Expenses report on environment protection and ecological fees for 2008
- /259/ Report dated 19/01/2009 on formation, handling and utilization of I-III hazard levels wastes for 2008
- /260/ Report dated 06/01/2011 on water consumption for 4<sup>th</sup> quarter 2010
- /261, Letter #07/02-155 dated 15/01/2010 concerning the Report on formation, handling and utilization of I-III hazard levels wastes for 2009
- /262, Report dated 18/01/2010 on formation, handling and utilization of I-III hazard levels wastes for 2009
- /263, Note on the amount of toxic wastes and deposits for 2009 according to SMiT
- /264/ Note on fluorescent lamps handing over for further utilization, issued by Kyiv Regional Centre of Hazardous Wastes Handling
- /265, Note on accumulation batteries handing over for further utilization, issued by Kyiv Regional Centre of Hazardous Wastes Handling
- /266/ Statement #HO-0000042 on work handing-acceptance (service providing)
- /267, Statement #HO-0000035 on work handing-acceptance (service providing)
- /268/ Statement #HO-0000020 on work handing-acceptance (service providing)
- /269, Statement #HO-0000013 on work handing-acceptance (service providing)



- /270/ Statement on work acceptance-transmitting
- /271, Statement #HO-0000004 on work handing-acceptance (service providing)
- /272/ Statement #HO-0000003 on work handing-acceptance (service providing)
- /273, Information on transformers' acceptance to repair at Medzhybizh Central Repair Shop
- /274/ Agreement #03-18/10 dated 30/02/2010
- /275, Invoice-request #126 dated 19/04/2010
- /276/ Invoice-request #298 dated 21/08/2010
- /277, Invoice-request #294 dated 20/08/2010
- /278/ Invoice-request #172 dated 14/05/2010
- /279/ Invoice-request #160 dated 07/05/2010
- /280/ Invoice-request #174 dated 17/05/2010
- /281/ Invoice-request #326 dated 13/09/2010
- /282/ Invoice-request #453 dated 07/12/2010
- /283/ Information on production programme, production capacity, production output and provided services amount by industry and technological equipment
- /284/ Information on sanitary and preservative zone
- /285, Information on consumed raw and other materials
- /286/ Information on enterprise location and environment conditions
- /287, Information on air pollution condition
- /288/ Information on the type of pollutant emissions amounts
- /289, Air pollutant emissions influence assesment
- /290, Analysis of pollutant emissions conformity
- /291, Suggestions on permitted emissions
- /292/ Suggestions on alterations to the permit on air pollutant emissions
- /293/ Information on receiving the permit for public acknowledgement

DETERMINATION REPORT



#### Persons interviewed:

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

- /1/ Slobodyan A.M. representative of PJSC "Khmelnytskoblenergo"
- /2/ Stepaniuk A.G. representative of PJSC "Khmelnytskoblenergo"
- /3/ Luciw P.D. representative of PJSC "Khmelnytskoblenergo"
- /4/ Danylkiv V.D. representative of PJSC "Khmelnytskoblenergo"
- /5/ Matviyuk V.M. representative of PJSC "Khmelnytskoblenergo"
- /6/ Trach E.B. representative of PJSC "Khmelnytskoblenergo"
- /7/ Klid M.M. representative of PJSC "Khmelnytskoblenergo"
- /8/ Mukha O.O. representative of PJSC "Khmelnytskoblenergo"
- /9/ Terlecki V.P. representative of PJSC "Khmelnytskoblenergo"
- /10/ Prykolotin V.L. representative of PJSC "Khmelnytskoblenergo"
- /11/ Nazarov V.V. representative of PJSC "Khmelnytskoblenergo"
- /12/ Prots R. representative of Ltd «EES»

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#### **DETERMINATION REPORT**

#### **APPENDIX A: DETERMINATION PROTOCOL**

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	scription of the project			
Title of the	project			
-	Is the title of the project presented?	Khmelnytskoblenergo PJSC power distribution system modernization	OK	OK
-	Is the sectoral scope to which the project pertains presented?	Sectoral Scope: (2) Energy Distribution	OK	OK
-	Is the current version number of the document presented?	PDD version number: 2.0	OK	OK
-	Is the date when the document was completed presented?	Data of Completion: 29/08/2011	OK	OK
Description	of the project			
-	Is the purpose of the project included with a concise, summarizing explanation (max. 1-2 pages) of the:  a) Situation existing prior to the starting date of the project; b) Baseline scenario; and c) Project scenario (expected outcome, including a technical description)?	Corrective Action Request (CAR) 01:  Please use in the PDD font size provided «JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM» - version 01.	CAR01	OK
-	Is the history of the project (incl. its JI component) briefly summarized?	Corrective Action Request (CAR) 02: Please provide brief description of the project history.	CAR02	OK
Project part	icipants			
-	Are project participants and Party(ies) involved in the project listed?	Project participants and parties listed in the table in section A.3 of PDD.  Parties Project: Ukraine (host country), Poland.		



