VERIFICATION REPORT VEMA S.A.

VERIFICATION OF THE

MODERNIZATION OF ELECTRIC POWER DISTRIBUTION SYSTEM AT PJSC "PC "SEVASTOPOLENERGO"

First periodic for the period 01/01/2008 – 31/12/2010

REPORT NO. UKRAINE-VER/0346/2011

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Date of first issue:	Organizational unit:
16/09/2011	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
VEMA S.A.	Fabian Knodel

Summary:

Bureau Veritas Certification has made the first periodic verification for the period from 01 January 2008 to 31 December 2010 of the "Modernization of electric power distribution system at PJSC "PC "Sevastopolenergo" project of VEMA S.A., located in Sevastopol city, Ukraine, and applying 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 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 (CL, 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 emission reductions totalize 142248 tons of CO2eq for the monitoring period from 01/01/2008 to 31/12/2010 (31954 tons of CO2eq for the period 01/01/2008-31/12/2008, 46275 tons of CO2eq for the period 01/01/2009-31/12/2009, 64019 tons of CO2eq for the period 01/01/2010-31/12/2010).

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported and related to the approved project baseline and monitoring, and its associated documents.

Report No.:	Subject Group:
UKRAINE-ver/0346/2011	JI

Project title:
Modernization of electric power distribution system at PJSC "PC "Sevastopolenergo"

Work carried out by:

Team Leader, Lead Verifier:	Igor Kachan
Team Member, Lead Verifier:	Victoria Legka
Team Member, Lead Verifier:	Oleg Skoblyk

Work reviewed by:
Ivan Sokolov - Internal Technical Reviewer
Daniil Ukhanov - Technical Specialist

Work approved by:
Flavio Gomes – Operational Manager

Bureau Veritas Certification Holding SAS

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Abbreviations

AIE	Accredited Independent Entity
BVC	Bureau Veritas Certification Holding SAS
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO_2	Carbon Dioxide
DFP	Designated Focal Point
DVM	Determination and Verification Manual
FAR	Forward Action Request
GHG	Green House Gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
JI	Joint Implementation
JISC	Joint Implementation Supervisory Committee
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project Design Document
UNFCCC	United Nations Framework Convention for Climate Change

1 INTRODUCTION

VEMA S.A. has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project “Modernization of electric power distribution system at PJSC “PC “Sevastopolenergo” (hereafter called “the project”) located in Sevastopol city, 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.

The verification covers the period from 1st January 2008 to 31st December 2010.

1.1 Objective

Verification is the periodic independent review and ex post determination by the Accredited Independent Entity (AIE) 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

Verification scope is defined as an independent and objective review and ex post determination by the Accredited Independent Entity of the monitored reductions in GHG emissions. The verification is based on the submitted monitoring report, the determined project design document including the project’s baseline study, monitoring plan 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:

Igor Kachan
Team Leader, Bureau Veritas Certification Climate Change Lead Verifier

Victoria Legka
Team Member, Bureau Veritas Certification Climate Change Lead Verifier

Oleg Skoblyk
Team Member, Bureau Veritas Certification Climate Change Lead 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 VEMA S.A. and additional background documents related to the project design, baseline, and monitoring plan, i.e. country Law, Project Design Document (PDD), 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 01 of 18 August 2011 and version 02 dated 21 September 2011, and project as described in the determined PDD.

2.2 Follow-up Interviews

On 19/08/2011 Bureau Veritas Certification verification team conducted a visit to the project site, PJSC "PC "Sevastopolenergo", and performed (on-site) interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of VEMA S.A. and PJSC "PC "Sevastopolenergo" were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
PJSC "PC "Sevastopolenergo"	Organizational structure Responsibilities and authorities Roles and responsibilities for data collection and processing Installation of equipment Data logging, archiving, and reporting Metering equipment control Metering record keeping system, database IT management Training of personnel Quality management procedures and technology Internal audits and check-ups
Consultant: VEMA S.A.	Baseline methodology Monitoring plan Monitoring report Deviations from PDD.

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 documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 12 Corrective Action Requests and 2 Clarification 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

During the determination process conducted by AIE Bureau Veritas Certification one Forward Action Request was issued (refer to the Determination Report No.UKRAINE-det/0271/2011, rev.02 of 13/07/2011):

FAR01. Please, submit any documented instruction indicating that the data monitored are to be kept for two years after last ERUs transfer as per JI determination and verification manual.

