VERIFICATION REPORT
GLOBAL CARBON BV

VERIFICATION OF THE

UTILIZATION OF COKE GAS WITH ELECTRICITY GENERATION

BY TWO 6 MWE CHP AT

"ZAPOROZHCOX PLANT"

INITIAL AND 1ST PERIODIC (2008-2009)

REPORT NO. UKRAINE/0115/2010

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE/0115/2010

Verification Report on JI project "Utilization of coke gas with electricity generation by two 6 MWe CHP at "ZaporozhCox Plant"

Date of first issue: 19/11/2010	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Global Carbon BV	Client ref.: Lennard de Klerk

Summary:

Bureau Veritas Certification has been commissioned by Global Carbon BV to carry out the initial and 1st periodic verification of GHG emission reduction by the JI project "Utilization of coke gas with electricity generation by two 6 MWe CHP at "ZaporozhCox Plant" located in Zaporizhya, Ukraine, based on UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting, as well as the host country criteria.

The concept of the project is generation of electricity onsite to partially cover own needs; as well as to use COG in more efficient way. For this purpose, energy of steam which in the absence of the project, was desuperheated in PRDS (pressure-reducing and desuperheating stations) which were used for correction of parameters of steam. The project foresees using this superheated steam in the two 6 MWe turbines instead of PRDS. Therefore, additional electricity will be generated and consumed onsite.

The verification covers the period from February 01, 2008 to December 31, 2009.

The verification is carried out as combined Initial and 1st Periodic Verification. A risk-based approach has been followed to perform the verification. In the course of verification 7 Corrective Action Requests (CAR) and 13 Clarification Requests (CL) were raised and successfully closed. 2 raised Forward Action Requests (FAR) are left pending until the next periodic monitoring.

The verification is based on the Monitoring Report (covers February 01, 2008 – December 31, 2008), the Monitoring Plan, the determined PDD, version 5.0 of 27/10/2010, and supporting documents made available to Bureau Veritas Certification by the project participant.
As a result of the Initial Verification, Bureau Veritas Certification confirms that the project is implemented as planned and described in the PDD. 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.
As a result of the 1st Periodic Verification, the Bureau Veritas Certification confirms that the GHG emission reductions are calculated without material misstatements in conservative and appropriate manner.

Based on information seen and evaluated we confirm that the implementation of the project has resulted in 78,583 t CO_2e reductions during the above mentioned period.

Report No.: UKRAINE/0115/2010	Subject Group: JI
Project title: Utilization of coke gas with electricity generation by two 6 MWe CHP at "ZaporozhCox Plant"	
Work carried out by: Ivan Sokolov - Team Leader, Lead verifier Oleg Skoblyk - Team Member, verifier Svitlana Gariyenchyk - Team Member, verifier	
Work verified by: Leonid Yaskin – Internal Technical Reviewer	
Work approved by: Flavio Gomes – Operational Manager	
Date of this revision: 22/11/2010	Rev. No.: 02 / Number of pages: 63

Indexing terms

Climate Change, Kyoto Protocol, JI, Emission Reductions, Verification

Bureau Veritas Certification Holding SAS

Abbreviations

AIE	Accrediting Independent Entity
BVCH	Bureau Veritas Certification Holding SAS
CAR	Corrective Action Request
CH_4	Methane
CL	Clarification Request
CO_2	Carbon Dioxide
COG	Coke Oven Gas
CHP	Combined Heat and Power
EF	Emission Factor
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
FAR	Forward Action Request
GHG	Green House Gas(es)
IETA	International Emissions Trading Association
JI	Joint Implementation
JISC	JI Supervisory Committee
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
PCF	Prototype Carbon Fund
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change
ZCP	ZaporozhCox Plant

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1 INTRODUCTION

Clobal Carbon BV has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project to carry out the initial and 1st periodic verification of GHG emission reduction by the JI project “Utilization of coke gas with electricity generation by two 6 MWe CHP at “ZaporozhCox Plant” (hereafter called “the project”), in Zaporizhya, Ukraine, JI Registration Reference 0211.
This report summarizes the findings of the verification of the project, performed on the basis of criteria given to provide for consistent project operations, monitoring and reporting, and contains a statement for the verified emission reductions.

Initial and first periodic verification has been performed as one integrated activity.
The verifiers have reviewed the GHG data collected for the period from February01, 2008 to December 31, 2009.

Project is approved by the Ministry of Economic Affaires and its complementing Agency “NL Agency” being the Designated Focal Point for Joint Implementation in The Netherlands and National Environmental Investment Agency being the Designated Focal Point for Ukraine. Both LoAs are submitted to AIE and are listed in Section 7 of the present Report.

1.1 Objective

The Purpose of this verification is a combined initial and 1st periodic verification.

The objective of an initial verification is to verify that the project is implemented as planned, to confirm that the monitoring system is in place and fully functional, and to assure that the project will generate verifiable emission reductions.

The objective of the periodic verification is to verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan; furthermore the periodic verification evaluates the GHG emission reduction data and express a conclusion with a high, but not absolute, level of assurance about whether the reported GHG emission reduction data is free of material misstatements; and verifies that the reported GHG emission data is sufficiently supported by evidence, i.e. monitoring records.

The verification follows UNFCCC criteria referring to the Kyoto Protocol criteria, the JI/CDM rules and modalities, and the subsequent decisions by the JISC, as well as the host country criteria.

1.2 Scope

The verification of this project is based on the Project Design Document version 5.0 dated 27 October 2010, the final ERU Monitoring Report versiom2.0 (covers the period of February 01, 2008 – December 31, 2009), the monitoring plan as set out in the PDD, supporting documents made available to Bureau Veritas Certification, and information obtained through the on-site interviews and on-site assessment. The documents and information are reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. Bureau Veritas Certification, based on the recommendations in the Validation and Verification Manual (IETA/PCF), has employed a risk-based approach in the verification, focusing on the identification and reporting of significant risks and on reliability of project monitoring and generation of Emission Reductions Units (ERU).

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

1.3 GHG Project Description (quoted from the PDD)

The project proposes to make use of excess coke oven gas (COG) to generate electricity by two new steam turbine generators, replacing power currently being sourced from the national grid. This will be introduced in parallel with improved automated process control systems that will increase the efficiency of the use of the power, further still reducing that required from the national grid.

Ukraine is one of the most energy intensive countries in the world. In Ukraine the primary energy consumption has been fairly stable from 2004 until 2007, with about 79% of the total energy consumption being produced from fossil fuels such as coal, oil, and natural gas. Ukraine’s overall self-sufficiency in fossil fuels is less than 50 %, made up of 10-15% from oil 20 - 25% from gas, and 80 - 85% from coal.