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Corrective Action Request (CAR) 03:  Please provide brief information about the company "Imex Energo", sp. z o. o. in section A.3, and relevant information about this company in Annex 1.	CAR03	ОК
-	Is the data of the project participants presented in tabular format?	Corrective Action Request (CAR) 04: Table A.3 in the PDD must be submitted in a format that provided in the version 04 of the "Guidelines for users of the JI PDD form".	CAR04	ОК
-	Is contact information provided in Annex 1 of the PDD?	Contact information on project participants listed in Annex 1 to PDD.	OK	OK
-	Is it indicated, if it is the case, if the Party involved is a host Party?	Yes, it is indicated, if it is the case, if the Party involved is a host Party	OK	OK
	escription of the project			
Location of	the project			
-	Host Party(ies)	Ukraine	OK	OK
1	Region/State/Province etc.	The project is located in the Khmelnytsky and Khmelnitsky region of Ukraine	OK	OK
ı	City/Town/Community etc.	Khmelnytskyi city	OK	OK
-	Detail of the physical location, including information allowing the unique identification of the project. (This section should not exceed one page)	The project is implemented by objects PJSC "Khmelnytskoblenergo" located in Khmelnytsky and Khmelnytsky region, located in western Ukraine. Area size is 20.6 thousand km <sup>2</sup> (3,4% area of Ukraine). Population - 1 401.14 thousand people (as of 1 January 2004). Also see. Section A.4.1.4 PDD.		
		Corrective Action Request (CAR) 05: Section A.4.1.4 more than 1 page.	CAR05	OK
Technologic	es to be employed, or measures, operations or			
-	Are the technology(ies) to be employed, or measures, operations or actions to be implemented by the project, including all	The project include implementing program of technology power consumption reduction in PJSC "Khmelnytskoblenergo" power networks which includes a		



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	relevant technical data and the implementation schedule described?	number of technical and organizational measures listed in section A.4.2 PDD.		
		Corrective Action Request (CAR) 06: Implementation schedule is not described.	CAR06	ОК
		greenhouse gases by sources are to be reduced by the pr		
circumstand		ence of the proposed project, taking into account national	and/or sectora	i policies and
-	Is it stated how anthropogenic GHG emission reductions are to be achieved? (This section should not exceed one page)	Reduction of technological losses of electricity in the power network of the company has reduced CO2 emissions that resulted due to the generation of lost electricity.	OK	OK
-	Is it provided the estimation of emission reductions over the crediting period?	Clarification Request (CL) 01: Please include in this section refer to the corresponding «Excel» file with the calculations.	CL01	OK
		Clarification Request (CL) 02: Please number the tables with information of the estimates (calculations) of emission reductions.	CL02	ОК
-	Is it provided the estimated annual reduction for the chosen credit period in tCO2e?	Yes, the estimated annual reduction for the chosen credit period in tCO2e is provided.	OK	OK
-	Are the data from questions above presented in tabular format?	Yes.	OK	OK
Estimated a	mount of emission reductions over the crediting			
-	Is the length of the crediting period Indicated?	Yes, leight of crediting period is 22 years (264 months).	OK	OK
-	Are estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided?	Yes, estimates of total as well as annual and average annual emission reductions in tonnes of CO2 equivalent provided in section A.4.3.1 of PDD.	OK	OK
Project app	rovals by Parties			
19	Have the DFPs of all Parties listed as "Parties involved" in the PDD provided written project approvals?	Clarification Request (CL) 03: Section A.5 PDD must specify the name DFPs (parties involved) that will approve the project.	CL03	OK
19	Does the PDD identify at least the host Party	Yes, Ukraine is the Host Party.	OK	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
·	as a "Party involved"?			
19	Has the DFP of the host Party issued a written project approval?	Corrective Action Request (CAR) 07:  No Letters of Aapproval of the project issued by the parties involved.	CAR07	Pending
20	Are all the written project approvals by Parties involved unconditional?	See CAR07 above.	OK	OK
Authorization	on of project participants by Parties involved			
21	Is each of the legal entities listed as project participants in the PDD authorized by a Party involved, which is also listed in the PDD, through:  - A written project approval by a Party involved, explicitly indicating the name of the legal entity? or  - Any other form of project participant authorization in writing, explicitly indicating the name of the legal entity?	See CAR07 above.	ОК	OK
Baseline se				
22	Does the PDD explicitly indicate which of the following approaches is used for identifying the baseline?  – JI specific approach  – Approved CDM methodology approach	PDD describes the approach used to identify the baseline scenario, additionality and monitoring plan of the project. To determine the above mentioned methodological tools were used "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 02.2).  Clarification Request (CL) 04: Please specify which approach was used to identify the baseline scenario and additionality:  JI specific approach Approved CDM methodology approach.	CL04	ОК
		Corrective Action Request (CAR) 08: Please provide date of baseline setting according required	CAR08	ОК



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		format DD/MM/YYYY.		
JI specific a	approach only			
23	Does the PDD provide a detailed theoretical description in a complete and transparent manner?	Yes, the PDD provide a detailed theoretical description in a complete and transparent manner.	OK	OK
23	Does the PDD provide justification that the baseline is established:  (a) By listing and describing plausible future scenarios on the basis of conservative assumptions and selecting the most plausible one?  (b) Taking into account relevant national and/or sectoral policies and circumstance?  — Are key factors that affect a baseline taken into account?  (c) In a transparent manner with regard to the choice of approaches, assumptions, methodologies, parameters, date sources and key factors?  (d) Taking into account of uncertainties and using conservative assumptions?  (e) In such a way that ERUs cannot be earned for decreases in activity levels outside the project or due to force majeure?  (f) By drawing on the list of standard variables contained in appendix B to "Guidance on criteria for baseline setting and monitoring", as appropriate?	In the PDD in a reasonable way showed that the baseline was determined by compiling a listing and description of real scenarios of future scenarios based on conservative assumptions and subsequent selection the most attractive of these scenarios.	OK	OK
24	If selected elements or combinations of approved CDM methodologies or methodological tools for baseline setting are used, are the selected elements or combinations together with the elements	To determine the baseline scenario and demonstrate additionality used "Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0).	OK	ОК