In course of the current verification the Clarification Request 02 was raised by the Verification Team in order to clarify how the FAR had been addressed. As a response the project participants provided the Order on storage of data collected within the project's monitoring process. The Order prescribes keeping of data monitored and required for verification for two years after the last transfer of emission reduction units for the project. Therefore, based of the submitted documentation the FAR is considered to be closed.

3.2 Project approval by Parties involved (90-91)

The project was approved by the host Party, Ukraine, which is confirmed by the Letter of Approval No. 2669/23/7 dated 21/09/2011 issued by State Environmental Investment Agency of Ukraine. The written project approval by Switzerland, the other Party involved, has also been issued by the DFP of that Party (Letter of Approval #J294-0485 issued by the Federal Office for the Environment FOEN of Switzerland dated 28/06/2011).

The abovementioned written approvals are unconditional.

The identified areas of concern as to the project approval by Parties involved, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR01).

3.3 Project implementation (92-93)

The project which is being implemented at the Public Joint Stock Company "Power Company "Sevastopolenergo" (hereinafter PJSC "PC "Sevastopolenergo") envisages the implementation of the program on the technical improvement of electrical networks and equipment, advanced

technologies implementation, the transition to a higher level of organization of transmission and distribution of electric energy which are aimed at improvement of the reliability and efficiency of electricity transmission in distribution electrical grids of PJSC "PC "Sevastopolenergo". This in turn will help to reduce the amount of electricity that is lost during its transportation to the consumers of all forms of ownership, so the production of electricity at power plants will decrease causing the corresponding reduction of fossil fuels used to produce electric power and thus decrease of the GHG emissions in comparison to the situation that would exist without project implementation.

The project scenario provides for implementation of new energy efficient equipment and complex of organizational and technical measures aimed at reduction of process losses of electricity during its transmission as well as measures on development and improvement of methodological support of reduction of electricity process losses in the course of implementation of licensed types of activity of electricity supply and transfer. These measures include modernization works in electrical grids; improvement of the reliability of electricity supply to consumers; introduction of automated system of electricity consumption commercial recording within the framework of the power supply company, consumers and sub-plants etc.

Implementation of project activities started in 2003, as provided for in the determined PDD, version 02. However, emission reductions generated in 2003 were conservatively excluded from the calculation. Therefore, 01/01/2004 was taken as a starting date of the crediting period.

Project implementation status in the reporting period of 01/01/2008 – 31/12/2010 is provided in the Table 2 below.

Table 2. Status of project implementation during the monitoring period

№	Measures	Number of units of works done in the period of 01/01/2008 – 31/12/2010					Year of implementation
		0,38kV	6kV	10kV	35kV	110kV	
1	Implementation of new or reconstruction of existing wires of electricity transmission lines, km	22,640	3,153	0,820	0	0	2008
		27,740	1,324	0,900	0	0	2009
		21,222	1,024	0,293	0	0	2010
2	Replacement of insulators of	0	333	25	250	650	2008
		0	539	25	132	350	2009

	electricity transmission lines, units	0	526	33	45	303	2010
3	Implementation of reactive power compensation devices at consumer's place, kV	400	0	0	0	0	2008
		400	0	0	0	0	2009
		400	0	0	0	0	2010
4	Replacement of electricity meters, units	18590	0	0	0	0	2008
		20366	0	0	0	0	2009
		20585	0	0	0	0	2010
5	Implementation of new or reconstruction of existing branches, km	0,06	0	0	0	0	2008
		0,12	0	0	0	0	2009
		0,15	0	0	0	0	2010
6	Reconstruction of existing segments of the electrical grid, units	0	0	3	0	0	2008
		0	0	1	0	0	2009
		0	0	1	0	0	2010
7	Introduction of new or reconstruction of existing double-winding transformers	0	2	0	0	0	2008
		0	2	0	0	0	2009
		0	0	0	0	0	2010

Status of project activity implementation during the considered monitoring period complies with the determined PDD version 02.

The verification team can confirm, through the visual inspection and document review, that all physical features of the proposed JI project activity including data collecting and storage systems have been implemented according to the PDD.

