



BUREAU  
VERITAS

# VERIFICATION REPORT ZAKARPATTYAOBLENERGO PJSC

VERIFICATION OF THE  
REDUCTION OF PROCESS LOSSES IN POWER  
LINES ZAKARPATTYAOBLENERGO PJSC  
(SECOND PERIODIC FOR PERIOD 01/01/2008-31/12/2011)

REPORT No. UKRAINE-VER/0257/2011

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BUREAU VERITAS CERTIFICATION


 VERIFICATION REPORT: REDUCTION OF PROCESS LOSSES IN POWER LINES  
 ZAKARPATYAUBLENERGO PJSC

Date of first issue: 10/10/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Zakarpattyaoblenergo PJSC	Client ref.: Vasyl Khodanych

## Summary:

Bureau Veritas Certification has made the second periodic verification of the «Reduction of Process Losses in Power Lines Zakarpattyaoblenergo PJSC», project of Zakarpattyaoblenergo PJSC located in Zakarpattya Region, Ukraine and use JI specific approach, 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 verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the monitoring report against 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 verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the verification process is a list of Clarification, Corrective Actions Requests, Forward Actions Requests (CR, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 738001 tonnes of CO<sub>2</sub> equivalent for the monitoring period from 01/01/2008 to 31/12/2011 (185217 tonnes of CO<sub>2</sub> equivalent for 01/01/2008-31/12/2008, 181748 tonnes of CO<sub>2</sub> equivalent for 01/01/2009-31/12/2009, 177638 tonnes of CO<sub>2</sub> equivalent for 01/01/2010-31/12/2010, 193398 tonnes of CO<sub>2</sub> equivalent for 01/01/2011-31/12/2011).

Report No.: Ukraine-ver/0257/2011	Subject Group: JI
Project title: Reduction of Process Losses in Power Lines Zakarpattyaoblenergo PJSC	
Work carried out by: Oleg Skoblyk – Team Leader, Lead Verifier Vyacheslav Yeriomin – Team member, Verifier	
Work reviewed by: Ivan Sokolov - Internal Technical Reviewer Daniil Ukhanov – Technical Specialist	
Work approved by: Ivan Sokolov - Operational Manager	
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## 1 INTRODUCTION

PJSC Zakarpattyaoblenergo has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project «Reduction of Process Losses in Power Lines Zakarpattyaoblenergo PJSC» (hereafter called “the project”) at Uzhgorod City and Zakarpattya Region, Ukraine.

This report summarizes the findings of the verification 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

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions during defined verification period.

The objective of verification can be divided in Initial Verification and Periodic Verification.

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

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

### 1.3 Verification Team

The verification team consists of the following personnel:

Oleg Skoblyk  
Bureau Veritas Certification Team Leader, Climate Change Verifier

Vyacheslav Yeriomin  
Bureau Veritas Certification Climate Change Verifier

This verification report was reviewed by:



Ivan Sokolov  
Bureau Veritas Certification, Internal Technical Reviewer

Daniil Ukhanov  
Bureau Veritas Certification, Technical Specialist

## 2 METHODOLOGY

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

In order to ensure transparency, a verification 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 verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

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

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

### 2.1 Review of Documents

The Monitoring Report (MR) submitted by PJSC “Zakarpattiaoblenergo” and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), and Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed.

The verification findings presented in this report relate to the Monitoring Report version(s) 2.0 and project as described in the determined PDD.

### 2.2 Follow-up Interviews

On 10/01/2011 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of PJSC “Zakarpattiaoblenergo” and CARBON MANAGEMENT COMPANY GMBH were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
PJSC "Zakarpattiaoblenergo"	<ul style="list-style-type: none"> <li>- Organizational structure</li> <li>- Responsibilities and authorities</li> <li>- Roles and responsibilities for data collection and processing</li> <li>- Installation of equipment</li> <li>- Data logging, archiving and reporting</li> <li>- Metering equipment control</li> <li>- Metering record keeping system, database</li> <li>- Training of personnel</li> <li>- Quality management procedures and technology</li> <li>- Internal audits and check-ups</li> </ul>
CARBON MANAGEMENT COMPANY GMBH	<ul style="list-style-type: none"> <li>- Monitoring plan</li> <li>- Monitoring report</li> <li>- Deviations from PDD</li> <li>- ERUs calculation model</li> </ul>

### 2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification 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 GHG emission reduction calculation.

If the Verification Team, in assessing the monitoring report and supporting documents, identifies issues that need to be corrected, clarified or improved with regard to the monitoring requirements, it should raise these issues and inform the project participants of these issues in the form of:

- (a) Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;
- (b) Clarification request (CL), requesting the project participants to provide additional information for the Verification Team to assess compliance with the monitoring plan;
- (c) Forward action request (FAR), informing the project participants of an issue, relating to the monitoring that needs to be reviewed during the next verification period.

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



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

### **3 VERIFICATION CONCLUSIONS**

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 6 Corrective Action Requests.

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

#### **3.1 Remaining issues and FARs from previous verifications**

No FARs are available from previous verification provided by the Bureau Veritas Certification Holding SAS.

#### **3.2 Project approval by Parties involved (90-91)**

Written project approval by the Host Party has been issued by the State Environmental Investment Agency of Ukraine (Letter of Approval #3699/23/7 dated 21/12/2011). Letter of Approval J294-0485 of Sponsor Party issued by the Switzerland Federal Department of the Environment, Transport, Energy and Communications DETEC on 27/04/2012.

The abovementioned written approvals are unconditional.

#### **3.3 Project implementation (92-93)**

Project implementation status in the reporting period of 01/01/2008 – 31/12/2011, including the project milestones is provided in Table 1.