Coke production is an energy intensive process, one tonne of dry blast furnace coke requires about 3.7 GJ (0.89 Gcal) of energy. However, the coke oven gas (COG) produced in the coke battery as a by-product is suitable for energy production. The common practice in the Former Soviet Union (FSU) countries is using COG to produce heat/steam.

From the year 2002, steam was produced at the ZaporozhCox Plant (ZCP) using two boilers, each with a capacity of 75 t/h. Before 2002, the required steam was imported from a neighboring steel plant, ZaporozhStal, in return for some of the excess COG that could not be consumed by ZCP internally. The excess COG was used by ZaporozhStal as a supplementary fuel (the main fuel being natural gas).

The two ZCP boilers generate steam with a pressure of 35 kgf/sm2 and temperature of approximately 440℃. These parameters are excess for the technological needs of the project. To reduce the pressure and temperature, three PRDS (pressure-reducing and desuperheating stations) units are used. PRDS work by cooling and depressurization of superheated steam by introducing water. The output is steam with a pressure of 5.0-5.5 kgf/sm2 and temperature of 300°C. This is a common practice in FSU countries.

In 2004, the management of ZCP decided to further improve the existing scheme, by implementing units which would generate electricity from the excess temperature and pressure reduced by the PRDS’s. This electricity will be used for ZCP’s energy consuming equipment and therefore will substitute energy purchased from the Ukrainian distribution network. The design documents were completed by 2004 and after a short consideration in January 2005 the company approved the project.

2 METHODOLOGY

According to the Validation and Verification Manual (IETA/PCF) a verification protocol is used as part of the verification. 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 the project is expected to meet; and
- 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 verification protocol consists of one table under Initial Verification checklist and four tables under Periodic verification checklist. The different columns in these tables are described in Figure 1.

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

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

Initial Verification Protocol Table 1			
Objective	**Reference**	**Comments**	**Conclusion (CARs/FARs)**
The requirements the project must meet	Gives reference to where the requirement is found.	Description of circumstances and further comments on the conclusion	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance of the stated requirements. Forward Action Request (FAR) indicates essential risks for further periodic verifications.

Periodic Verification Checklist Protocol Table 2: Data Management System/Controls		
Identification of potential reporting risk	**Identification, assessment and testing of management controls**	**Areas of residual risks**
The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table.	A score is assigned as follows: • Full - all best-practice expectations are implemented. • Partial - a proportion of the best practice expectations is implemented • Limited - this should be given if little or none of the system component is in place.	Description of circumstances and further commendation to the conclusion. This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non compliance with stated requirements. The corrective action requests are numbered and presented to the client in the verification report. The Initial Verification has additional Forward Action Requests (FAR). FAR indicates essential risks for further periodic verifications.

Periodic Verification Protocol Table 3: GHG calculation procedures and management control testing		
Identification of potential reporting risk	**Identification, assessment and testing of management controls**	**Areas of residual risks**

Identify and list potential reporting risks based on an assessment of the emission estimation procedures, i.e. ➢ the calculation methods, ➢ raw data collection and sources of supporting documentation, ➢ reports/databases/information systems from which data is obtained. Identify key source data. Examples of source data include metering records, process monitors, operational logs, laboratory/analytical data, accounting records, utility data and vendor data. Check appropriate calibration and maintenance of equipment, and assess the likely accuracy of data supplied. Focus on those risks that impact the accuracy, completeness and consistency of the reported data. Risks are weakness in the GHG calculation systems and may include: ➢ manual transfer of data/manual calculations, ➢ unclear origins of data, ➢ accuracy due to technological limitations, ➢ lack of appropriate data protection measures? For example, protected calculation cells in spreadsheets and/or password restrictions.	Identify the key controls for each area with potential reporting risks. Assess the adequacy of the key controls and eventually test that the key controls are actually in operation. Internal controls include (not exhaustive): ➢ Understanding of responsibilities and roles ➢ Reporting, reviewing and formal management approval of data; ➢ Procedures for ensuring data completeness, conformance with reporting guidelines, maintenance of data trails etc. ➢ Controls to ensure the arithmetical accuracy of the GHG data generated and accounting records e.g. internal audits, and checking/ review procedures; ➢ Controls over the computer information systems; ➢ Review processes for identification and understanding of key process parameters and implementation of calibration maintenance regimes ➢ Comparing and analysing the GHG data with previous periods, targets and benchmarks. When testing the specific internal controls, the following questions are considered: 1. Is the control designed properly to ensure that it would either prevent or detect and correct any significant misstatements? 2. To what extent have the internal controls been implemented according to their design; 3. To what extent have the internal controls (if existing) functioned	Identify areas of residual risks, i.e. areas of potential reporting risks where there are no adequate management controls to mitigate potential reporting risks Areas where data accuracy, completeness and consistency could be improved are highlighted.

	properly (policies and procedures have been followed) throughout the period? 4. How does management assess the internal control as reliable?	

Periodic Verification Protocol Table 4: Detailed audit testing of residual risk areas and random testing		
Areas of residual risks	**Additional verification testing performed**	**Conclusions and Areas Requiring Improvement (including Forward Action Requests)**
List the residual areas of risks (Table 2 where detailed audit testing is necessary. In addition, other material areas may be selected for detailed audit testing.	The additional verification testing performed is described. Testing may include: 1. Sample cross checking of manual transfers of data 2. Recalculation 3. Spreadsheet 'walk throughs' to check links and equations 4. Inspection of calibration and maintenance records for key equipment ➢ Check sampling analysis results ➢ Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.	Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties should be highlighted. Errors and uncertainty can be due to a number of reasons: ➢ Calculation errors. These may be due to inaccurate manual transposition, use of inappropriate emission factors or assumptions etc. ➢ Lack of clarity in the monitoring plan. This could lead to inconsistent approaches to calculations or scope of reported data. ➢ Technological limitations. There may be inherent uncertainties (error bands) associated with the methods used to measure emissions e.g. use of particular equipment such as meters. ➢ Lack of source data. Data for some sources may not be cost effective or practical to collect. This may result in the use of default data which has been derived based on certain assumptions/conditions and which will therefore have varying applicability in different situations. The second two categories are explored with the site personnel, based on their knowledge and experience of the processes. High risk process parameters or source data (i.e. those with a significant influence on the reported data, such as meters) are reviewed for these uncertainties.