The identified areas of concern as to the project implementation, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR02, CAR03, CAR04, CL01).

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

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

For calculating the emission reductions, key factors, such as electricity losses due to the introduction of new or reconstruction of existing wires of electricity transmission lines; electricity losses due to the replacement of defected insulators of electricity transmission lines; electricity losses due to the replacement of electricity meters; electricity losses due to the implementation of reactive power compensation devices at consumer's place; electricity losses due to the replacement of oil switches with vacuum and sulphur hexafluoride switches; electricity losses due to replacement or reconstruction of existing electric motors of power transformers blower cooling and others, influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account.

Data sources used for calculating emission reductions such as appropriately calibrated measuring devices, passport data of the measuring equipment, sectoral methodologies, data for Ukrainian power grid published by National Environmental Agency of Ukraine and others, are clearly identified, reliable and transparent.

Emission factors, including default emission factors, are selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice.

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

The identified areas of concern as to the compliance of the monitoring plan with the monitoring methodology, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR05, CAR06, CAR07, CAR08, CAR09).

3.5 Revision of monitoring plan (99-100)

Not applicable.

3.6 Data management (101)

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 project monitoring is conducted according to standard operational practices established at PJSC "PC "Sevastopolenergo" within the existing system of the data collection, accounting and reporting. Detailed operational and management structure in presented on the figure 7 in the section C.1 of the Monitoring Report. The scheme of data collection using automated system of electricity consumption commercial recording within the framework of the energy supply company is provided on the figure 8 in the Monitoring Report. Scheme of data collection prior to implementation of the automated system of electricity consumption commercial accounting is shown on the figure 9.

The function of the monitoring equipment, including its calibration status, is in order. The measurement equipment used for project monitoring is serviced, calibrated and maintained in accordance with the original manufacturer's instructions and industry standards; relevant records on measuring devices are kept as required.

The evidence and records used for the monitoring are maintained in a traceable manner. All necessary information for monitoring of GHGs emission reductions are stored in paper or/and electronic formats.

The data collection and management system for the project is in accordance with the monitoring plan.

The Monitoring Report provides sufficient information on the assigning roles, responsibilities and authorities for implementation and maintenance of monitoring procedures including control of data. The verification team confirms effectiveness of the existing management and operational systems and found them eligible for reliable project monitoring.

The identified areas of concern as to the data management, project participants response and BVC's conclusion are described in Appendix A, Table 2 (refer to CAR10, CAR11, CAR12, CL02).

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the first periodic verification for the period from 01 January 2008 to 31 December 2010 of the "Modernization of electric power distribution system at PJSC "PC

"Sevastopolenergo" project in Sevastopol city, Ukraine, which applies 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 monitoring reports, 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 VEMA S.A. 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 and Verification Plan indicated in the final PDD version 02. The development and maintenance of records and reporting procedures are 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 02, for the reporting period from 01/01/2008 to 31/12/2010 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 31/12/2010

For the period from 01/01/2008 to 31/12/2008

Baseline emissions	:72957	t CO2 equivalents;
Project emissions	:41003	t CO2 equivalents;
Emission Reductions	:31954	t CO2 equivalents.

For the period from 01/01/2009 to 31/12/2009

Baseline emissions	:98736	t CO2 equivalents;

Project emissions	:52461	t CO2 equivalents;
Emission Reductions	:46275	t CO2 equivalents.

For the period from 01/01/2010 to 31/12/2010

Baseline emissions	:131246	t CO2 equivalents;
Project emissions	:67227	t CO2 equivalents;
Emission Reductions	:64019	t CO2 equivalents.

Total for the period from 01/01/2008 to 31/12/2010:

Baseline emissions	: 302939	t CO2 equivalents;
Project emissions	: 160691	t CO2 equivalents;
Emission Reductions	: 142248	t CO2 equivalents.