*Table 1. Project implementation status*



№	Name of activities	Measure ment unit	2008	2009	2010	2011
1	2	3	5	6	7	8
	Replacing PL wire by a wire with a bigger section					
	To PL-10kV	km	118	116	56	85
	To PL-0,4 kV	km	495	354	500	375
2	Replacement of overloaded and installation of additional power transformers	pcs	43	41	49	64
3	Construction of PL-10kV; PL-0,4 kV	km km	25 225	29 68	18 117	42 -
4	Replacing the single-phase meters with high accuracy meters	pcs	32918	35178	22268	3828
5	Repair of electric meters	pcs	25352	14884	11025	8541
6	Replacement of wrecked PL-0,4kV	km	61	23	39	177,7
7	Replacement of steel wires on the PL-0,4kV by wires with biggest section of A and AC grade	km	-	-	-	-
8	Change of bare wire inputs into isolated wire inputs	pcs	23246	18843	14630	6876
9	Construction of unloading substations	pcs	28	26	25	38
10	Replacement and installation of meters in front of buildings	pcs	18086	16051	13270	5000
11	Change of wrecked PL-10kV	km	4	3	3	25,4
12	Change of TP-10/0,4kV	pcs	3	2	4	-
13	Replacement of worn-out oil switches with vacuum ones	pcs	65	27	4	49
14	Change of the cable lines 10- 0,4 kV	km	8	12	11	12,5
15	Installation of 3 –phase multifunctional meters	pcs	586	990	827	31
16	Change of inputs of 110kV with rigid insulation	pcs.	-	1	-	1
17	Introduction of ASKOE		16	30	11	14
18	Reconstruction of ZRU-10kV and replacement of transformer with PS-110kV		1	2	1	-

Poland was indicated as Second Party Involved (The ImexEnergO Sp as a project participant) in the Joint Implementation project "Reduction of





Process Losses in Power Lines Zakarpattyaoblenergo PJSC” at the beginning of the determination process. The Second Party Involved was changed to Switzerland (project participant is CARBON MANAGEMENT COMPANY GMBH). The new PDD version 4.0 dated 04/05/2012 and corresponding new Determination Report version 04 dated 07/05/2012 was issued, with new Second Party Involved indication.

The difference between ERUs indicated in the PDD and the monitoring report was found out in 2011 year. Obtained emission reduction is higher than expected in the PDD on 11901 ton CO<sub>2</sub>equivalent. This difference is explained reasonably in the next way: for ERUs calculation for 2011 year in the PDD version 4.0 average values from previous years were used and factual data from official source was used for ERUs calculations in the Monitoring Report.

CAR01-CAR03 and their resolution/conclusion on project implementation concerning in the APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL.

### **3.4 Compliance of the monitoring plan with the monitoring methodology (94-98)**

The monitoring occurred in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website.

For calculating the emission reductions or enhancements of net removals, key factors, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account.

Key monitoring activities are clearly described in the monitoring report and no deviations from monitoring algorithm were detected. The monitoring points including parameters monitored, monitoring equipment and information concerning its calibration interval are clearly described in the section B of the Monitoring Report and completely corresponds with determined PDD.

Data sources used for calculating emission reductions, such as approved by Ministry of Fuel and Power reporting forms 1B-TPL Power losses, 8111 Electric and heat energy balance and technical-economic calculation, 46 electricity net supply, yearly reports on investment programmes realisation are clearly identified, reliable and transparent.

Emission factor for electric energy transportation are selected by carefully balancing Accuracy and reasonableness, and appropriately justified of the choice. Values of Emission Factor for electric power transportation were



accepted in compliance with State Environmental Investment Agency of Ukraine Orders.

The calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.

CAR04 and its resolution/conclusion applicable to compliance of the monitoring plan with the monitoring methodology concerning in the APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL

### **3.5 Revision of monitoring plan (99-100)**

“Not applicable”

### **3.6 Data management (101)**

The detailed data management system has been implemented on “Zakarpattyaoblenergo” PJSC to record and keeps required information. The monitored data flow for each parameter to be monitored is described in the section C.1 of the Monitoring Report. Operational information and reporting department is responsible to monitoring data preparation.

The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent.

The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures.

The function of the monitoring equipment, including its calibration status, is in order. Metering equipment involved in the project activity are periodically calibrated by State Enterprise “Zakarpattyaderzhstandartmetrologiya”.

The evidence and records used for the monitoring are maintained in a traceable manner.

The data collection and management system for the project is in accordance with the monitoring plan. The data monitored and required for ERUs calculation will be kept during two years after last ERUs transfer.

CAR05, CAR06 and their resolution/conclusion applicable to data management concerning in APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL



### **3.7 Verification regarding programmes of activities (102-110)**

“Not applicable”

## **4 VERIFICATION OPINION**

Bureau Veritas Certification has performed the second periodic, verification of the «Reduction of Process Losses in Power Lines Zakarpattyaoblenergo PJSC» Project in Uzhgorod City and Zakarpattya Region, Ukraine, which applies the JI specific approach. The verification 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 verification consisted of the following three phases: i) desk review of the monitoring report against 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 verification report and opinion.

The management of PJSC “Zakarpattyaoblenergo” is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring Plan indicated in the final PDD version 4.0. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 2.0 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is accurately calculated and is free of material errors, omissions, or misstatements. Our opinion relates to the project’s GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm, with a reasonable level of assurance, the following statement:



Reporting period: From 01/01/2008 to 31/12/2011

Baseline emissions : 738001 tonnes of CO2 equivalent.  
Project emissions : 0 tonnes of CO2 equivalent.  
Emission Reductions : 738001 tonnes of CO2 equivalent.

Reporting period from 01/01/2008 to 31/12/2008

Baseline emissions : 185217 tonnes of CO2 equivalent.  
Project emissions : 0 tonnes of CO2 equivalent  
Emission Reductions : 185217 tonnes of CO2 equivalent.

Reporting period from 01/01/2009 to 31/12/2009

Baseline emissions : 181748 tonnes of CO2 equivalent.  
Project emissions : 0 tonnes of CO2 equivalent  
Emission Reductions : 181748 tonnes of CO2 equivalent.

Reporting period from 01/01/2010 to 31/12/2010

Baseline emissions : 177638 tonnes of CO2 equivalent.  
Project emissions : 0 tonnes of CO2 equivalent  
Emission Reductions : 177638 tonnes of CO2 equivalent.

Reporting period from 01/01/2011 to 31/12/2011

Baseline emissions : 193398 tonnes of CO2 equivalent.  
Project emissions : 0 tonnes of CO2 equivalent  
Emission Reductions : 193398 tonnes of CO2 equivalent.

## 5 REFERENCES

### Category 1 Documents:

Documents provided by PJSC “Zakarpattyaoblenergo” that relate directly to the GHG components of the project.