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

Figure 1 Verification protocol tables

2.1 Review of Documents

The Monitoring Report (MR) version 1.0 of 02/04/2010 submitted by Global Carbon BV and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), applied methodology, Kyoto Protocol, Clarifications on Verification Requirements to be checked were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, prior to and following the site-visit PPs revised the MR and resubmitted it as version 2.0 of 19/11/2010, the latter considered final.

The verification findings presented in this report relate to the project as described in the PDD version 5.0 of 27/10/2010 and Monitoring Reports versions 1.0 and 2.0.

2.2 Follow-up Interviews

Within the frameworks of combined Initial and 1st Periodic Verification, Bureau Veritas Certification verifiers conducted a visit to the project site on 07/04/2010. On-site interviews with the project participants and inspection of the project and monitoring equipment were conducted to collect information needed for the verification of emission reduction. Representatives of Global Carbon BV and "ZaporozhCox Plant" were interviewed (see the list of interviewees in Section 6). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
JSC „ZaporozhCox Plant"	Organizational structure. Responsibilities and authorities. Roles and responsibilities for data collection Training of personnel. Quality management procedures and technology. Implementation of equipment (records). Data logging Data archiving Data reporting Metering equipment control. IT management EMS
Consultant: Global Carbon BV	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.

Findings established during the initial verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CAR) are issued, where:
i) there is a clear deviation concerning the implementation of the project as defined by the PDD;
ii) requirements set by the MP or qualifications in a verification opinion have not been met; or
iii) there is a risk that the project would not be able to deliver (high quality) ERUs.

Forward Action Requests (FAR) are issued, where:
iv) the actual status requires a special focus on this item for the next consecutive verification, or
v) an adjustment of the MP is recommended.

The verification team may also use the term Clarification Request (CL), which would be where:
vi) additional information is needed to fully clarify an issue.

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

3 INITIAL VERIFICATION FINDINGS

In the following sections, the findings of the verification are stated. The verification findings for each verification subject are presented as follows:
1) The findings from the desk review of the original project activity documents and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Verification Protocol in Appendix A.
2) The conclusions for verification subject are presented.

In the final verification report, the discussions and the conclusions that followed the preliminary verification report and possible corrective action requests are encapsulated in this section.

3.1 Remaining issues CAR’s, FAR’s from previous determination/verification

One task of the verification is to check the remaining issues from the previous determination and verification or issues which are clearly defined for assessment in the PDD.

There are no remaining issues from the previous determination. The only remaining issue of concern revealed by the determination team during the on-site determination visit relates to the identification of whether any non-COG fuel has been supplied to the boiler during the monitoring period. It has been decided to check this issue at the time of all subsequent verifications.

3.2 Project Implementation

The project proposes to make use of excess coke oven gas (COG) to generate electricity by two new steam turbine generators, replacing power currently being sourced from the national grid. This will be introduced in parallel with improved automated process control systems that will increase the efficiency of the use of the power, further still reducing that required from the national grid.

According to the Project Design Document (PDD) version 5.0 of 27/10/2010, the following basic stages of project implementation are envisaged by the project:

1. Commissioning of the first (backpressure) turbine (2008);
2. Commissioning of the second (condensing) turbine (May 2010).

The installation of the backpressure turbine was completed in February 2008 in accordance with the implementation schedule provided in PDD and is proved by the relevant commissioning act. The completion of the condensing turbine was expected in May 2010.
During the site-visit conducted on 07/04/2010 Bureau Veritas verifiers observed that the second turbine has not been commissioned yet. At the moment of verification almost all assembling works are finished and the application for the relevant license has been submitted.

The turbines are installed at site of ZaporozhCox in the new turbine workshop. All necessary peripheries, including automation system, are included in the project activity.

The Monitoring System is in place and operational. Monitoring of GHG emission reductions was carried out as per the Monitoring Plan.

The monitoring equipment such as electricity meters, transformers are in place and comply with the industrial standards of Ukraine. All monitoring equipment is covered by the detailed verification (calibration) plan and is verified with established periodicity, established by its manufacturer.

All technical staff working with new turbine has necessary permission and has successfully completed relevant training.

Outstanding issues related to the Project Implementation, PP's response and BV Certification's conclusion is described in Appendix A Table 5 (refer to CAR 01, CAR 07).

3.3 Internal and External Data

Internal and external data required for calculation of emission reductions are presented in MR Section B.

The monitoring included measurements of the following parameters:

1. Electricity generated by the new turbine No 1

2. Electricity consumed by the project equipment

The only default ex ante datum applied at the current stage of the present project includes an emission factor for JI project which reduces electricity consumption from the grid (reference is provided in Annex 2 of the PDD).

The verification team checked the appropriateness of default external and internal data, the state of monitoring equipment, the calibration procedures, data control, and assessed the qualification of personnel.

The identified areas of concern as to Internal and External Data, project participants response and BV Certification’s conclusion are described in Appendix A Table 5 (refer to CL 03, CL 04,CL 05, CL 06, CL 07, CL 10).

3.4 Environmental and Social Indicators

Proposed project leads to increase of COG combustion efficiency and therefore improves the environmental conditions in the region. The project implementation was positively accepted by the local community. It was awarded by the Diploma and the honorary title “The best energy efficiency project in Zaporizhya Oblast in 2009” issued by state authorities in Zaporizhya Oblast.

Though the proposed project does not create additional sources of emissions, it leads to additional negative effects connected with noise and vibration at working places. These effects can negatively influence the working conditions in Boiler and Turbine Workshop. To address these negative impacts and mitigate their influence on personnel’s health every half a year measurements of noise and vibration level are conducted by representatives of the district sanitation and epidemiological service (SES). As a result the working condition cards for relevant workplaces are issued. In case some parameters exceed the nominal permitted level, the staff is required to use individual protection means.

The identified areas of concern as to Environmental and Social Indicators, project participants response and BV Certification’s conclusion are described in Appendix A Table 5 (refer to CAR 05).

3.5 Management and Operational System

In order to ensure a successful operation of a Client project and the credibility and verifiability of the emissions reductions achieved, the project must have a well defined management and operational system.

The Management and Operational System supporting GHG emission monitoring is a part of the company’s Quality Management System certified according to the requirements of ISO 9001:2001, ISO 14001:2004 and OHSAS 18001:2007 international standards.