5 REFERENCES

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

/1/ Monitoring Report for the period from 01/01/2008 till 31/12/2010 version 01 dated 18/08/2011

/2/ Monitoring Report for the period from 01/01/2008 till 31/12/2010 version 02 dated 21/09/2011

/3/ Annex 1 to the Monitoring Report for the period 01/01/2008-31/12/2010. Information about implementation of new and reconstruction of existing elements of the electrical grid in the monitoring period (Excel file)

/4/ Annex 2 to the Monitoring Report for the period 01/01/2008-31/12/2010: Data about reconstruction of existing segments of the electrical grid that was executed in the monitoring period (Excel file)

/5/ Annex 3 to the Monitoring Report for the period 01/01/2008-31/12/2010: List of metering equipment (Excel file)

/6/ Annex 4 to the Monitoring Report for the period 01/01/2008-31/12/2010: Calculation of GHG emission reductions (Excel file)

/7/ Project Design Document of the project “Modernization of electric power distribution system at PJSC “PC “Sevastopolenergo”, version 02 dated 11/07/2011

/8/ Determination Report “Modernization of electric power distribution system at PJSC “PC “Sevastopolenergo” No. UKRAINE-det/0271/2011, rev.02 of 13/07/2011 issued by Bureau Veritas Certification

/9/ Letter of Approval of the Joint Implementation project “Modernization of electric power distribution system at PJSC “PC “Sevastopolenergo” #2669/23/7 of 21/09/2011 issued by State Environmental Investment Agency of Ukraine

/10/ Letter of Approval of the project under article 6 of Kyoto protocol (JI) “Modernization of electric power distribution system at PJSC “PC “Sevastopolenergo” # J294-0485 issued by the Federal Office for the Environment of Switzerland dated 28/06/2011

Category 2 Documents:

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

/1/ Guidance on Criteria for Baseline Setting and Monitoring, version 02, JISC

/2/ Order of the National Environmental Investment Agency of Ukraine (NEIA) № 62 of 15/04/2011 on approval of specific carbon dioxide emission indicators for 2008

/3/ Order of the National Environmental Investment Agency of Ukraine (NEIA) № 63 of 15/04/2011 on approval of specific carbon dioxide emission indicators for 2009

/4/ Order of the National Environmental Investment Agency of Ukraine (NEIA) № 43 of 28/03/2011 on approval of specific carbon dioxide emission indicators for 2010

/5/ Order of the National Environmental Investment Agency of Ukraine (NEIA) № 75 of 12/05/2011 on approval of specific carbon dioxide emission indicators for 2011

/6/ Scheme of location of accounting devices substation "Sevastopol"

/7/ Scheme of location of accounting devices substation 10

/8/ Scheme of location of accounting devices TP-229 substation "Bakhchisarai"

/9/ Scheme of location of accounting devices TP-639, SP-1

/10/ Scheme of location of accounting devices of Sevastopol CHP SE "KGS"

/11/ Statement on electricity purchase and sale between SE "Energorynok" and OJSC PC "Sevastopolenergo" for December 2010

/12/ Statement on electricity purchase and sale between SE "Energorynok" and OJSC PC "Sevastopolenergo" for December 2009

/13/ Statement on electricity purchase and sale between SE "Energorynok" and OJSC PC "Sevastopolenergo" for December 2008

/14/ Statement on routine check compliance with the Open Joint Stock Company “PC "Sevastopolenergo" licensing conditions of electricity supply at a regulated tariff and transmission of electricity by local (local) power networks(2008)

/15/ Statement on test routine compliance licensee legislation in the electricity sector and the licensing conditions (2009)

/16/ Statement on test routine compliance licensee legislation in the electricity sector and the licensing conditions (2010)

/17/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million Sevastopol, dated 31.03.2009 Object: Rehabilitation Equipment SW-0, 4 KB of TP-36 r.4, length 0.122km

/18/ The statement of working technical committee on commissioning of electrical distribution networks objects estimated cost of up to 1 million. Dated 30/04/2009, the city of Sevastopol. Object: Building

KL-6 kV-5 - TS-1932 length of 1.584 km.

/19/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million, dated 30/04/2009, the city of Sevastopol. Object: Reconstruction of TP-1106, power transformer kVA TM-400/10 U1

/20/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million, dated 30.06.2009 town, Sebastopol. Object: Building LP-10 kV-10 l.7 - TP-631 with a branch to the KTP-694 length 0.581 km

/21/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million, dated 30.06.2009 town, Sebastopol. Object: Building DHC-6/ 0,4 kW №1425, 250 kVA transformer at Dekabrystiv to the construction of KL-6 kV - 102 m, CL-0, 4 kV - 244m.