- /1/ Project Design Document «Reduction of Process Losses in Power Lines Zakarpattyaoblenergo PJSC» version 4.0 dated 04/05/2012
- /2/ Monitoring report «Reduction of Process Losses in Power Lines Zakarpattyaoblenergo PJSC» version 1.0 dated 31/01/2012
- /3/ Monitoring report «Reduction of Process Losses in Power Lines Zakarpattyaoblenergo PJSC» version 2.0 dated 20/04/2012
- /4/ Letter of Approval #3699/23/7, issued by the State Environmental Investment Agency dated 21/12/2011
- /5/ Letter of Approval J294-0485 issued by Switzerland Federal Department of the Environment, Transport, Energy and Communications DETEC on 27/04/2012
- /6/ Excel calculation file “20120419\_ZOE\_MR001.xls”

### 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

- /12/ Account for electric power usage №3086620 dated 04.04.2011
- /13/ Addition No.70 of Derzhgirpromnagliad dated 24.06.2009
- /14/ Addition No.8 of verification of sweet water condition dated 28.01.2011
- /15/ Addition of Derzhgirpromnagliad dated 12.12.2007
- /16/ Addition of National department of ecology and natural resources dated 29.06.2004
- /17/ Addition of National ecological inspection dated 29.12.2010 No.394
- /18/ Addition of State ecological inspection dated 25.12.2009 No.203
- /19/ Agreement №01/10 on solid wastes removal dated 04.01.2010
- /20/ Agreement №071 on sewage removal dated 15.01.2010
- /21/ Agreement №10/01 on solid wastes removal dated 05.01.2009
- /22/ Agreement №116 on work fulfilment on neutralization of used materials dated 01.07.2010
- /23/ Agreement №12/01 on solid wastes removal dated 02.01.2010
- /24/ Agreement №12/13 on work fulfilment on neutralization of production wastes dated 13.12.2010
- /25/ Agreement №13 on solid wastes removal dated 04.01.2010
- /26/ Agreement №15 on household rubbish removal dated 05.01.2010
- /27/ Agreement №15 on solid sewage removal dated 04.01.2011
- /28/ Agreement №15/12 about reception and payment for scrap and black and color metals wastes dated 15.12.2010
- /29/ Agreement №16/12 about reception and payment for used whole batteries of led accumulators with stuff dated 16.12.2010
- /30/ Agreement №187 on solid wastes removal dated 28.01.2009
- /31/ Agreement №216 on solid wastes removal dated 3/03/2008
- /32/ Agreement №33 on solid sewage removal dated 02.04.2009
- /33/ Agreement №35 on solid wastes removal dated 01.01.2010
- /34/ Agreement №4/239 on solid wastes removal dated 01.02.2010
- /35/ Agreement №44 on solid wastes removal dated 01.03.2010
- /36/ Agreement №457 on solid wastes removal dated 23.02.2010
- /37/ Agreement №7/12 about receiving and processing of rubber tyres scrap dated 07.12.2010
- /38/ Agreement №BBT 411 about reception of solid mixed wastes dated 23.12.2010
- /39/ Agreement of electric power purchase and sale between SC "Energorynok"

- and OJSC EC "Zakarpattyaoblenergo" dated April 2009
- /40/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated April 2010
- /41/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated August 2009
- /42/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated August 2010
- /43/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated December 2009
- /44/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated December 2010
- /45/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated February 2009
- /46/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated February 2010
- /47/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated January 2009
- /48/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated January 2010
- /49/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated July 2009
- /50/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated July 2010
- /51/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated June 2009
- /52/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated June 2010
- /53/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated March 2008
- /54/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated March 2009
- /55/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated March 2010
- /56/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated May 2009
- /57/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated May 2010
- /58/ Agreement of electric power purchase and sale between SC "Energorynok"

- and OJSC EC "Zakarpattyaoblenergo" dated November 2009
- /59/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated November 2010
  - /60/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated October 2009
  - /61/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated October 2010
  - /62/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated September 2007
  - /63/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated September 2009
  - /64/ Agreement of electric power purchase and sale between SC "Energorynok" and OJSC EC "Zakarpattyaoblenergo" dated September 2010
  - /65/ Agreement on electric power supply No.P06/3OE-0030 dated 23.09.2010
  - /66/ Agreement on solid wastes removal dated 01.03.2010
  - /67/ Annex to licence №482728
  - /68/ Attestation certificate for measuring laboratory №PB-0016-10 dated 05.05.2010
  - /69/ Automatized system of electric power commercial account. Technical task. IФE 502.32606198-05T3. 2006
  - /70/ Automatized system of electric power commercial account. Working project IФE 502.32606198-06ПП Volume 3. 2006
  - /71/ Bill No.6385 for electric power consumption in 03/2011 dated 22/03/2011
  - /72/ Certificate of measurement device faultiness №29-09/2179 Conductivity box P5054/1 Reg.№805 dated 25.11.2009
  - /73/ Certificate of qualification confirmation for Mykola Avramenko. 2008
  - /74/ Certificate of qualification confirmation for Stepan Sherfeze. 2008
  - /75/ Certificate of state metrological certification №29-0570 dated 15.04.2010. Electrical calibration laboratory ЭТПЛ-110 №824, 2008
  - /76/ Certificate of state metrological certification №29-3400 dated 08.12.2009 Tension transformer HOM(э)-35/110, №007, 2008
  - /77/ Certificate of state metrological certification №29-3402 dated 09.12.2009 Current transformer TT(э)-09, №801, 2008
  - /78/ Certificate of state metrological certification №C8.082 - 2010 dated 22.04.2010. Automatized system of electric power commercial account
  - /79/ Collection of working educational and program documentation for preperation of qualified staff by profession 7215.2 Strapper