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	supplementary developed by the project participants in line with 23 above?			
25	If a multi-project emission factor is used, does the PDD provide appropriate justification?	For baseline emissions calculations were used CO2 emission factor for the projects of reducing electricity consumption for it transmission by Ukrainian electricity networks. All factors are justified.	OK	ОК
Approved C	DM methodology approach only			
26 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
26 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	OK	OK
26 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	OK	OK
26 (c)	Are all explanations, descriptions and analyses pertaining to the baseline in the PDD made in accordance with the referenced approved CDM methodology?	N/A	OK	OK
26 (d)	Is the baseline identified appropriately as a result?	N/A	OK	OK
Additionalit				
JI specific a	approach only			
28	Does the PDD indicate which of the following approaches for demonstrating additionality is used?  (a) Provision of traceable and transparent information showing the baseline was identified	Section B.1 of the PDD the analysis of project additionality, which aims to demonstrate that the project scenario is not part of the specified baseline, and that the project will achieve GHG emissions reductions against to baseline. The analysis was performed based on the latest version of	OK	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	on the basis of conservative assumptions, that the project scenario is not part of the identified baseline scenario and that the project will lead to emission reductions or enhancements of removals;  (b) Provision of traceable and transparent information that an AIE has already positively determined that a comparable project (to be) implemented under comparable circumstances has additionality;  (c) Application of the most recent version of the "Tool for the demonstration and assessment of additionality. (allowing for a two-month grace period) or any other method for proving additionality approved by the CDM Executive Board".	"Combined tool to identify the baseline scenario and demonstrate additionality" (Version 03.0.0), which was approved by the CDM Executive Board and fully applied to JI projects.		
29 (a)	Does the PDD provide a justification of the applicability of the approach with a clear and transparent description?	Barriers analysis and common practice which applied considered are good practice of additionality demonstration of the project activity.	OK	OK
29 (b)	Are additionality proofs provided?	Corrective Action Request (CAR) 09: In the PDD does not specify how the registration of this project as JI project will help overcome identified technological barriers.	CAR09	OK
29 (c)	Is the additionality demonstrated appropriately as a result?	See CAR09 above.	OK	OK
30	If the approach 28 (c) is chosen, are all explanations, descriptions and analyses made in accordance with the selected tool or method?	N/A	OK	OK
	DM methodology approach only			211
31 (a)	Does the PDD provide the title, reference number and version of the approved CDM	N/A	OK	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	methodology used?			
31 (b)	Does the PDD provide a description of why and how the referenced approved CDM methodology is applicable to the project?	N/A	OK	OK
31 (c)	Are all explanations, descriptions and analyses with regard to additionality made in accordance with the selected methodology?	N/A	OK	OK
31 (d)	Are additionality proofs provided?	N/A	OK	OK
31 (e)	Is the additionality demonstrated appropriately as a result?	N/A	OK	OK
Project bou	ndary (applicable except for JI LULUCF project	s)		
JI specific a	approach only			
32 (a)	Does the project boundary defined in the PDD encompass all anthropogenic emissions by sources of GHGs that are: (i) Under the control of the project participants? (ii) Reasonably attributable to the project? (iii) Significant?	Yes, the project boundary defined in line with all presented requirements.	OK	OK
32 (b)	Is the project boundary defined on the basis of a case-by-case assessment with regard to the criteria referred to in 32 (a) above?	Yes, the project boundary defined on the basis of a case-by- case assessment with regard to the criteria referred to in 32 (a) above.	OK	OK
32 (c)	Are the delineation of the project boundary and the gases and sources included appropriately described and justified in the PDD by using a figure or flow chart as appropriate?	Yes, project boundary represented the scheme form on Fig. 3a and 3b and in tabular form in Table 4.	OK	OK
32 (d)	Are all gases and sources included explicitly stated, and the exclusions of any sources related to the baseline or the project are appropriately justified?	Clarification Request (CL) 05: Please change the title of fourth column Table 4 (Section B.3 PDD). Title "Included?" recommend changing the "Included/Excluded"	CL05	OK
		Clarification Request (CL) 06:	CL06	ОК