/22/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million, dated 31.12.2009, Sevastopol. Object: Reconstruction of KL-6 kV of AC-1L. 23 to AC-6 length 1.75 km

/23/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million, dated 29/01/2010, the city of Sevastopol. Object: Building KTP-10/ 0,4 kV with number 699. Rodnikove in.Kulikova, 100 kVA transformer.

/24/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million, dated 31/03/2010, the city of Sevastopol. Object: Building DHC-6/ 0,4 kW № 1541, reconstruction of KL-6kV LYEP-0, 4 kV on the 5th km. Balaklavsky highway.

/25/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million, dated 31/09/2010, the city of Sevastopol. Object: Building DHC-6 / 0,4 kW № 1542, the construction of KL-6m from the TS-1094 to the PTS-1542 - 890 meters, the construction of KL-6 m from the TS-1119 to the PTS-1542 – 290 m., reconstruction LYEP-0, 4 kV Khrustalev Street..

/26/ The statement of working technical committee on the commissioning of electrical distribution networks objects estimated cost of up to 1 million, dated 30.11.2010, Sebastopol. Object: Building DHC-6 / 0,4 kW № 1543, 400 KVA transformer, construction LYEP-6-0, 4 kV on the street. Korolenko.

/27/ The statement of acceptance in commercial operation of VL-6kV AC-8-TP-154 (02-2008)

/28/ The statement of acceptance in commercial operation

reconstruction of substation #11 (06-2008)

/29/ The statement of acceptance in commercial operation of KTP 282 (10-2008)

/30/ The statement of acceptance in commercial operation of KTP 1025 (11-2008)

/31/ Statement of electricity network supply to JSC "PC "Sevastopolenergo" from the "Crimean EU" for March 2011

/32/ Statement on exchanges in electricity between the JSC "PC "Sevastopolenergo" and "Bahchisarayskym RES" for March 2011

/33/ Statement on exchanges in electricity between the JSC "PC "Sevastopolenergo" and JSC "Krymenergo" for March 2011

/34/ Statement on exchanges in electricity between the JSC "PC "Sevastopolenergo" and SE "Prydneprovska Railway" for March 2011

/35/ Statement production of electricity supply to JSC "SGS Plus" for January 2011

/36/ Statement on the amount of electricity transmitted through the JSC "PC "Sevastopolenergo" substation № 2 for June 2011

/37/ The structure of the balance of energy and power technological consumption (ptc) in the transfer of electrical networks 154-0,38 kV PJSC "PC" Sevastopolenergo" for September 2008 (thousand kW * h)

/38/ The structure of the balance of energy and power technological consumption (ptc) in the transfer of electrical networks 154-0,38 kV PJSC "PC "Sevastopolenergo" for September 2009 (thousand kW * h)

/39/ The structure of the balance of energy and power technological consumption (ptc) in the transfer of electrical networks 154-0,38 kV PJSC "PC "Sevastopolenergo" for September 2010 (thousand kW * h)

/40/ The structure of the balance of energy and power technological consumption (ptc) in the transfer of electrical networks 154-0,38 kV PJSC "PC "Sevastopolenergo" for March 2010 (thousand kW * h)

/41/ The balance of power at PJSC "PC "Sevastopolenergo" for December 2008

/42/ The balance of power at PJSC "PC "Sevastopolenergo" for December 2009

/43/ The balance of power at PJSC "PC "Sevastopolenergo" for December 2010

/44/ The balance of power at PJSC "PC "Sevastopolenergo" for December 2011

/45/ Balance overflows by at PJSC "PC "Sevastopolenergo" with neighboring licensees of transmission by March 2011

/46/ Program and methodology of putting into commercial operation of ASECCA OJSC “PC ”Sevastopolenergo” 2010.

/47/ Order on the implementation of ASECCA in commercial operation of

17.12.10 № 190/0/5-10

/48/ Commissioning statement of automated system of commercial energy accounting of "PC "Sevastopolenergo" of 5.12.2010

/49/ Order on appointment of the operator of ASECCA 17.12.2010 № 191/0/2-10

/50/ Statement on interconnection of ASECCA JSC "Krymenergo" and ASECCA OJSC PC "Sevastopolenergo" 2010.