- /80/ Collection of working educational and program documentation for preparation of qualified staff by profession 7241.1 Electromechanic to repair distributing device facilities
- /81/ Collection of working educational and program documentation for preparation of qualified staff by profession 7241.1 Електромонтер з обслуговування підстанції
- /82/ Collection of working educational and program documentation for preparation of qualified staff by profession 7241.2 - Electrician of distributive networks exploitation Електромонтер з експлуатації розподільних мереж
- /83/ Collection of working educational and program documentation for preparation of qualified staff by profession 7241.2 - Electrician of operational-visionary team
- /84/ Collection of working educational and program documentation for preparation of qualified staff by profession 7241.2 - Electrician of air power lines repairment
- /85/ Collection of working educational and program documentation for preparation of qualified staff by profession 9153 energy audit controller
- /86/ Contact No.05-22041 of electric power usage dated 06.04.2011
- /87/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2003
- /88/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2004
- /89/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2005
- /90/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2006
- /91/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2007
- /92/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2008
- /93/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2009
- /94/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2010
- /95/ Courses plan of NKK OJSC EC "Zakarpattyaoblenergo" for 2011
- /96/ Detailed consumer note for 11/04/2011
- /97/ Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2000
- /98/ Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2001
- /99/ Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2002
- /100/ Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2003
- /101/ Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2004



- /102) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2005
- /103) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2006
- /104) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2007
- /105) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2008
- /106) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2009
- /107) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for 2010
- /108) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for April 2009
- /109) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for August 2009
- /110) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for December 2009
- /111) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for February 2009
- /112) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for January 2009
- /113) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for July 2009
- /114) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for June 2009
- /115) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for March 2009
- /116) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for May 2009
- /117) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for November 2009
- /118) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for October 2009
- /119) Electricity balance structure and TEE for transfer in electricity supply networks 154-0,38 kV of OJSC EC "Zakarpattyaoblenergo" for September 2009
- /120) Electronic electric power users database
- /121) Energy saving activities in OJSC EC "Zakarpattyaoblenergo" for 2002

- /122) Energy saving activities in OJSC EC "Zakarpattyaoblenergo" for 2003
- /123) Energy saving activities in OJSC EC "Zakarpattyaoblenergo" for 2004
- /124) Energy saving activities in OJSC EC "Zakarpattyaoblenergo" for 2005
- /125) Example of certificate of giving (hightening) work qualification, that can be issued by NKK OJSC EC "Zakarpattyaoblenergo"
- /126) Expert conclusion dated 23/04/2010
- /127) Expert conclusion on working project of automatized system of electric power commercial account creation dated 09.06.2009
- /128) Investment development programm of OJSC EC "Zakarpattyaoblenergo" for the period 2005-2009. Investment year 2005
- /129) Investment development programm of OJSC EC "Zakarpattyaoblenergo" for the period 2006-2010. Investment year 2006
- /130) Investment development programm of OJSC EC "Zakarpattyaoblenergo" for the period 2007-2011. Investment year 2007
- /131) Investment development programm of OJSC EC "Zakarpattyaoblenergo" for the period 2008-2012. Investment year 2008
- /132) Investment development programm of OJSC EC "Zakarpattyaoblenergo" for the period 2009-2013. Investment year 2009
- /133) Investment development programm of OJSC EC "Zakarpattyaoblenergo" for the period 2010-2014. Investment year 2010
- /134) Investment development programm of OJSC EC "Zakarpattyaoblenergo" for the period 2011-2015. Investment year 2011. Expert conclusion dated 25.11.2010
- /135) Investment development programm of power company OJSC EC "Zakarpattyaoblenergo" for the period 01.06.2003 - 31.05.2004. Detailed report
- /136) Letter of endorcement of profect of automatized system of electric power commercial account creation №04/42-7603 dated 18.12.2008
- /137) Licence №156079 on building activities for OJSC EC "Zakarpattyaoblenergo" for the period 15.09.2006 - 15.09.2011
- /138) Licence №220542 for electric power supply by local electricity supply networks dated 26.08.2005
- /139) Licence №220543 for electric power supply using adjusted tariff dated 26.08.2005
- /140) Licence №220544 for electric power production dated 26.08.2005
- /141) Licence №482728 for education services provision for NKK OJSC EC "Zakarpattyaoblenergo" dated 29.09.2009
- /142) Microsoft Open Licence

- /143/ Note on electric power consumption for the period from 07/2005 until 04/2011
- /144/ OJSC EC "Zakarpattyaoblenergo". Protocol of parametrization No.1419 dated 22/03/2011
- /145/ OJSC EC "Zakarpattyaoblenergo". Protocol of voltage transformer examination dated 25/11/2010
- /146/ OJSC EC "Zakarpattyaoblenergo". Task-report, March 2011
- /147/ Order №437 on organization of information collection of electricity supply in (M)REM network dated 06.12.2006
- /148/ Order on "exchange of places of electricity supply accounting in REM (PEM) network dated 28.02.2006
- /149/ Order on activities of company in 2008 dated 02/01/2008
- /150/ Order on activities of company in 2009 dated 02/01/2009
- /151/ Order on activities of company in 2010 dated 04/01/2010
- /152/ Order on activities of company in 2011 dated 04/01/2011
- /153/ Passport of high voltage discounts exploitation of facilities and metrology of power sale
- /154/ Permission №392.01.21.80.22.0 on work start dated 12.12.2001
- /155/ Personal account of consumer for Mykola Seredin
- /156/ Principles of compilation of electric power balance structure in electricity supply networks of 0,38-150 kV, analysis of its rectangular components and regulation of technological expenditure of electricity
- /157/ Programm of hand-over tests of automatized system of electric power commercial account in 2010
- /158/ Programm of REM dispatchers' skills improvement
- /159/ Programm of skills improvement of masters of REM production devisions repairment
- /160/ Programm of skills improvement of masters of substation group
- /161/ Protocol №Y04728690/8.082 -2010П of state metrological certification of automatized system of electric power commercial account dated 22.04.2010
- /162/ Protocol of current transformer examination dated 24/11/2010
- /163/ Purchase and sale agreement on recyclable materials dated 08.12.2010
- /164/ Purchase and sale agreement on scrap of black and color metals and recyclable materials dated 31.12.2009
- /165/ Report on investment programm realization in OJSC EC "Zakarpattyaoblenergo" for 2005
- /166/ Report on investment programm realization in OJSC EC