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Precise figures numbering in the PDD.		
		Corrective Action Request (CAR) 10: During site visit to the company PJSC "Khmelnitskoblenergo" determination team found that some equipment implemented within project activities (eg circuit breakers) included insulating gas (SF6). Please include the insulating gas to the list of project emissions.	CAR10	OK
	DM methodology approach only			
33	Is the project boundary defined in accordance with the approved CDM methodology?	N/A	OK	OK
Crediting p	eriod			
34 (a)	Does the PDD state the starting date of the project as the date on which the implementation or construction or real action of the project will begin or began?	04/07/2002 - Decision of Board of EC "Khmelnitskoblenergo" on the development and implementation of programs to reduce TPC (Minutes № 10).	OK	OK
34 (a)	Is the starting date after the beginning of 2000?	Yes.	OK	OK
34 (b)	Does the PDD state the expected operational lifetime of the project in years and months?	25 years (300 months)	OK	OK
34 (c)	Does the PDD state the length of the crediting period in years and months?	22 years (264 months)	OK	OK
34 (c)	Is the starting date of the crediting period on or after the date of the first emission reductions or enhancements of net removals generated by the project?	Yes, starting date of the crediting period is after the date the first emission reductions are generated.	OK	OK
34 (d)	Does the PDD state that the crediting period for issuance of ERUs starts only after the beginning of 2008 and does not extend beyond the operational lifetime of the project?	Clarification Request (CL) 07: Please specify that the crediting period of ERUs generating started after the beginning of 2008 and continuing over the life cycle.	CL07	OK
34 (d)	If the crediting period extends beyond 2012, does the PDD state that the extension is subject to the host Party approval?	Clarification Request (CL) 08: Please specify that crediting period extension beyond 2012 requires approval by the Host country.	CL08	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	Are the estimates of emission reductions or enhancements of net removals presented separately for those until 2012 and those after 2012?			
Monitoring	plan			
35	Does the PDD explicitly indicate which of the following approaches is used?  – JI specific approach  – Approved CDM methodology approach	Clarification Request (CL) 09: It seems that the in PDD used JI specific approach for monitoring plan identification, but it is not explicitly indicated. Please clearly clarify in PDD what approach was used.	CL09	ОК
JI specific a	approach only			
36 (a)	Does the monitoring plan describe:  - All relevant factors and key characteristics that will be monitored?  - The period in which they will be monitored?  - All decisive factors for the control and reporting of project performance?	The approach of monitoring developed for this project corresponds to assumptions and practices used in the baseline approach. This approach to monitoring requires monitoring and measurement of variables and parameters necessary for quantitative determination of baseline and project emission levels in transparent manner.		
		Clarification Request (CL) 10: Please provide justification for choosing of the each used parameters.	CL10	OK
36 (b)	Does the monitoring plan specify the indicators, constants and variables used that are reliable, valid and provide transparent picture of the emission reductions or enhancements of net removals to be monitored?	See CL10 above.	OK	OK
36 (b)	If default values are used:  - Are accuracy and reasonableness carefully balanced in their selection?  - Do the default values originate from recognized sources?  - Are the default values supported by statistical analyses providing reasonable confidence	Corrective Action Request (CAR) 11: Used TPC rate include technical and commercial consumption and losses. Commercial losses have no impact on GHG emissions and must be excluded from calculations.	CAR11	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	levels?  – Are the default values presented in a transparent manner?			
36 (b) (i)	For those values that are to be provided by the project participants, does the monitoring plan clearly indicate how the values are to be selected and justified?	Yes. All procedures of selection and justification of necessary values are described.	ОК	ОК
36 (b) (ii)	For other values,  - Does the monitoring plan clearly indicate the precise references from which these values are taken?  - Is the conservativeness of the values provided justified?	Corrective Action Request (CAR) 12: Please specify who is responsible for providing actual value of CO2 emission factor for the projects of reducing electricity consumption for it transmission by Ukrainian electricity networks.	CAR12	ОК
36 (b) (iii)	For all data sources, does the monitoring plan specify the procedures to be followed if expected data are unavailable?	Corrective Action Request (CAR) 13: Please indicate in PDD that the data monitored and required for the project determination will be kept for two years after the last transfer of ERUs the project.	CAR13	ОК
36 (b) (iv)	Are International System Unit (SI units) used?	Yes.	OK	OK
36 (b) (v)	Does the monitoring plan note any parameters, coefficients, variables, etc. that are used to calculate baseline emissions or net removals but are obtained through monitoring?	Yes, Emission factors for the projects of reducing electricity consumption for it transmission by Ukrainian electricity networks used to calculate baseline emissions but are obtained through monitoring.	ОК	ОК
36 (b) (v)	Is the use of parameters, coefficients, variables, etc. consistent between the baseline and monitoring plan?	Yes, use of parameters, coefficients, variables, etc. is consistent between the baseline and monitoring plan.	OK	OK
36 (c)	Does the monitoring plan draw on the list of standard variables contained in appendix B of "Guidance on criteria for baseline setting and monitoring"?	Yes monitoring plan developed in line with "Guidance on criteria for baseline setting and monitoring".	OK	ОК
36 (d)	Does the monitoring plan explicitly and clearly distinguish: (i) Data and parameters that are not monitored	Yes, all relevant parameters are described (see section D.1 of PDD).	OK	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
raragraph	throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), and that are available already at the stage of determination? (ii) Data and parameters that are not monitored throughout the crediting period, but are determined only once (and thus remain fixed throughout the crediting period), but that are not already available at the stage of determination? (iii) Data and parameters that are monitored		Conclusion	Conclusion
	throughout the crediting period?			
36 (e)	Does the monitoring plan describe the methods employed for data monitoring (including its frequency) and recording?	The table in section D.1.1 PDD defined time (regularity) of monitoring and information sources with respect to all parameters and data to be monitored.	OK	OK
36 (f)	Does the monitoring plan elaborate all algorithms and formulae used for the estimation/calculation of baseline emissions/removals and project emissions/removals or direct monitoring of emission reductions from the project, leakage, as appropriate?	In the PDD described and explained all the algorithms and formulas used to calculating emissions for the baseline and project scenarios.	OK	OK
36 (f) (i)	Is the underlying rationale for the algorithms/formulae explained?	Yes, all necessary algorithms and formulae are clearly described.	OK	OK
36 (f) (ii)	Are consistent variables, equation formats, subscripts etc. used?	Yes, all variables, equation format, subscripts etc. used consistent.	OK	OK
36 (f) (iii)	Are all equations numbered?	Yes.	OK	OK
36 (f) (iv)	Are all variables, with units indicated defined?	Yes.	OK	OK
36 (f) (v)	Is the conservativeness of the algorithms/procedures justified?	See CAR11 above.	OK	OK
36 (f) (v)	To the extent possible, are methods to quantitatively account for uncertainty in key	· · · · · · · · · · · · · · · · · · ·	OK	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	parameters included?	Section D.2 PDD).  Taken into account that all used data and parameters are defined according to current and accepted standards and methods based on official data and results of measurements by calibrated measuring equipment with the relevant accuracy their level of uncertainty is defined as low.		
36 (f) (vi)	Is consistency between the elaboration of the baseline scenario and the procedure for calculating the emissions or net removals of the baseline ensured?	Yes.	OK	OK
36 (f) (vii)	Are any parts of the algorithms or formulae that are not self-evident explained?	No, all algorithms and formulas clearly explained	OK	OK
36 (f) (vii)	Is it justified that the procedure is consistent with standard technical procedures in the relevant sector?	Yes.	OK	OK
36 (f) (vii)	Are references provided as necessary?	All necessary references provided.	OK	OK
36 (f) (vii)	Are implicit and explicit key assumptions explained in a transparent manner?	Yes, all implicit and explicit assumptions explained in a transparent manner.	OK	OK
36 (f) (vii)	Is it clearly stated which assumptions and procedures have significant uncertainty associated with them, and how such uncertainty is to be addressed?	Used assumptions and procedures not have significant uncertainty.	OK	OK
36 (f) (vii)	Is the uncertainty of key parameters described and, where possible, is an uncertainty range at 95% confidence level for key parameters for the calculation of emission reductions or enhancements of net removals provided?	Uncertainty range was defined as low.	OK	ОК
36 (g)	Does the monitoring plan identify a national or international monitoring standard if such standard has to be and/or is applied to certain aspects of the project?	The monitoring plan identified a national and international monitoring standards applied to proposed project. All relevant references provided.	OK	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	Does the monitoring plan provide a reference as to where a detailed description of the standard can be found?			
36 (h)	Does the monitoring plan document statistical techniques, if used for monitoring, and that they are used in a conservative manner?	See CAR11 above.	OK	OK
36 (i)	Does the monitoring plan present the quality assurance and control procedures for the monitoring process, including, as appropriate, information on calibration and on how records on data and/or method validity and accuracy are kept and made available upon request?	The quality assurance and control procedures described in section D.2 of PDD.	OK	ОК
36 (j)	Does the monitoring plan clearly identify the responsibilities and the authority regarding the monitoring activities?	Yes, the responsibilities and the authority regarding the monitoring activities are clearly identified in section D.3 of PDD. See CAR12 above.	OK	OK
36 (k)	Does the monitoring plan, on the whole, reflect good monitoring practices appropriate to the project type?  If it is a JI LULUCF project, is the good practice guidance developed by IPCC applied?	Corrective Action Request (CAR) 14: Section D.1.5 of the PDD requires from project participants to submit information about collection and archiving data on the environment impact as well as references to relevant norms of the host country. Please provide relevant data.	CAR14	OK
36 (I)	Does the monitoring plan provide, in tabular form, a complete compilation of the data that need to be collected for its application, including data that are measured or sampled and data that are collected from other sources but not including data that are calculated with equations?		OK	OK
36 (m)	Does the monitoring plan indicate that the data monitored and required for verification are to be kept for two years after the last transfer of ERUs for the project?	See CAR13 above.	OK	OK
37	If selected elements or combinations of	No any selected elements or combinations of approved CDM	OK	OK