/51/ Statement on interconnection of ASECCA OJSC PC "Sevastopolenergo" and ASECCA Krymska ESSE "Ukrenergo" 2010.

/52/ Statement on interconnection of ASECCA OJSC PC "Sevastopolenergo" and AMR Ltd. "SGS PLUS" 2010.

/53/ Statement on interconnection of ASECCA OJSC PC "Sevastopolenergo" and ASECCA SE "DnieperRailway" 2010.

Persons interviewed:

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

/1/ Vladyslav Yakymovych – Commercial Director of PJSC “PC “Sevastopolenergo”

/2/ Oleksandr Alekseyev – Deputy Commercial Director of PJSC “PC “Sevastopolenergo”

/3/ Oleg Chausovskyy – Head of the ASECCR department of PJSC “PC “Sevastopolenergo”

/4/ Viktor Shulzhenko – Technical Director of PJSC “PC “Sevastopolenergo”

/5/ Yuriy Muksynov – Head of the dispatcher service of PJSC “PC “Sevastopolenergo”

/6/ Kateryna Boychenko – Head of the capital construction department of PJSC “PC “Sevastopolenergo”

/7/ Volodymyr Degtyarenko – Head of the production and technical department of PJSC “PC “Sevastopolenergo”

/8/ Dmitriy Palamarchuk – JI project consultant of VEMA S.A.

/9/ Yevgen Vorobyov – JI project consultant of VEMA S.A.