- "Zakarpattyaoblenergo" for 2006
- /167) Report on investment programm realization in OJSC EC  
"Zakarpattyaoblenergo" for 2007
- /168) Report on investment programm realization in OJSC EC  
"Zakarpattyaoblenergo" for 2008
- /169) Report on investment programm realization in OJSC EC  
"Zakarpattyaoblenergo" for 2009
- /170) Report on investment programm realization in OJSC EC  
"Zakarpattyaoblenergo" for 2010
- /171) Report on results of activities in 2001 and tasks for 2002 dated 02/01/2002
- /172) Report on results of activities in 2002 and tasks for 2003 dated 02/01/2003
- /173) Report on results of activities in 2003 and tasks for 2004 dated 08/01/2004
- /174) Report on results of activities in 2004 and tasks for 2005 dated 04/01/2005
- /175) Report on results of activities in 2005 and tasks for 2006 dated 03/01/2006
- /176) Report on results of activities in 2006 and tasks for 2007 dated 02/01/2007
- /177) Resolution No.4 about administrative amercement dated 22.02.2010
- /178) Sample of electricity supply statement into Tyachiv REM network in nets with  
10/6-0,4 kV
- /179) Sample of list for delivery of certificates of qualification improvement in NKK  
OJSC EC "Zakarpattyaoblenergo"
- /180) Sample of protocol of qualification committee meeting of NKK OJSC EC  
"Zakarpattyaoblenergo"
- /181) Stamp of NKK OJSC EC "Zakarpattyaoblenergo"
- /182) Statement No.116 of National ecological inspection dated 20.10.2004
- /183) Statement of inspection of environmental regulations compliance dated  
03.06.2010
- /184) Statement of inspection of Uzh river coast within the border of the city of  
Onokivtsi village dated 07.11.2008
- /185) Statement of National ecological inspection dated 13.10.2004
- /186) Statement of National ecological inspection dated 14.10.2004
- /187) Statement of National ecological inspection dated 14.10.2004
- /188) Statement of National ecological inspection dated 15.10.2004
- /189) Statement of National ecological inspection dated 15.10.2004
- /190) Statement of National ecological inspection dated 20.04.1999
- /191) Statement of reception of automatized system of electric power commercial  
account into researching operation dated 18/12/2008

- /192) Statement on the order of data exchange between ASOE (ACOE) of Western SC NEC "Ukrenergo" and OJSC EC "Zakarpattyaoblenergo" dated 29/04/2010
- /193) Verification certificat for standart metre №29-09/2258 Current transformer И-56 Reg.№35259 dated 09.12.2009
- /194) Verification certificat for standart metre №29-10/0391 Tension transformer HOM(э)-6/10 Reg.№803 dated 01.03.2010
- /195) Verification certificat for standart metre №3/627 Electricity supply meter calibration facility LY6800/3 Reg.№17079 dated 28.07.2010
- /196) Verification certificat for standart metre №3/628 Etalon three-phase meter EFH-31 Reg.№1163 dated 28.07.2010
- /197) Verification certificat for standart metre №3/628 Etalon three-phase meter LY6806-02 Reg.№190366 dated 28.07.2010
- /198) Verification certificat for standart metre №3/629 Etalon three-phase meter LY6806-02 Reg.№160305 dated 28.07.2010
- /199) Verification certificat for standart metre №3/643 Etalon three-phase meter WS2310B Reg.№1316060299 dated 29.07.2010
- /200) Verification certificat for standart metre №3/644 Etalon three-phase meter WS2310B Reg.№1316060292 dated 29.07.2010
- /201) Verification certificat for standart metre №3/657 Electricity supply meter calibration facility LY6800/3 Reg.№1N126 dated 04.08.2010
- /202) Verification certificat for standart metre №3/693 Resistance box MCP-63 Reg.№01488 dated 05.08.2010
- /203) Verification certificat for standart metre №3/694 Resistance box MCP-63 Reg.№03010 dated 05.08.2010
- /204) Verification certificat for standart metre №3/695 Resistance box MCP-63 Reg.№06961 dated 05.08.2010
- /205) Verification certificat for standart metre №3/696 Resistance box MCP-63 Reg.№01275 dated 05.08.2010
- /206) Verification certificat for standart metre №3/697 Resistance box MCP-63 Reg.№01169 dated 05.08.2010
- /207) Verification certificat for standart metre №3/698 Continuous current bridge МОД-61 Reg.№1719 dated 05.08.2010
- /208) Verification certificat for standart metre №3/702 Resistance box P4073 Reg.№375 dated 05.08.2010
- /209) Verification certificat for standart metre №3/703 Resistance box P4042 Reg.№536 dated 05.08.2010
- /210) Verification certificat for standart metre №3/704 Resistance box P403 Reg.№20804 dated 05.08.2010



- /211) Verification certificat for standart metre №3/705 Resistance box P4047 Reg.№305 dated 05.08.2010
- /212) Verification certificat for standart metre №3/706 Resistance box P4047 Reg.№343 dated 05.08.2010
- /213) Verification certificat for standart metre №3/706 Resistance box P4057 Reg.№2421 dated 05.08.2010
- /214) Verification certificat for standart metre №3/707 Resistance box P4003 Reg.№2207 dated 05.08.2010
- /215) Verification certificat for standart metre №3/708 Resistance box P4041 Reg.№428 dated 05.08.2010
- /216) Verification certificat for standart metre №3/710 Resistance box P4002 Reg.№10959 dated 05.08.2010
- /217) Verification certificat for standart metre №3/711 Wattmeter Д57 Reg.№21514 dated 06.08.2010
- /218) Verification certificat for standart metre №3/712 Amperemeter Д57 Reg.№17063 dated 06.08.2010
- /219) Verification certificat for standart metre №3/713 Cymometer Ф5043 Reg.№4195 dated 06.08.2010
- /220) Verification certificat for standart metre №3/714 Current transformer УТТ-6 Reg.№3601 dated 06.08.2010
- /221) Verification certificat for standart metre №3/715 Cymometer Д506 Reg.№109340 dated 06.08.2010
- /222) Verification certificat for standart metre №3/716 Amvoltmeter Ц4311 Reg.№3042 dated 06.08.2010
- /223) Verification certificat for standart metre №3/717 Voltmeter Д5103 Reg.№401 dated 09.08.2010
- /224) Verification certificat for standart metre №3/718 Voltmeter Э513 Reg.№99131 dated 09.08.2010
- /225) Verification certificat for standart metre №3/719 Amperemeter Д5100 Reg.№2679 dated 09.08.2010
- /226) Verification certificat for standart metre №3/720 Wattmeter Д5105 Reg.№2411 dated 09.08.2010
- /227) Verification certificat for standart metre №3/724 Millammeter Д50145 Reg.№5232 dated 10.08.2010
- /228) Verification certificat for standart metre №3/725 Millammeter Д50144 Reg.№5463 dated 10.08.2010
- /229) Verification certificat for standart metre №3/726 Millammeter Д50146 Reg.№5563 dated 10.08.2010