In the frame of QMS (Quality Management System) ISO 9001 implemented at ZaporoxhCox, the “Report on the processes performance” is developed on a monthly basis. There is a provision “Electricity generated onsite” among the parameters of this report. Therefore, data for the electricity production by the turbine are subject to internal auditing under ISO 9001.
Department of Chief Power Engineer provides all data needed to the working group by filling in the form 8.2.ZK01 “Measurement of the QMS processes”. Monthly reports composed on the basis of this form are transferred for revision to the First Deputy General Director. This procedure is called “Analysis from the management site”. If some parameters are considered not satisfactory, then the “Correction and preventative actions” are prescribed under the 8.5.2.ZK01 procedure. Annual reports based on the monthly reports have to be saved for at list 3 years.

Data are collected and stored in electronic database (Alpha CENTER software) and in paper format (log books, Boiler and Turbine Workshop monthly and annual reports). The data is reported in the monthly reports of “ZaporozhCox Plant” which are compiled into an annual monitoring report for verification process.

The measurements of electricity meters are read hourly by an electrician of the Boiler and Turbine Workshop and registered in the log books. The collected data are further conveyed to the Chief of the Heat and Power Department who summarizes and recalculates the obtained data, brings them to the electronic data-base and prepares monthly and annual technical reports that are the main source for Monitoring Reports.

Data measurement is also registered by PCS (process control system). Complex «Alpha CENTER» is applied for electricity and power measurement, as well as automatic collection, processing and storing collected information.
During the process of data collecting from the meter «Alpha CENTER» software makes the following calculations:

- Converting the interval values read from the meters (telemetric pulses) into the named (physical) units of electricity (kWh);
- Calculation of interval rate of electricity (in kWh).

All data registered by «Alpha CENTER» software are collected and archived in the data base. There is an IT department organized within the

plant which is in charge of maintenance of the IT equipment used at the plant. All collected data is subject to the monthly archiving and backup procedures provided on contractual basis by specialized organization “TRAFIC”. “TRAFIC” company is also responsible for adjusting and correcting of the «Alpha CENTER» software on demand of ZaporoxhCox.

The troubleshooting procedure provides for the project equipment to be stopped in case of its failure, which leads to impossibility to generate electricity, until the malfunction is fixed. The work of turbine is under control of modern automatic systems. Any variation in electricity generation level will be registered by relevant meters.

In case the main metering device fails, and there is no reserve metering device available, the proven applicable indirect data and evidence will be used for monitoring report. Likely, a conservative approach will be used.

All measuring equipment is included in the verification schedule and verified with established periodicity. According to the verification schedule all devices are in satisfactory condition.

Checking and calibration of project equipment is carried out by the state company “Zaporozhstandartmetrologiya” or another company possessing necessary qualification, knowledge and equipment and authorized by “Zaporozhstandartmetrologiya”.

JSC “ZaporozhCox Plant” is licensed by the Ministry of Education and Science of Ukraine” to carry out professional training of its staff. There is a training section within HR department at the plant which provides specialized trainings within the scopes covered by the license. There are trainings to be provided to a steam turbine operator, to a mechanic of electrical equipment repair and maintenance among these scopes. The appropriate training to the personnel responsible for the equipment operation and monitoring is also provided by equipment producers and specialized organizations.

Monitoring Report provides sufficient information on the elements of the system related to assigning roles, responsibilities and authorities for implementation and maintenance of monitoring procedures including control of data. The verification team confirms effectiveness of this management system.

The identified areas of concern as to Management and Operational System, project participants response and BV Certification’s conclusion are described in Appendix A Table 5(refer to CAR 03, CL 01,CL 08,CL 09, CL 13, FAR 01, FAR 02).

4 FIRST PERIODIC VERIFICATION FINDINGS

4.1 Completeness of Monitoring

The monitoring of the project is complete, effective and reliable and in accordance with the monitoring plan contained in the determined PDD.
All pertinent parameters are determined and monitored. The collected data is appropriately stored. The monitoring methodology and sustaining records were sufficient to enable verification of emission reductions.
The data gathering and reporting procedures, which were described in the MR and examined during the on-site visit, were found to reflect the ones defined by the original monitoring plan.

No areas of concern related to Completeness of Monitoring were identified.

4.2 Accuracy of Emission Reduction Calculations

The verification team received access to all relevant documentation needed to verify the emission reduction calculation. All used information was traceable and appropriately archived.

The verification team confirms that emission reduction calculations have been performed according to the monitoring plan with some insignificant deviations appropriately justified and to the calculation methodology reported in the final MR in accordance with the PDD.

Project consists of the 2 monitoring parameters measured directly with the use of special equipment or estimated with the use of appropriate coefficients.

At “ZaporozhCox Plant” the best available techniques are used in order to minimize uncertainties. Uncertainties are generally low (less than 0,2%) and accounted in data collected. All monitoring equipment used for monitoring purposes is in compliance with national legislative requirements and standards.

Spot-check of the electricity generated under the project activity revealed minor deviation of data presented in the Monitoring Report from the ones made by the verifiers on-site when initial data were taken from the respective log books. This deviation in electricity generation, caused by human element, made about 2MWh and was considered insignificant.

No other inaccuracies in calculations were detected by the verifiers.

The identified areas of concern as Completeness of Monitoring, project participants' response and BV Certification's conclusion are described in Appendix A Table 5 (refer to CAR 04, CAR 10, CL 02, CL 11).

4.3 Quality Evidence to Determine Emissions Reductions

The evidences that were obtained by the verifier in order to provide confidence in the provided emission reduction calculation, such as:

• Quality Management System certified according to the requirements of ISO 9001:2001, ISO 14001:2004 and OHSAS 18001:2007 international standards
• Responsibility Structure GHG emission monitoring
• Clear allocation of roles, responsibilities and authorities
• Competence and commitments of personnel
• QC and QA procedures
• Maintained and calibrated measuring equipment
• Reliable IT for control of data and records
• Appropriate archiving system
• Procedures for protection and back up of electronic and paper data
• System of Personnel Training
• Implementation of data traceability
• Checks for consistency and adequacy of data and calculations
are observed as consistent and to high quality. All used parameters were of sufficient and appropriate quality to assure the accurate monitoring.

Outstanding issue related to Quality Determination of Emission Reductions, PP's response and BV Certification's conclusion are described in Appendix A Table 5 (refer to FAR 01, FAR 02).

4.4 Management System and Quality Assurance

To ensure quality of project operation and monitoring an efficient Management and Operation System is developed and maintained as discussed as a part of the Initial Verification in Section 3.5 above.