DVM	Check Item	Initial finding	Draft	Final
Paragraph			Conclusion	Conclusion
	approved CDM methodologies or methodological tools are used for establishing the monitoring plan, are the selected elements or combination, together with elements supplementary developed by the project participants in line with 36 above?	methodologies or methodological tools used in monitoring plan.		
	DM methodology approach only			
38 (a)	Does the PDD provide the title, reference number and version of the approved CDM methodology used?	N/A	OK	OK
38 (a)	Is the approved CDM methodology the most recent valid version when the PDD is submitted for publication? If not, is the methodology still within the grace period (was the methodology revised to a newer version in the past two months)?	N/A	OK	ОК
38 (b)	Does the PDD provide a description of why the approved CDM methodology is applicable to the project?	N/A	OK	OK
38 (c)	Are all explanations, descriptions and analyses pertaining to monitoring in the PDD made in accordance with the referenced approved CDM methodology?	N/A	OK	OK
38 (d)	Is the monitoring plan established appropriately as a result?	N/A	OK	OK
Applicable t	to both JI specific approach and approved CDN	l methodology approach		
39	If the monitoring plan indicates overlapping monitoring periods during the crediting period:  (a) Is the underlying project composed of clearly identifiable components for which emission reductions or enhancements of removals can be calculated independently?	There are no overlapping monitoring periods during the crediting period.	OK	ОК



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
гагаугарп	<ul> <li>(b) Can monitoring be performed independently for each of these components (i.e. the data/parameters monitored for one component are not dependent on/effect data/parameters to be monitored for another component)?</li> <li>(c) Does the monitoring plan ensure that monitoring is performed for all components and that in these cases all the requirements of the JI guidelines and further guidance by the JISC regarding monitoring are met?</li> <li>(d) Does the monitoring plan explicitly provide for overlapping monitoring periods of clearly defined project components, justify its need</li> </ul>		Conclusion	Conclusion
	and state how the conditions mentioned in (a)-			
Leakage	(c) are met?			
	approach only			
40 (a)	Does the PDD appropriately describe an assessment of the potential leakage of the project and appropriately explain which sources of leakage are to be calculated and which can be neglected?	No leakage is expected in proposed project activity.	OK	OK
40 (b)	Does the PDD provide a procedure for an ex ante estimate of leakage?	No leakage is expected in proposed project activity.	OK	OK
Approved C	DM methodology approach only			
41	Are the leakage and the procedure for its estimation defined in accordance with the approved CDM methodology?	N/A	OK	OK
	of emission reductions or enhancements of net	· · · · · · · · · · · · · · · · · · ·		
42	Does the PDD indicate which of the following approaches it chooses?  (a) Assessment of emissions or net removals in	Assessment of emissions or net removals in the baseline scenario and in the project scenario was used.	OK	OK