- /230) Verification certificat for standart metre №3/727 Wattmeter Д5106 Reg.№2350 dated 10.08.2010
- /231) Verification certificat for standart metre №3/728 Wattmeter Д5105 Reg.№2445 dated 10.08.2010
- /232) Verification certificat for standart metre №3/729 Wattmeter Д5106 Reg.№356 dated 11.08.2010
- /233) Verification certificat for standart metre №3/754 Wattmeter Д580 Reg.№5007 dated 18.08.2010
- /234) Verification certificat for standart metre №3/755 Voltmeter Д50152 Reg.№5722 dated 18.08.2010
- /235) Verification certificat for standart metre №3/756 Voltmeter Ц4311 Reg.№193 dated 18.08.2010
- /236) Verification certificat for standart metre №3/757 Amperemeter Д5017 Reg.№50950 dated 18.08.2010
- /237) Verification certificat for standart metre №3/758 Amperemeter Д566 Reg.№11177 dated 18.08.2010
- /238) Verification certificat for standart metre №3/767 Microammeter M2005 Reg.№4270 dated 19.08.2010
- /239) Verification certificat for standart metre №3/768 Voltammeter M2007 Reg.№9733 dated 19.08.2010
- /240) Verification certificat for standart metre №3/775 Wattmeter Д5106 Reg.№2370 dated 25.08.2010
- /241) Verification certificat for standart metre №3/777 Amperemeter Д553 Reg.№98193 dated 28.08.2010
- /242) Verification certificat for standart metre №3/778 Amperemeter Д5017 Reg.№51093 dated 25.08.2010
- /243) Verification certificat for standart metre №3/779 Cymometer Ф506M Reg.№5664 dated 25.08.2010
- /244) Verification certificat for standart metre №3/780 Tension divider P5/1 Reg.№1205 dated 25.08.2010
- /245) Verification certificat for standart metre №3/781 Many-sided bypass P6 Reg.№3069 dated 25.08.2010
- /246) Verification certificat for standart metre №3/834 Voltmeter Д50151 Reg.№5837 dated 30.08.2010
- /247) Verification certificat for standart metre №3/835 Voltmeter Д50102 Reg.№216 dated 30.08.2010
- /248) Verification certificat for standart metre №3/836 Cymometer Ф5041 Reg.№16 dated 30.08.2010





- /249) Verification certificat for standart metre №3/837 Phasometer Д578 Reg.№862 dated 30.08.2010
- /250) Verification certificate for measurement device №29-09/2160 Conductivity box P5054/2 Reg.№513 dated 24.11.2009
- /251) Verification certificate for measurement device №29-09/2161 Conductivity box P5054/2 Reg.№541 dated 24.11.2009
- /252) Verification certificate for measurement device №29-09/2178 Tension box MH-1200/100 Reg.№011 dated 25.11.2009
- /253) Verification certificate for measurement device №29-09/2180 Conductivity box P5054/1 Reg.№811 dated 25.11.2009
- /254) Verification certificate for measurement device №29-10/0069 Conductivity box P5054/1 Reg.№805 dated 20.01.2010
- /255) Verification certificate for measurement device №3/1310 Current transformer T-066 Y3 Reg.№245303, 432193, 567342 (3 units) dated 01.12.2010
- /256) Verification certificate for measurement device №3/1311 Current transformer T-066 Y3 Reg.№28319, 28069, 28109 (3 units) dated 01.12.2010
- /257) Verification certificate for measurement device №3/1312 Current transformer ТВЛМ-10 Reg.№22113, 28191 (2 units) dated 01.12.2010
- /258) Verification certificate for measurement device №3/1313 Current transformer ТВПМ-10 Reg.№55770, 50479 (2 units) dated 01.12.2010
- /259) Verification certificate for measurement device №3/1314 Current transformer ТВМ-10 Reg.№44113, 41687 dated 01.12.2010
- /260) Verification certificate for measurement device №3/1315 Tension transformer НАМИ-10 Reg.№6823 dated 01.12.2010
- /261) Verification certificate for measurement device №3/355 Tension transformer ЗНОМ-35-6541 Reg.№1410145, 1410143, 1412116 (3 units) dated 07.05.2009
- /262) Verification certificate for measurement device №3/378 Current transformer ТФ3М-35 Reg.№19672, 19734 (2 units) dated 04.06.2008
- /263) Verification certificate for measurement device №3/439 Electricity supply meter calibration facility Y1134 Reg.№6623 dated 08.06.2010
- /264) Verification certificate for measurement device №3/505 Current transformers И515М/1 Reg.№18120, 13263, 15892 (3 units) dated 14.07.2009
- /265) Verification certificate for measurement device №3/506 Current transformers И515М/1 Reg.№012298, 11890, 01295 (3 units) dated 14.07.2009
- /266) Verification certificate for measurement device №3/536 Electricity supply meter calibration facility Y1134 Reg.№6642 dated 16.07.2010
- /267) Verification certificate for measurement device №3/620 Wattmeter Д566/100 Reg.№14854 dated 28.07.2010