5 PROJECT SCORECARD

Risk Areas	Conclusions			Summary of findings and comments
	Baseline Emissions	Project Emissions	Calculated Emission Reductions	

Risk Areas		Conclusions			Summary of findings and comments
		Baseline Emissions	Project Emissions	Calculated Emission Reductions	
Completeness	Source coverage/ boundary definition	✓	✓	✓	All relevant sources are covered by the monitoring plan and the boundaries of the project are defined correctly and transparently.
Accuracy	Physical Measurement and Analysis	✓	✓	✓	State-of-the-art technology is applied in an appropriate manner. Appropriate backup solutions are provided.
	Data calculations	✓	✓	✓	Emission reductions are calculated correctly
	Data management & reporting	✓	✓	✓	Data management and reporting were found to be satisfying.
Consistency	Changes in the project	✓	✓	✓	Results are consistent to underlying raw data.

6 INITIAL AND FIRST PERIODIC VERIFICATION STATEMENT

Bureau Veritas Certification was commissioned by Global Carbon BV to carry out, under JI track 2 procedure, the initial and 1st periodic verification of the JI project "Utilization of coke gas with electricity generation by two 6 MWe CHP at "ZaporozhCox Plant", based on UNFCCC criteria for the JI, as well as criteria given to ensue 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 covers the period from February 1st 2008 to December 31st 2009.

The verification is carried out as a combined initial and 1st periodic verification. A risk-based approach has been followed to perform the verification. In the course of verification, 7 Corrective Action Requests (CAR), 13 Clarification Requests (CL) and 2 Forward Action Requests (FAR) were raised. The CAR's and CL's were successfully closed. 2 raised Forward Action Requests (FAR) are left pending until the next periodic monitoring.

The verification is based on the Monitoring Reports versions 1.0 and 2.0 (covers the period February1st 2008 to December 31st 2009), the Monitoring Plan as set out in the determined PDD Version 5.0 dated 27

October 2010, with minor deviations, and supporting documents which were made available to Bureau Veritas Certification by the project participant.
As a result of the Initial Verification, the Bureau Veritas Certification confirms that the project activities are carried out as planned and described in the PDD with minor deviation in the implementation schedule, which has been reasonably justified, the installed equipment runs reliably, measuring equipment is calibrated appropriately, the monitoring system is in place and functional. The project is generating emission reductions.
As a result of the 1st Periodic Verification, the Bureau Veritas Certification confirms that the GHG emission reductions are calculated in conservative and appropriate manner.

Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated we confirm the following statement:

Reporting period: From 01/02/2008 to 31/12/2009

	2008	**2009**
Baseline emissions, t CO2	36,016	42,567
Project emissions, t CO2	0	0
Emission reductions, t CO2	36,016	42,567
Total during current monitoring period, t CO2	**78,583**	

Bureau Veritas Certification herewith confirms that the project has achieved total emission reductions in the above mentioned reporting period as of 78,583 tCO2e.

7 REFERENCES

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

/1/ Project Design Document, version 5.0 dated 27/10/2010

/2/ Monitoring Report version 1.0 dated 02/04/2010

/3/ Monitoring Report version 2.0 dated 19/11/2010

/4/ Determination Report by Bureau Veritas Certification Holding SAS version 04 of 28/10/2010

/5/ Letter of Approval ref NO 2010JI01 issued on 25 February 2010 by the Netherlands DFP

/6/ Letter of Approval ref No 567/23/7 dated 17.05.2010 issued by the National Environmental Investment Agency of Ukraine

Category 2 Documents:

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

/7/ Documents checked during the verification onsite are presented in Annex C

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/ Valery Rubchevsky - First Deputy General Director on Production, Chief Engineer, ZaporozhCox Plant

/2/ Vladimir Sharagin - Chief Heat and Power Engineer, ZaporozhCox Plant

/3/ Dmitry Morozov - Chief of Investment Department, ZaporozhCox Plant

/4/ Sergey Novik - Deputy Chief Engineer on Ecology, Chief of the Environment Protection Laboratory, ZaporozhCox Plant

/5/ Vladimir Oleinyk - Chief of the Boiler and Turbine Shop, ZaporozhCox Plant

/6/ Dmitry Yakovlev - Electrician of the Boiler and Turbine Shop, ZaporozhCox Plant

/7/ Alexander Balagura - Chief Electrician of the Boiler and Turbine Shop, ZaporozhCox Plant

/8/ Vladimir Alekseenko - Electrician of the Boiler and Turbine Shop, ZaporozhCox Plant

/9/ Victor Skarshevsky - Metinvest Holding

/10/ Denis Rzhanov - Global Carbon BV Senior Consultant

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APPENDIX A: COMPANY JI PROJECT VERIFICATION PROTOCOL

Initial Verification Protocol Table 1

Objective	Reference	Comments	Conclusion (CARs/FARs)
1. Opening Session			
1.1. Introduction to audits	4,5	The Initial Verification and 1st Periodic Verification audit was carried out on the project site on 07/04/2010. Prior to the audit the audit programme and initial questions were provided to the client. The opening meeting and interviews were performed in Head Office of JSC “ZaporozhCox Plant” followed by interviews with persons concerned and inspection of project implementation on the site. Participants at the audit were the following persons: Verification team: 1. Ivan Sokolov – Team Leader, Lead Verifier, Bureau Veritas Ukraine, 2. Oleg Skoblyk – Team Member, Verifier, Bureau Veritas Ukraine, 3. Svitlana Gariyenchyk – Team Member, Verifier, Bureau Veritas Ukraine Interviewed persons: 1. Valery Rubchevsky - First Deputy General Director on Production, Chief Engineer, ZaporozhCox Plant 2. Vladimir Sharagin, Chief Heat and Power Engineer, ZaporozhCox Plant	OK

Objective	Reference	Comments	Conclusion (CARs/FARs)
		3. Dmitry Morozov, Chief of Investment Department, ZaporozhCox Plant 4. Sergey Novik, Deputy Chief Engineer on Ecology, Chief of the Environment Protection Laboratory, ZaporozhCox Plant 5. Vladimir Oleinyk, Chief of the Boiler and Turbine Shop, ZaporozhCox Plant 6. Dmitry Yakovlev, Electrician of the Boiler and Turbine Shop, ZaporozhCox Plant 7. Alexander Balagura, Chief Electrician of the Boiler and Turbine Shop, ZaporozhCox Plant 8. Vladimir Alekseenko, Electrician of the Boiler and Turbine Shop, ZaporozhCox Plant 9. Victor Skarshevsky, Metinvest Holding, Kyoto Protocol Senior Project Manager 10. Denis Rzhanov, Global Carbon BV Senior Consultant	
1.2. Clarification of access to data archives, records, plans, drawings etc.	1, 4	The verification team got open access to all required plans, data, records, drawings and to all relevant facilities **CL 11.** Please define more accurately the starting date of the reduction generation. **CL 12.** Please, indicate sectoral scope for the project.	CL 11 CL12
1.3. Contractors for equipment and installation works	1, 8	Project has been implemented as defined in the PDD version 5.0 of 27/10/2010 and the implementation is evidenced by statements of work completion (see list of verified documents).	OK