APPENDIX A: PROJECT VERIFICATION PROTOCOL

BUREAU VERITAS CERTIFICATION HOLDING SAS

VERIFICATION PROTOCOL

Table 1. 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
Project approvals by Parties involved				
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?	**CAR01** Please, submit the written project approval by the sponsor Party. Please, add the relevant information concerning project approval to the respective section of the Monitoring Report.	**CAR01**	OK
91	Are all the written project approvals by Parties involved unconditional?	Conclusion is pending a response to CAR01.	Pending	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project implementation				
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?	The implementation of the measures under the project during the period of monitoring was carried out according to the determined PDD version 02. The detailed information about implementation of new and reconstruction of existing elements of the electrical grid in the monitoring period is provided in the Annex 1 - supporting Excel file. **CAR02** Please, indicate in the MR if the actual amount of emission reductions, achieved during the monitoring period, differs form the amount foreseen and specified in the determined PDD. If yes, please, indicate the reason for this. **CAR03** The amount of GHG emission reductions, project and baseline emissions, indicated in the MR version 01 is not equal to the one specified in the supplementary Excel file. Please, make corrections in the MR. **CAR04**	**CAR02** **CAR03** **CAR04** **CL01**	OK OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		Please, add to the MR information concerning amount of electricity meters installed under the project and the amount of oil switches replaced with vacuum and sulphur hexafluoride switches. **CL01** Section names and numbering in the MR does not correspond to the information provided in the content. Please, provide explanation or make the appropriate corrections.		
93	What is the status of operation of the project during the monitoring period?	The project's measures were implemented without any deviations form the implementation plan included in the determined PDD version 02.	OK	OK
Compliance with monitoring plan				
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 occurred in accordance with the monitoring plan included in the determined PDD regarding which the determination has been deemed final. **CAR05** Please, indicate in the section B.2.1 of the MR all fixed parameters that are not controlled during the monitoring period in	**CAR05** **CAR06**	OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		accordance with the monitoring plan, included in the determined PDD version 02. **CAR06** Please, in the section B.2.2 specify the units for each parameter that are controlled during the whole monitoring period.		
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) of the DVM, 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?	For calculating the emission reductions, the 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, such as: - electricity losses due to the introduction of new or reconstruction of existing double-winding transformers; - electricity losses due to the introduction of new or reconstruction of existing three-winding transformers; - electricity losses due to the introduction of new or reconstruction of existing wires of electricity transmission lines; - electricity losses in insulation due to the introduction of new or reconstruction	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		of existing wires of electricity transmission lines; - electricity losses due to the replacement of defected insulators of electricity transmission lines; - electricity losses due to the replacement of signalling lamps with light emitting diodes; - electricity losses due to the implementation of reactive power compensation devices at consumer's place; - electricity losses due to the replacement of electricity meters; - electricity losses due to the replacement of oil switches with vacuum and sulphur hexafluoride switches; - electricity losses due to replacement or reconstruction of existing electric motors of power transformers blower cooling; - electricity losses due to the replacement or reconstruction of existing electricity lines with distributed load.		
95 (b)	Are data sources used for calculating emission reductions	**CAR07** Please, adjust the MR in accordance with	**CAR07**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	or enhancements of net removals clearly identified, reliable and transparent?	the monitoring plan provided in the PDD version 02. Please, add to the section B the information concerning the actual monitoring frequency for each parameter.		
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?	**CAR08** Please, in the section B of the MR provide clear and traceable references to the data sources for the parameter «Carbon dioxide emission factor» for each year of the monitoring period.	**CAR08**	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?	Yes, the calculation of emission reductions is based on conservative assumptions and the most plausible scenarios in a transparent manner. **CAR09** Please, indicate in the MR how the leakage of sulphur hexafluoride and	**CAR09**	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		indirect leakage of GHGs from fuel extraction and transportation activities were taken into consideration in emission reduction calculations.		
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI 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?	Not applicable	Not applicable	Not applicable
Applicable to bundled JI SSC projects only				
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	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	submitted a common monitoring report?			
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
Revision of monitoring plan **Applicable only if monitoring plan is revised by project participant**				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	There were no deviations and changes of the approved monitoring plan.	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	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	relevant rules and regulations for the establishment of monitoring plans?			
Data management				
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, including the quality control and quality assurance procedures, are in accordance with the PDD and the determined monitoring plan. **CAR10** Please, in the section B.3 of the MR provide the description of all abbreviations and abridgements when first mentioned. **CAR11** Please, add to the MR information concerning involvement of the third parties in the monitoring in the framework of the project. **CAR12** Please, add to the MR information concerning all types of the meters (including their calibration period) involved in the project monitoring, which are indicated in the supporting document	**CAR10** **CAR11** **CAR12**	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		– Annex 3.		
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	All the equipment, involved in the project monitoring, operated, was calibrated and maintained according to manufacturer's instructions and standards of the industry.	OK	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	All the information that is necessary for GHG emission reductions monitoring is stored in paper and/or electronic formats. During the determination process AIE issued the Forward Action Request concerning issuing of documented instruction/order about storage of the data necessary for monitoring and calculation of emission reductions during 2 years after last transfer of emission reductions. To clarify this, CL was issued: **CL02** Please, submit the documented instruction/order about data storage to AIE for review.	**CL02**	OK
101 (d)	Is the data collection and management system for the project in accordance with the	The data collection and management system for the project is in accordance with the PDD and the monitoring plan.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	monitoring plan?	The verification team confirms the effectiveness of the existing management and operating systems and considers them suitable for reliable monitoring of the project.		
Verification regarding programs of activities (additional elements for assessment)				
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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (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: − The types of JPAs; − The complexity of the applicable technologies and/or measures used; − The geographical location of each JPA;	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− The amounts of expected emission reductions of the JPAs being verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?			
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	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	upper whole number, then does the AIE provide a reasonable explanation and justification?			
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 verification team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR01 Please, submit the written project approval by the sponsor Party. Please, add the relevant information concerning project approval to the respective section of the Monitoring Report.	90	The project was approved by the sponsor Party which is Switzerland with Letter of Approval № J294-0485, issued by the Federal Office for the Environment (FOEN) dated 28/06/2011. The respective letters of approval were submitted to the verification team for review.	The project approvals by the Parties involved were reviewed. The issue is closed on the basis of the documentation provided and corresponding corrections made in the MR.
CAR02 Please, indicate in the MR if the actual amount of emission reductions, achieved during the monitoring period, differs form the amount foreseen and specified in the determined PDD. If yes, please, indicate the reason for this.	92	The actual estimated amount of emission reductions for each project year is slightly different from those values that were provided in the PDD. This is because at the stage of the PDD development before the project implementation it was impossible to accurately determine duration of the	The issue is closed on the basis of the information provided and the corrections made in the MR version 02.