- /268) Verification certificate for measurement device №3/621 Wattmeter Д566/100 Reg.№19873 dated 28.07.2010
- /269) Verification certificate for measurement device №3/622 Wattmeter Д566/100 Reg.№54978 dated 28.07.2010
- /270) Verification certificate for measurement device №3/623 Mechanical second counter COC Reg.№5983, 3626 (2 units) dated 28.07.2010
- /271) Verification certificate for measurement device №3/624 Mechanical second counter COC Reg.№1379, 9380, 7993 (3 units) dated 28.07.2010
- /272) Verification certificate for measurement device №3/625 Wattmeter Д539 Reg.№32617 dated 28.07.2010
- /273) Verification certificate for measurement device №3/626 Wattmeter Д539 Reg.№65657, 56401, 7383 (3 units) dated 28.07.2010
- /274) Verification certificate for measurement device №3/721 Wattmeter Д5068 Reg.№2173 dated 09.08.2010
- /275) Verification certificate for measurement device №3/769 Combined numerical device Щ4300 Reg.№0114 dated 19.08.2010
- /276) Verification certificate for measurement device №3/778 Wattmeter Д5070 Reg.№2368 dated 25.08.2010
- /277) Verification certificate for measurement device №3/782 Bypass 75ЩСМ Reg.№221475 dated 25.08.2010
- /278) Verification certificate for measurement device №3/821 Current transformer ТЛМ-10 Reg.№9959, 9262 dated 27.11.2008
- /279) Verification certificate for measurement device №3/822 Tension transformer НТМ(і)-10 Reg.004 dated 27.11.2008
- /280) Verification certificate for measurement device №3/823 Current transformer ТФ3М-35 Reg.№19672, 19734 (2 units) dated 27.11.2008
- /281) Verification certificate for measurement device №3/824 Current transformer ТПОФ-10 Reg.№106727, 106383, 101333 (3 units) dated 27.11.2008
- /282) Verification certificate for measurement device №3/825 Current transformer ТПОФ-10 Reg.№106758, 101327, 106377 (3 units) dated 27.11.2008
- /283) Verification certificate for measurement device №3/826 Current transformer ТПОФ-10 Reg.№106379, 101332, 106741 (3 units) dated 27.11.2008
- /284) Verification certificate for measurement device №3/827 Current transformer ТЛМ-10 Reg.№1765 dated 27.11.2008
- /285) Verification certificate for measurement device №3/828 Current transformer ТПЛМ-10 Reg.№5786 dated 27.11.2008
- /286) Verification certificate for measurement device №3/834 Tension transformer НТМИ-10 Reg.№620514, 312 (2 units) dated 28.11.2008

- /287/ Verification certificate for measurement device №3/835 Current transformer ТФ3М-110 Reg.№21422, 21409 (2 units) dated 28.11.2008
- /288/ Verification certificate for measurement device №3/836 Current transformer ТФ3М-110 Reg.№19849, 18690 (2 units) dated 28.11.2008
- /289/ Verification certificate for measurement device №3/837 Tension transformer HKФ-110 Reg.№994040, 994088, 994090 (3 units) dated 28.11.2008
- /290/ Verification certificate for measurement device №3/838 Tension transformer HKФ-110 Reg.№995010, 995025, 995022 (3 units) dated 28.11.2008
- /291/ Volumes of supplementary activities on investment programm realization for 2003-2004

**Persons interviewed:**

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

- /1/ Kovach V. I. - General Director
- /2/ Bilak O. O. - Deputy General Director - Technical Director
- /3/ Onysko O. I. - Director of Economics and Finance
- /4/ Gabor O. M. - Director of energydistribution
- /5/ Kovach S. V. - Director of Investments and technical support of production
- /6/ Kisyuk V. S. - Director of the safety - Head of Department of Labor
- /7/ Habchak E. B. - Director of Capital Construction
- /8/ Khokhlov V. B. - Deputy Technical Director
- /9/ Slyvka J. Yu. - Deputy Technical Director of High Voltage networks
- /10/ Stehnach N. V. - Deputy Technical Director of Information Technology
- /11/ Talapko S. B. - Deputy Director of OP PB - Chief of PB
- /12/ Malosh I. M. - Deputy Director energydistribution to work with household consumers - head of department on work with household consumers
- /13/ Gusak S. M. - Deputy Director energydistribution and legal issues
- /14/ Popovych A. V. - Deputy Director on technical issues of energydistribution
- /15/ Lesio I. P. - Deputy Director of General Affairs - Head of VMTP
- /16/ Rzhanov D. – representative of CARBON MANAGEMENT COMPANY GMBH



VERIFICATION REPORT: REDUCTION OF PROCESS LOSSES IN POWER LINES ZAKARPATTYA OBLENERGO PJSC

## APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

### VERIFICATION PROTOCOL

Check list for verification, according to the JOINT IMPLEMENTATION DETERMINATION AND VERIFICATION MANUAL (Version 01)

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
<b>Project approvals by Parties involved</b>				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	The project has been approved by both Party involved. Letter of Approval #3699/23/7 dated 21/12/2011 issued by State Environmental Investment Agency of Ukraine. Letter of Approval J294-0485 issued by Switzerland Federal Department of the Environment, Transport, Energy and Communications DETEC on 27/04/2012	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	All the written project approvals are unconditional	OK	OK
<b>Project implementation</b>				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	<p><u>CAR01</u> Please indicate correct date and valid version of PDD through all the Monitoring Report</p> <p><u>CAR02</u> The monitoring report indicates project implementation status in the <i>Table 1</i> in the section A.6. The determined PDD doesn't contain list of proposed measures. Please provide in the Monitoring Report reference to reliable and transparent source of these data. Also please explain, if planned actions for 2008-2011 years are different from implemented measures.</p> <p><u>CAR03</u> Please explain difference between ERU's calculation for 2011 indicated in the determined PDD and in the Monitoring Report</p>	CAR01  CAR02	OK  OK
93	What is the status of operation of the project	The project equipment is in operation during the monitoring	OK	OK



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## VERIFICATION REPORT: REDUCTION OF PROCESS LOSSES IN POWER LINES ZAKARPATTYAUBLENERGO PJSC

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	during the monitoring period?	period.		
<b>Compliance with monitoring plan</b>				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	The monitoring has been occurred in accordance with the monitoring plan provided in the PDD which the determination has been deemed final and is available on the UNFCCC website.	OK	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	Key factors influencing the baseline emissions and risks associated with the project activity level have been taken into account for emission reduction calculation.	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	<i>CAR04</i> Please provide to AIE next sources to prove calculations reliability: <ul style="list-style-type: none"> <li>- number of residential users</li> <li>- number of one- and three phase power meters</li> <li>- part of power meters with different quality class</li> <li>- part of electronic and induction power meters</li> </ul>	CAR04	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	Emission factor for electric power transmission is used for emission reduction calculation. Value of Emission factor is accepted from year to year by National Environmental Investment Agency Orders.	OK	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	The calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner.	OK	OK
<b>Applicable to JI SSC projects only</b>				
96	Is the relevant threshold to be classified as JI	Not applicable	Not	Not