Objective	Reference	Comments	Conclusion (CARs/FARs)
1.4. Actual status of installation works	1, 4	The first stage of the project (installation of backpressure turbine) was implemented as planned. It was installed in February 2008 which corresponds to project implementation schedule stipulated in the PDD and it is operational since then. **CAR 01.**There is an unconformity between the implementation schedule comprised in MR and the PDD. Explain how it can be accounted for.	CAR 01
2. Open issues indicated in determination report			
2.1. Missing steps to final approval	1, 5, 6	**CAR 02.** There is no evidence of the project approval by Ukrainian NFP.	CAR 02
3. Implementation of the project			
3.1. Physical components	1, 4, 8	The first stage of the project (installation of the backpressure turbine) was implemented within the timeframe stipulated by the project implementation schedule in the PDD. Installed backpressure turbine as well as the condensing turbine being at the final stage of its commissioning, were inspected on site. They are observed to be in conformity with the description in PDD.	OK
3.2. Project boundaries	1	Project boundaries are in line with those defined in the PDD version 5.0.	OK

Objective	Reference	Comments	Conclusion (CARs/FARs)
3.3. Monitoring and metering systems	1, 4, 8	Project facilities are equipped with the metering devices in accordance with the defined parameters for monitoring: • Electricity generated by the installed backpressure turbine No 1 is metered with a specialized Alpha A 1140 electricity meter; • Electricity consumed by the project equipment is metered by two separate “Energiya-9” electricity meters All electricity meters are fit out with the appropriate transformers. Data are collected and stored in electronic database (Alpha CENTER software) and in paper format (log books, Boiler and Turbine Workshop monthly and annual reports). The data is reported in the monthly reports of “ZaporozhCox Plant” which are compiled into an annual monitoring report for verification process. The measurements of electricity meters are read hourly by an electrician of the Boiler and Turbine Workshop and registered in the log books. The collected data are further conveyed to the Chief of the Heat and Power Department who summarizes and recalculates the obtained data, brings them to the electronic data-base and prepares monthly and annual technical reports that are the main source for	CL 02

Objective	Reference	Comments	Conclusion (CARs/FARs)
		Monitoring Reports. Data measurement is also registered by PCS (process control system). Complex «Alpha CENTER» is applied for electricity and power measurement, as well as automatic collection, processing and storing collected information. During the process of data collecting from the meter «Alpha CENTER» software makes the following calculations: • Converting the interval values read from the meters (telemetric pulses) into the named (physical) units of electricity (kWh); • Calculation of interval rate of electricity (in kWh).	
3.4. Data uncertainty	1, 4	At "ZaporozhCox Plant" the best available techniques are used in order to minimize uncertainties. Uncertainties are generally low (less than 0,2%) and accounted in data collected. All monitoring equipment used for monitoring purposes is in compliance with national legislative requirements and standards. **CL 02.** Please clarify how the procedures for uncertainty assessment of the calculated emission reductions have been taken into account	CL02
3.5. Calibration and quality	1, 4, 8	The measurements are carried out by metering equipment	CL03

Objective	Reference	Comments	Conclusion (CARs/FARs)
assurance		calibrated in accordance with the national standards. During the audit, the status of calibration of all used measuring devices was checked and found proper. Responsibility for maintenance of metering equipment is established, documented and communicated. **CL 03.** Please provide passports and the evidence of calibration/maintenance of the electricity meters. **CL 04.** Please provide verification and calibration schedule for the transformers involved in the project activities. Provide documented evidence that these transformers are project specific equipment **CL 05.** Please explain why the calibration period for both “Energiya-9” electricity meters is different, though they are analogues.	CL04 CL05
3.6. Data acquisition and data processing systems	1, 4, 8	Data are collected and stored in electronic database (Alpha CENTER software) and in paper format (log books, Boiler and Turbine Workshop monthly and annual reports). The data is reported in the monthly reports of “ZaporozhCox Plant” which are compiled into an annual monitoring report for verification process. There is an IT department organized within the plant which is in charge of maintenance of the IT equipment used at the plant. All collected data is subject to the monthly archiving	CL 06

Objective	Reference	Comments	Conclusion (CARs/FARs)
		and backup procedures provided on contractual basis by specialized organization “TRAFIC”. “TRAFIC” company is also responsible for adjusting and correcting of the «Alpha CENTER» software on demand of ZaporoxhCox. **CL 06.** Please clarify in what way procedures for protection and back up of electronic and paper data are established.	
3.7. Reporting procedures	1, 4	The measurements of electricity meters are read hourly by an electrician of the Boiler and Turbine Workshop and registered in the log books. The collected data are further conveyed to the Chief of the Heat and Power Department who summarizes and recalculates the obtained data, brings them to the electronic data-base and prepares monthly and annual technical reports that are the main source for Monitoring Reports. Data measurement is also registered by PCS (process control system). Complex «Alpha CENTER» is applied for electricity and power measurement, as well as automatic collection, processing and storing collected information. All data registered by «Alpha CENTER» software are collected and archived in the data base.	OK

Objective	Reference	Comments	Conclusion (CARs/FARs)
3.8. Documented instructions	1, 4, 5, 8	Instructions for the responsible personnel are included in the job instructions and are followed. This was verified onsite and found satisfactory.	OK
3.9. Qualification and training	1, 8	The management of JSC "ZaporozhCox Plant" has organized appropriate staff training to operate the project equipment. The plant is licensed by the Ministry of Education and Science of Ukraine to carry out professional training of its staff. There is a training section within HR department at the plant which provides specialized trainings within the scopes covered by the license. There are trainings organized and provided to a steam turbine operator, to a mechanic of electrical equipment repair and maintenance among these scopes. The appropriate training to the personnel responsible for the equipment operation and monitoring is also provided by equipment producers and specialized organizations. The personal in charge of monitoring and reporting tasks are "ZaporozhCox Plant" senior managers who have appropriate competences, capabilities and qualifications to ensure the required data quality. Refer to list of persons interviewed. During interviews onsite training was checked and found adequate. **CL10.** Please explain whether the JI specific training is	CL10