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the baseline scenario and in the project scenario (b) Direct assessment of emission reductions			
43	If the approach (a) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emissions or net removals for the project scenario (within the project boundary)? (b) Leakage, as applicable? (c) Emissions or net removals for the baseline scenario (within the project boundary)? (d) Emission reductions or enhancements of net removals adjusted by leakage?	Emissions for the project, baseline scenario and emission reductions were ex ante estimated. Results of estimations provided in section E of PDD and excel spreadsheets.	ОК	OK
44	If the approach (b) in 42 is chosen, does the PDD provide ex ante estimates of: (a) Emission reductions or enhancements of net removals (within the project boundary)? (b) Leakage, as applicable? (c) Emission reductions or enhancements of net removals adjusted by leakage?	N/A	OK	ОК
45	For both approaches in 42  (a) Are the estimates in 43 or 44 given:  (i) On a periodic basis?  (ii) At least from the beginning until the end of the crediting period?  (iii) On a source-by-source/sink-by-sink basis?  (iv) For each GHG?  (v) In tones of CO2 equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol?  (b) Are the formula used for calculating the	See CAR11 above.  Corrective Action Request (CAR) 15: In ex-ante calculations were used CO2 emission factor for the projects of reducing electricity consumption for it transmission by Ukrainian electricity networks provided in Order #43 dated 28/03/2010. But this factor applicable only for 2010. Please correct.	CAR15	ОК



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	estimates in 43 or 44 consistent throughout the			
	PDD?			
	(c) For calculating estimates in 43 or 44, are key factors influencing the baseline emissions			
	or removals and the activity level of the project			
	and the emissions or net removals as well as			
	risks associated with the project taken into account, as appropriate?			
	(d) Are data sources used for calculating the			
	estimates in 43 or 44 clearly identified, reliable and transparent?			
	(e) Are emission factors (including default			
	emission factors) if used for calculating the			
	estimates in 43 or 44 selected by carefully			
	balancing accuracy and reasonableness, and			
	appropriately justified of the choice?			
	(f) Is the estimation in 43 or 44 based on			
	conservative assumptions and the most			
	plausible scenarios in a transparent manner?			
	(g) Are the estimates in 43 or 44 consistent			
	throughout the PDD?			
	(h) Is the annual average of estimated emission reductions or enhancements of net			
	removals calculated by dividing the total			
	estimated emission reductions or			
	enhancements of net removals over the			
	crediting period by the total months of the			
	crediting period and multiplying by twelve?			
46	If the calculation of the baseline emissions or	Yes, the PDD include an illustrative ex ante emissions	OK	OK
	net removals is to be performed ex post, does	calculation.		
	the PDD include an illustrative ex ante			
	emissions or net removals calculation?			
Approved C	DM methodology approach only			



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
47 (a)	Is the estimation of emission reductions or enhancements of net removals made in accordance with the approved CDM methodology?	N/A	OK	OK
47 (b)	Is the estimation of emission reductions or enhancements of net removals presented in the PDD:  On a periodic basis?  At least from the beginning until the end of the crediting period?  On a source-by-source/sink-by-sink basis?  For each GHG?  In tones of CO <sub>2</sub> equivalent, using global warming potentials defined by decision 2/CP.3 or as subsequently revised in accordance with Article 5 of the Kyoto Protocol?  Are the formula used for calculating the estimates consistent throughout the PDD?  Are the estimates consistent throughout the PDD?  Is the annual average of estimated emission reductions or enhancements of net removals calculated by dividing the total estimated emission reductions or enhancements of net removals over the crediting period by the total months of the crediting period and multiplying by twelve?	N/A	OK	OK
Environmen	tal impacts			
48 (a)	Does the PDD list and attach documentation on the analysis of the environmental impacts of the project, including transboundary impacts, in accordance with procedures as determined by the host Party?	Corrective Action Request (CAR) 16: There is no information on transboundary impacts in the PDD.	CAR16	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
48 (b)	If the analysis in 48 (a) indicates that the environmental impacts are considered significant by the project participants or the host Party, does the PDD provide conclusion and all references to supporting documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party?	No significant environmental impacts related to project implementation expected. Therefore separate environmental impact is not required.	ОК	OK
Stakeholder	r consultation			
49	If stakeholder consultation was undertaken in accordance with the procedure as required by the host Party, does the PDD provide:  (a) A list of stakeholders from whom comments on the projects have been received, if any?  (b) The nature of the comments?  (c) A description on whether and how the comments have been addressed?	Procedures of Ukraine did not require consultations with stakeholders for proposed project. However, information on implementation measures of reducing technological power consumtion provided in the media and in electronic media (see section G of PDD). No negative stakeholders' comments were received on company adress.	OK	OK
	on regarding small-scale projects (additional el			
50	Does the PDD appropriately specify and justify the SSC project type(s) and category(ies) that fall under:  (a) One of the types and thresholds of JI SSC projects as defined in .Provisions for joint implementation small-scale projects.? If the project contains more than one JI SSC project type component, does each component meet the relevant threshold criterion?  (b) One of the SSC project categories defined in the most recent version of appendix B of annex II to decision 4/CMP.1, or an additional project category approved by the JISC in accordance with the relevant	N/A	OK	OK