		electrical equipment operation per year and the number of days (of electrical equipment operation) with a temperature below 5°C. So predicted values were provided. The difference between predicted and actual values of these parameters also led to differences in the number of expected and actual emission reductions under the project. This information was also added to the MR 02.	
CAR03 The amount of GHG emission reductions, project and baseline emissions, indicated in the MR version 01 is not equal to the one specified in the supplementary Excel file. Please, make corrections in the MR.	92	The value of emission reductions indicated the MR and the supplementary Excel files were checked. The necessary corrections were made in the MR version 02.	The issue is closed taking into account the corrections made in the MR.
CAR04 Please, add to the MR information concerning amount of electricity meters installed under the project and the amount of oil switches replaced with vacuum and sulphur	94	The information concerning amount of electricity meters installed under the project and the amount of oil switches replaced with vacuum and sulphur hexafluoride switches	The issue is closed on the basis of the explanations provided and the corrections made in the MR version 02.

hexafluoride switches.		was added to the MR 02.	
CAR05 Please, indicate in the section B.2.1 of the MR all fixed parameters that are not controlled during the monitoring period in accordance with the monitoring plan, included in the determined PDD version 02.	94	The issue was addressed in the MR version 02. All fixed parameters that are not controlled during the monitoring period were added to the section B of eth MR version 02.	The issue is closed based on the corrections made in the MR version 02.
CAR06 Please, in the section B.2.2 specify the units for each parameter that are controlled during the whole monitoring period.	95 (a)	The necessary corrections were made in the section B.2.2 of the MR version 02.	The MR version 02 was checked. The issue is closed on the basis of the correction provided.
CAR07 Please, adjust the MR in accordance with the monitoring plan provided in the PDD version 02. Please, add to the section B the information concerning the actual monitoring frequency for each parameter.	95 (b)	The issue was addressed in the MR version 02. The information concerning actual monitoring frequency for each parameter used for baseline and project emissions calculation, in accordance with the monitoring plan specified in the PDD version 02, was provided.	The MR version 02 was checked. The issue is closed on the basis of the correction provided.
CAR08 Please, in the section B of the MR provide clear and traceable references to the data sources for the parameter «Carbon dioxide	95 (c)	The necessary references to the data sources for the parameter «Carbon dioxide emission factor» were added to the MR version 02.	The MR version 02 was checked. The issue is closed on the basis of the correction provided.

emission factor» for each year of the monitoring period.			
CAR09 Please, indicate in the MR how the leakage of sulphur hexafluoride and indirect leakage of GHGs from fuel extraction and transportation activities were taken into consideration in emission reduction calculations.	95 (d)	The leakage of sulphur hexafluoride SF6 (Electronegative gas) that is used as a heat rejection and insulating medium in sulphur hexafluoride circuit breakers and current transformers and indirect extraneous leakage of CO_2, CH_4, N_2O from fuel extraction and transportation activities, are excluded according to the monitoring methodology provided in the determined PDD, version 02.	The MR version 02 was checked. The issue is closed on the basis of the correction provided.
CAR10 Please, in the section B.3 of the MR provide the description of all abbreviations and abridgements when first mentioned.	101 (a)	The necessary description for all abbreviations and abridgements was added to the MR version 02.	The issue is closed on the basis of the corrections made in the MR.
CAR11 Please, add to the MR information concerning involvement of the third parties in the monitoring in the framework of the project.	101 (b)	The issue was addressed in the MR version 02. The required information concerning involvement of the third parties in the monitoring in the framework of the project was	The issue is closed on the basis of the corrections made in the MR.

		added to the section C.3. of the MR version 02.	
CAR12 Please, add to the MR information concerning all types of the meters (including their calibration period) involved in the project monitoring, which are indicated in the supporting document – Annex 3.	101 (a)	The section C.3 was amended taking into account the issue raised. The information concerning measuring equipment was provided in the MR version 02 and supplementary document – Annex 3 Excel file.	The MR version 02 was checked. The issue is closed.
CL01 Section names and numbering in the MR does not correspond to the information provided in the content. Please, provide explanation or make the appropriate corrections.	92	The necessary corrections were added to the MR version 02.	The MR version 02 was checked. The issue is closed.
CL02 Please, submit the documented instruction/order about data storage to AIE for review.	101 (c)	The order on data storage, which were collected in the framework of project's monitoring, was submitted to the verification team for review.	The issue is closed based on the documentation provided.