Objective	Reference	Comments	Conclusion (CARs/FARs)
		provided to the personnel involved in the project as well as to the staff related to the execution of the JI Monitoring Plan	
3.10. Responsibilities	1, 4, 8	In the framework of this project electricians and process engineers are responsible for the data registration from the relevant meters. Head of Energy Department is in charge of data processing and preparing annual reports which are the main source for Monitoring Reports. Names of persons responsible for monitoring during the current monitoring period are presented in Section C.1.1. of the MR. **CAR 03.** Please provide names and functions of people involved in and responsible for the overall management system of the JI monitoring and reporting. **CL 01**. Please explain in what way responsibilities of relevant functions in the GHG data management were communicated to the persons in charge? **CL 07.** Please provide information on the roles and	CAR03 CL01 CL07 CL08

Objective	Reference	Comments	Conclusion (CARs/FARs)
		responsibilities of the IT Function in GHG data management process including storing, saving, archiving and protecting of the primary, intermediate and final GHG electronic data. **CL 08.** Please, clarify who is in charge of the whole process of monitoring, the maintenance of the project facilities and monitoring equipment (as well as its accuracy)	
3.11. Troubleshooting procedures	1, 4	The troubleshooting procedure provides for the project equipment to be stopped in case of failure of any equipment which leads to impossibility to generate electricity until the malfunction is fixed. The work of turbine is under control of modern automatic systems. Any variation in electricity generation level will be registered by relevant meters. In case the main metering device fails, and there is no reserve metering device available, the proven applicable indirect data and evidence will be used for monitoring report. Likely, a conservative approach will be used.	OK
4. Internal Data			
4.1. Type and sources of internal data	1, 4, 8	The internal parameters are obtained according to the monitoring plan presented in the PDD. All sources of monitored internal data are indicated in Section B of the Monitoring Report and include the following parameters: • Electricity generated by the new turbine No 1 • Electricity consumed by the project equipment	OK

Objective	Reference	Comments	Conclusion (CARs/FARs)
4.2. Data collection	1, 4	Measurements of the defined monitored parameters are registered automatically and results are transmitted to the control panel. After that they are sent to the database. Moreover, once during a working shift an electrician puts down the meter readings into the log book. These data are then conveyed to the Head of energy department to be recalculated (summarized) and sent to the Chief Electrician. The monthly and annual reports are based on these data. Data measurement is also registered by PCS (process control system). Complex «Alpha CENTER» is applied for electricity and power measurement, as well as automatic collection, processing and storing collected information. All data registered by «Alpha CENTER» software are collected and archived in the data base.	OK
4.3. Quality assurance	1, 4	The sort of internal audit of the monitoring data are carrying out every day when Chief of the Boiler and Turbine Shop reports the collected results to the management. Therefore, every deviation from the expected results is carefully analyzed.	OK

Objective	Reference	Comments	Conclusion (CARs/FARs)
4.4. Significance and reporting risks	1, 4	Risks might be caused by human errors made when data for monitoring are manually measured, collected and further transferred and processed. **CAR 04**. For the year 2009 the figure presented in MR (48074.594 MWh) differs by 0.004% from the figure calculated by the verifiers (48072.67 MWh). Please provide explanation for these divergences.	CAR 04
5. External Data			
5.1. Type and sources of external data	1, 4	The only external data currently applied to the project activity is Emission factor for JI projects reducing electricity consumption from the grid. Table B.2.1. of the MR provides corresponding references.	OK
5.2. Access to external data	1, 4	See the above Section 5.1.	OK
5.3. Quality assurance	1, 4	The quality of the default data used is explicitly justified by "Standardized emission factors for the Ukrainian electricity grid" research, made by Global Carbon and positively determined by TÜV SÜD. This information was verified during the site visit `and was found satisfactory.	OK
5.4. Data uncertainty	1, 4	See Section 3.4 of this table.	OK
5.5. Emergency procedures	1, 4	See Section 3.11 of this table.	OK

Objective	Reference	Comments	Conclusion (CARs/FARs)
6. Environmental and Social Indicators			
6.1. Implementation of measures	1, 4, 8	Proposed project leads to increase of COG combustion efficiency and therefore improves the environmental conditions in region. The project implementation was positively accepted by the local community. It was awarded by the Diploma and the honorary title "The best energy efficiency project in Zaporizhya Oblast in 2009" issued by state authorities in Zaporizhya Oblast. Though the proposed project does not create additional sources of emissions, it leads to additional negative effects connected with noise and vibration at working places. These effects can negatively influence the working conditions in Boiler and Turbine Workshop. To address these negative impacts and mitigate their influence on personnel's health every half a year measurements of noise and vibration level are conducted by representatives of the district sanitation and epidemiological service (SES). As a result the working condition cards for relevant workplaces are issued. In case some parameters exceed the nominal permitted level, the staff is required to use individual protection means. **CAR 05.** MR lacks data on monitoring of environmental impacts of the project. Please provide information on this	CAR05

Objective	Reference	Comments	Conclusion (CARs/FARs)
		issue.	
6.2. Monitoring equipment	1, 4,8	Monitoring equipment is in place, functional and appropriately calibrated. Supporting evidences were checked onsite.	OK
6.3. Quality assurance procedures	4	Quality assurance regarding environmental performance is covered by the company’s Quality, Environment, Health and Safety Management System in accordance with ISO 9001:2001, ISO 14001:2004 и OHSAS 18001:2007 respectively.	OK
6.4. External data		N/A	OK
7. Management and Operational System			
7.1. Documentation	1, 4,8	In order to ensure a successful operation of the project and the credibility and verifiability of the ERs achieved, the project must have a well-defined management and operational system. The system should be documented by manuals and instructions for all procedures and routines with relevance to the quality of emission reductions.	OK
7.2. Qualification and training	1, 8	See Section 3.9 of the present protocol.	OK

Objective	Reference	Comments	Conclusion (CARs/FARs)
7.3. Allocation of responsibilities	1, 8	The responsibilities and authorities are described for each individual in job descriptions as required statutorily. Persons working at sites are aware of their responsibilities, and relative records are maintained.	OK
7.4. Emergency procedures	1, 4	See Section 3.11 of the present protocol.	OK
7.5. Data archiving	1, 4	All data during the crediting period will be stored during two years after the end of the crediting period both in paper and electronic format. Responsible personnel are defined.	OK
7.6. Monitoring report	4	**CAR 06.** Please, indicate the date and version number of the submitted MR. **CAR 07.** Please denote in section A.8 deviations and revisions to the determined PDD with their substantiations. **CL 11.** Please define more accurately the starting date of the reduction generation. **CL 12.** Please, indicate sectoral scope for the project.	CAR06 CAR07 CL11 CL12`
7.7. Internal audits and management review	4	The Management and Operational System supporting GHG emission monitoring is a part of the company's Quality Management System certified according to the requirements of ISO 9001:2001, ISO 14001:2004 and OHSAS 18001:2007 international standards. In the frame of QMS (Quality Management System) ISO	CL09 CL13 FAR 01 FAR 02