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?		applicable	applicable
<b>Applicable to bundled JI SSC projects only</b>				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	Not applicable	Not applicable	Not applicable
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	Not applicable	Not applicable	Not applicable
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	Not applicable	Not applicable	Not applicable
<b>Revision of monitoring plan</b>				
<b>Applicable only if monitoring plan is revised by project participant</b>				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	The monitoring plan has not been revised by project participants	Not applicable	Not applicable
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	Not applicable	Not applicable	Not applicable
<b>Data management</b>				



## VERIFICATION REPORT: REDUCTION OF PROCESS LOSSES IN POWER LINES ZAKARPATTYAUBLENERGO PJSC

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The implementation of data collection procedures are in accordance with the monitoring plan contains in the determined PDD. <u>CAR05</u> Please provide in the section C.1 transparent scheme of data collection with indication of monitored parameters and responsible persons	CAR05	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	The function of monitoring equipment including its calibration status is in order. Electric measuring equipment are calibrated by State Enterprise "Zakarpattyaderzhstandartmetrologiya" under approved plan	OK	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidences and records are used for the monitoring maintained in a traceable manner.	OK	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	<u>CAR06</u> Please indicate that the data monitored and required to ERUs calculation will be kept two years after the last ERUs transfer. Also please provide to AIE relevant order	CAR06	
<b>Verification regarding programs of activities (additional elements for assessment)</b>				
102	Is any JPA that has not been added to the JI PoA not verified?	Not applicable	Not applicable	Not applicable
103	Is the verification based on the monitoring reports of all JPAs to be verified?	Not applicable	Not applicable	Not applicable
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	Not applicable	Not applicable	Not applicable
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable	Not applicable	Not applicable
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	Not applicable	Not applicable	Not applicable
<b>Applicable to sample-based approach only</b>				
106	Does the sampling plan prepared by the AIE:	Not applicable	Not	Not



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## VERIFICATION REPORT: REDUCTION OF PROCESS LOSSES IN POWER LINES ZAKARPATTYAUBLENERGO PJSC

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	(a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: <ul style="list-style-type: none"> <li>- The types of JPAs;</li> <li>- The complexity of the applicable technologies and/or measures used;</li> <li>- The geographical location of each JPA;</li> <li>- The amounts of expected emission reductions of the JPAs being verified;</li> <li>- The number of JPAs for which emission reductions are being verified;</li> <li>- The length of monitoring periods of the JPAs being verified; and</li> <li>- The samples selected for prior verifications, if any?</li> </ul>		applicable	applicable
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	Not applicable	Not applicable	Not applicable
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	Not applicable	Not applicable	Not applicable





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## VERIFICATION REPORT: REDUCTION OF PROCESS LOSSES IN POWER LINES ZAKARPATYA OBLENERGO PJSC

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	Not applicable	Not applicable	Not applicable
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	Not applicable	Not applicable	Not applicable

**Table 2 Resolution of Corrective Action and Clarification Requests**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
<u>CAR01</u> Please indicate correct date and valid version of PDD through all the Monitoring Report	92	The correct date and version of the determined PDD has been indicated through all Monitoring Report version 2.0 dated 20/04/2012	The corrections of Monitoring Report were provided by the project developer. The issue is closed
<u>CAR02</u> The monitoring report indicates project implementation status in the <i>Table 1</i> in the section A.6. The determined PDD doesn't contain list of proposed measures. Please provide in the Monitoring Report reference to reliable and transparent source of these data. Also please explain, if planned actions for 2008-2011 years are different from implemented measures.	92	All information on project implementation was provided from official and approved sources such as Reports on investment programs realization for relevant year. These Reports have been sent to National energetic Regulatory Commission of Ukraine (NERC), NJSC "Energy Company of Ukraine", Ministry of Fuel and Power of Ukraine. Soft copies of Reports were provided to AIE.	The information concerning in Reports is in line with the ERUs calculation Excel file. The issue is closed.



## VERIFICATION REPORT: REDUCTION OF PROCESS LOSSES IN POWER LINES ZAKARPATTYAUBLENERGO PJSC

<p><u>CAR03</u> Please explain difference between ERU's calculation for 2011 indicated in the determined PDD and in the Monitoring Report</p>	92	<p>The difference between ERUs indicated in the PDD and the monitoring report was found out in 2011 year. Obtained emission reduction is higher than expected in the PDD on 11901 ton CO<sub>2</sub> equivalent. This difference is explained reasonably in the next way: for ERUs calculation for 2011 year in the PDD version 4.0 average values from previous years were used and factual data from official source was used for ERUs calculations in the Monitoring Report</p>	<p>Corrections were found satisfactory. The issue is closed.</p>
<p><u>CAR04</u> Please provide to AIE next sources to prove calculations reliability:</p> <ul style="list-style-type: none"> <li>- number of residential users</li> <li>- number of one- and three phase power meters</li> <li>- part of power meters with different quality class</li> <li>- part of electronic and induction power meters</li> </ul>	95(b)	<p>The sources of abovementioned parameters such as Reports on investment programs realization for relevant year, Reports on power metering system implementation (67 Form), Reports on electric energy thefts were provided to AIE</p>	<p>These data sources were found satisfactory. Concerning in <u>CAR03</u> data is in line with ERUs calculation Excel file. The issue is closed.</p>
<p><u>CAR05</u> Please provide in the section C.1 transparent scheme of data collection with indication of monitored parameters and responsible persons</p>	101 (a)	<p>Corrections of monitoring scheme were provided. The data flow and responsible persons were indicated in the section C of Monitoring Report version 2.0 dated 20/04/2012.</p>	<p>Corrections were found satisfactory. The issue is closed.</p>
<p><u>CAR06</u> Please indicate that the data monitored and required to ERUs calculation will be kept two years after the last ERUs transfer. Also please provide to AIE relevant order</p>	101(d)	<p>The Monitoring Report version 2.0 dated 20/04/2012 indicates that the data monitored and required for ERUs calculation will be kept during two years after the last ERUs transfer. Order on data keeping issued by "Zakarpattyablenergo" PJSC has been provided to AIE</p>	<p>Correction of the monitoring report has been provided. The AIE obtained relevant order issued by "Zakarpattyablenergo". The issue is closed</p>