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



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



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
56	Does the PDD indicate which of the following approaches is used for establishing a monitoring plan?  (a) By preparing a separate monitoring plan for each of the constituent projects;  (b) By preparing an overall monitoring plan including a proposal of monitoring of performance of the constituent projects on a	N/A	OK	OK
	sample basis, as appropriate.			
56 (b)	If the approach 57 (b) above is used, (i) Are all the JI SSC projects located in the territory of the same host Party? (ii) Do all the JI SSC projects pertain to the same project category? (iii) Do all the JI SSC projects apply the same technology or measure? (iv) Does the overall monitoring plan reflect good monitoring practice appropriate to the bundled JI SSC projects and provide for collection and archiving of the data needed to calculate the emission reductions achieved by the bundled projects?	N/A	ОК	ОК
Applicable t	o all JI SSC projects			
57	Is the leakage only within the boundaries of non-Annex I Parties considered?	N/A	OK	OK
Determinati	on regarding land use, land-use change and fo	restry projects (additional/alternative elements for assessm	ent)	
58	Does the PDD appropriately specify how the LULUCF project conforms to:  (a) The definitions of LULUCF activities included in paragraph 1 of the annex to decision 16/CMP.1, applying good practice guidance for LULUCF as decided by the CMP,	N/A	ОК	ОК



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



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



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



DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	established appropriately as a result?			
Determinati	on regarding programmes of activities (additio	nal/alternative elements for assessment)		
66	Does the PDD include:  (a) A description of the policy or goal that the JI PoA seeks to promote?  (b) A geographical boundary for the JI PoA (e.g. municipality, region within a country, country or several countries) within which all JPAs included in the JI PoA will be implemented?  (c) A description of the operational and management arrangements established by the coordinating entity for the implementation of the JI PoA, including:  The maintenance of records for each JPA?  A system/procedure to avoid double counting (e.g. to avoid including a new JPA that has already been determined)?  Provisions to ensure that persons operating JPAs are aware and have agreed to their activity being added to the JI PoA?  (d) A description of each type of JPAs that will be included in the JI PoA, including the technology or measures to be used?  (e) The eligibility criteria for inclusion of JPAs to the JI PoA for each type of JPA in the JI PoA?	N/A	ОК	ОК
67	Project approvals by Parties involved - additional to 19-20 Are all Parties partly or entirely within the geographical boundary for the JI PoA listed as "Parties involved" and indicated as host Parties in the PDD?	N/A	OK	OK
68	Authorization of project participants by Parties	N/A	OK	OK



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
<u> </u>	involved - additional to 21			
	Is the coordinating entity presented in the PDD			
	authorized by all host Parties to coordinate and			
	manage the JI PoA?			
69	Baseline setting - additional to 22-26	N/A	OK	OK
	Is the baseline established for each type of JPA?			
70	Additionality - additional to 27-31	N/A	OK	OK
	Does the PDD indicate at which of the following			
	levels that additionality is demonstrated?			
	(a) For the JI PoA			
	(b) For each type of JPA	N/A	014	01/
71	Crediting period - additional to 34	N/A	OK	OK
	Is the starting date of the JI PoA after the			
70	beginning of 2006 (instead of 2000)?	NI/A	014	014
72	Monitoring plan - additional to 35-39	N/A	OK	OK
	Is the monitoring plan established for each technology and/or measure under each type of			
	JPA included in the JI PoA?			
73	Does the PDD include a table listing at least	N/A	ОК	OK
70	one real JPA for each type of JPA?	1973		O IX
73	For each real JPA listed, does the PDD provide	N/A	OK	OK
	the information of:			
	(a) Name and brief summary of the JPA?			
	(b) The type of JPA?			
	(c) A geographical reference or other means of			
	identification?			
	(d) The name and contact details of the			
	entity/individual responsible for the operation of			
	the JPA?			
	(e) The host Party(ies)?			
	(f) The starting date of the JPA?			



DVM	Check Item	Initial finding	Draft	Final
Paragraph			Conclusion	Conclusion
	(g) The length of the crediting period of the			
	JPA?			
	(h) Confirmation that the JPA meets all the			
	eligibility requirements for its type, including a			
	description of how these requirements are			
	met?			
	(i) Confirmation that the JPA has not been			
	determined as a single JI project or determined			
	under a different JI PoA?			



## DETERMINATION REPORT

# Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Determination team conclusion
Corrective Action Request (CAR) 01: Please use in the PDD font size provided «JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM» - version 01.	•	Font size was corrected in line with «JOINT IMPLEMENTATION PROJECT DESIGN DOCUMENT FORM» - version 01. See PDD version 2.0.	PDD version 2.0 was checked and recognized as satisfactory. Issue is closed.
Corrective Action Request (CAR) 02: Please provide brief description of the project history.	-	Brief description of the project history was provided in section A.2 of PDD version 2.0.	Issue is closed due to the amendments made in the PDD.
Corrective Action Request (CAR) 03: Please provide brief information about the company "Imex Energo", sp. z o. o. in section A.3, and relevant information about this company in Annex 1.	-	Brief information about the company "Imex Energo", sp. z o. o. in section A.3, and in Annex 1.	The issue is closed due to the corrections made.
Corrective Action Request (CAR) 04: Table A.3 in the PDD must be submitted in a format that provided in the version 04 of the "Guidelines for users of the JI PDD form".	-	Table A.3 corrected.	Issue closed.
Corrective Action Request (CAR) 05: Section A.4.1.4 more than 1 page.	-	Section A.4.1.4 was corrected.	CAR05 is closed
Corrective Action Request (CAR) 06: Implementation schedule is not described.	-	Implementation sheudle was described in PDD version 2.0.	CAR06 is closed based on the amendments made in the PDD.



Corrective Action Request (CAR) 07:  No Letters of Aapproval of the project issued by the parties involved.	Item 19	Pending	Pending
Corrective Action Request (CAR) 08: Please provide date of baseline setting according required format DD/MM/YYYY.	Item 22	Date of baseline setting was corrected.	The response to CAR08 was found satisfactory. CAR08 is closed.
Corrective Action Request (CAR) 09: In the PDD does not specify how the registration of this project as JI project will help overcome identified technological barriers.	Item 29(b)	Technological barrier was excluded from PDD.	The issue is closed due to the corrections made.
Corrective Action Request (CAR) 10:  During site visit to the company PJSC "Khmelnitskoblenergo" determination team found that some equipment implemented within project activities (eg circuit breakers) included insulating gas (SF6). Please include the insulating gas to the list of project emissions scenario.	Item 32(d)	Insulating gas (SF6), used in circuit breakers and other equipment PJSC "Khmelnitskoblenergo" is toxic and is listed as gas circulation and utilization of which is under the control of state environment organizations. Equipment containing Insulating gas is hermetically sealed and prevents leakage of gas into the atmosphere. In the case of it failure or decommissioning SF6 will be collected and reused by filling in new similar equipment. In connection with all the above SF6 emissions were excluded from the calculations.	CAR10 is closed based on the provided information.
Corrective Action Request (CAR) 11: Used TPC rate include technical and commercial consumption and losses. Commercial losses have no impact on GHG emissions and must be excluded from calculations.	Item 36(b)	Monitoring plan was corrected. All non-technical and metrological losses were excluded from calculations. See PDD version 2.0 and Excel file XM-15TBE-2002-2010-26-08-2011-ok.xls.	PDD version 2.0 and Excel file were checked and recognized as satisfactory. Issue is closed.



Corrective Action Request (CAR) 12: Please specify who is responsible for proniding actual value of CO2 emission factor for the projects of reducing electricity consumption for it transmission by Ukrainian electricity networks.	Item 36(b)(ii)	Actuality of factor of specific indirect carbon dioxide emissions associated with the consumtion of electricity during its transmission by power grids of Ukraine will be reviewed annually representatives Technical Consultant Ltd «EES».	The issue is closed due to the corrections made.
Corrective Action Request (CAR) 13: Please indicate in PDD that the data monitored and required for the project determination will be kept for two years after the last transfer of ERUs the project.	Item 36(b)(iii)	PDD was corrected. See PDD version 2.0	The response to CAR13 was found satisfactory. CAR13 is closed.
Corrective Action Request (CAR) 14: Section D.1.5 of the PDD requires from project participants to submit information about collection and archiving data on the environment impact as well as references to relevant norms of the host country. Please provide relevant data.	Item 36(k)	The project implementation does not require gathering of information on the influence on the environment in excess of information collected at the company prior to the project inception.	The issue is closed due to the corrections made.
Corrective Action Request (CAR) 15: In ex-ante calculations were used CO2 emission factor for the projects of reducing electricity consumption for it transmission by Ukrainian electricity networks provided in Order #43 dated 28/03/2010. But this factor applicable only for 2010. Please correct.	Item 45	Data was updated.	The response was found satisfactory. CAR15 is closed.
Corrective Action Request (CAR) 16: There is no information on transboundary impacts in the PDD.	Item 48(a)	Transboundary impact is not expected.	Issue closed.
Clarification Request (CL) 01: Please include in this section refer to the corresponding «Excel» file with the calculations.	-	Relevant references were included to PDD version 2.0.	The issue is closed based on the corrections made in the PDD.



Clarification Request (CL) 02: Please number the tables with information of the estimates (calculations) of emission reductions.	-	Tabbles were numbered.	Necessary corrections have been made. The issue is closed.
Clarification Request (CL) 03: Section A.5 PDD must specify the name DFPs (parties involved) that will approve the project.	Item 19	State Environmental Investment Agency of Ukraine is DFP of Ukraine and Ministry of the Environment of Poland is DFP of Poland.	CL03 is closed based on the amendments made in the PDD.
Clarification Request (CL) 04: Please specify which approach was used to identify the baseline scenario and additionality:  • JI specific approach  • Approved CDM methodology approach.	Item 22	JI specific approach was used.	Issue closed.
Clarification Request (CL) 05: Please change the title of fourth column Table 4 (Section B.3 PDD). Title "Included?" recommend changing the "Included/Excluded"	Item 32(d)	Was corrected.	Issue closed.
Clarification Request (CL) 06: Precise figures numbering in the PDD.	Item 32(d)	Figures numbers were checked and corrected.	Issue is closed due to the amendments made in the PDD.
Clarification Request (CL) 07: Please specify that the crediting period of ERUs generating started after the beginning of 2008 and continuing over the life cycle.	Item 34(d)	Relevant information was included to section C.3 of PDD version 2.0.	Due to the corrections made and necessary information provided, the issue is closed.
Clarification Request (CL) 08: Please specify that crediting period extension beyond 2012 requires approval by the Host country.	01(4)	Relevant information was included to section C.3 of PDD version 2.0.	CL08 is closed based on the amendments made in the PDD.



Clarification Request (CL) 09: It seems that the in PDD used JI specific approach for monitoring plan identification, but it is not explicitly indicated. Please clearly clarify in PDD what approach was used.		JI specific approach was used for developing monitoring plan.	The issue is closed based on the corrections made in the PDD.
Clarification Request (CL) 10: Please provide justification for choosing of the each used parameters.	Item 36(a)	Justification for choosing of the each used parameters provided.	The issue is closed based on the corrections made in the PDD.