Objective	Reference	Comments	Conclusion (CARs/FARs)
		9001 implemented at ZaporoxhCox, the “Report on the processes performance” is developed on a monthly basis. There is a provision “Electricity generated onsite” among the parameters of this report. Therefore, data for the electricity production by the turbine are subject to internal auditing under ISO 9001. Department of Chief Power Engineer provides all data needed to the working group by filling in the form 8.2.ZK01 “Measurement of the QMS processes”. Monthly reports composed on the basis of this form are transferred for revision to the First Deputy General Director. This procedure is called “Analysis from the management site”. If some parameters are considered not satisfactory, then the “Correction and preventative actions” are prescribed under the 8.5.2.ZK01 procedure. Annual reports based on the monthly reports have to be saved for at list 3 years. **CL 09.** Please provide information on whether the Internal Audits of monitoring activities have been undertaken during the monitoring period in consideration. **CL 13.** Please, insert information concerning the internal audit procedure to the MR. **FAR 01.** Records concerning internal audits and reviews of JI project operation should be demonstrated during the next periodic verification to assure project performance.	

Objective	Reference	Comments	Conclusion (CARs/FARs)
		FAR 02. Evidence of the written Internal Instruction for Monitoring developed for the JI project should be demonstrated during the next periodic verification.	

Periodic Verification Checklist Protocol Table 2: Data Management System/Controls

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
1. Defined organizational structure, responsibilities and competencies		
1.1. Position and roles	Full	Operational and management flowchart presented in MR vividly reflects position and role of each person in the GHG data management process from raw data generation to submission of the final data.
1.2. Responsibilities	Full	The measurements of electricity meters are read hourly by an electrician of the Boiler and Turbine Workshop and registered in the log books. The collected data are further conveyed to the Chief of the

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
		Heat and Power Department who summarizes and recalculates the obtained data, brings them to the electronic data-base and prepares monthly and annual technical reports that are the main source for Monitoring Reports. Chief of the Heat and Power Department is in charge of the whole process of project management. General and specific monitoring and reporting tasks and responsibilities are defined and included in job descriptions and work instructions for relevant staff.
1.3. Competencies needed	Full	The competencies, responsibilities and authorities are described for each individual in job descriptions as required statutorily. Necessary training is delivered, that was checked onsite.
2. Conformance with monitoring plan		
2.1. Reporting procedures	Full	Reporting procedures used reflect the monitoring methodology content. There were not deviations in reporting procedures from the monitoring plan in the PDD.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
2.2. Necessary Changes	Full	It is confirmed that the monitoring report complies with PDD with some insignificant deviations which are comprehensively justified in the Monitoring Report version 2.0. The deviation relates to implementation schedule, it has been explicitly justified and demonstrated on site. One more inaccuracy caused by human error was revealed during the recalculations of electricity generated during the monitoring period made by the BVC verifiers on site. It was considered insignificant as the revealed difference between the data from the technical report and data from the log book made 0,006%.
3. Application of GHG determination methods		
3.1. Methods used	Full	The reporting procedures reflect the monitoring plan content. The calculation of the emission reduction is correct.
3.2. Information/process flow	Full	Information/process flow diagram, describing the entire process from raw data to reported totals is developed and presented in Section B.2. of the Monitoring report.
3.3. Data transfer	Full	Data transfer between or within different areas of responsibilities is presented in the information/process flow diagram. Alongside with the electronic conveyance of the collected data, manual transfer also occurs.
3.4. Data trails	Full	The necessary procedures have been defined in internal documents.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
4. Identification and maintenance of key process parameters		
4.1. Identification of key parameters	Full	The key physical process parameters are identified in MR in full compliance with PDD Monitoring Plan.
4.2. Calibration/maintenance	Full	The calibration plan is kept in the Boiler and Turbine workshop. Records of calibration of all measuring devises were checked and the status of calibration was verified as proper.
5. GHG Calculations		
5.1. Use of estimates and default data	Full	Refer to Section 5.1 of the Initial Verification Protocol.
5.2. Guidance on checks and reviews	Partial	Quality of data is ensured by the person responsible for data collecting, summarizing and developing reports (namely, Chief Power Engineer). He provides analysis of data which can be treated as the internal control of data by the second independent persons. In addition, the Project Developers supervise the implementation of the Monitoring Plan for the project at regular intervals. Moreover, internal data checks are also stipulated by the Quality Management System implemented at the Plant.

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
5.3. Internal validation and verification	Partial	The sort of internal audit of the monitoring data are carrying out every day when Chief of the Boiler and Turbine Shop reports the collected results to the management. Therefore, every deviation from the expected results is carefully analyzed.
5.4. Data protection measures	Full	The necessary procedures relating to information storage and security are in competence of IT Department at the Plant and outside “TRAFIC” company, providing services on archiving and insuring security of information.
5.5. IT systems	Full	Refer to Section 3.6 of the Initial Verification Report.

Periodic Verification Protocol Table 3: GHG calculation procedures and management control testing

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
Potential reporting risks based on an assessment of the emission estimation procedures can be expected in the following fields of action: 1. Raw data generation: • Installation of new monitoring equipment, • Replacement of equipment; • Maloperation by personnel; • Natural gas or other fossil fuels is mixed with COG.	Regarding the potential reporting risks identified in the left column the following mitigation measures have been observed during the document review and during site visit: 1. Raw data generation: • All installed measuring devices are to high industry standard; • Only skilled and trained personnel is allowed to operate the relevant equipment and take metering records; • Regular visual inspection of equipment; • Immediate replacement of dysfunctional equipment; • Scheduled process stoppage of equipment for maintenance needs; • Internal checks of technological discipline; • An on-site check by the verification	The remaining issues are: 1. Raw data generation: • None

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
	team whether any non-COG fuel has been supplied to the boiler during the monitoring period	
2. Raw data collection: • Metering records, • Operational logs; • Calibration and maintenance data; • Passports and other equipment producers' data; • Accuracy of data supplied. 3.Data aggregation: • Monthly and annual reports; • IT systems; • Data protection; • Responsibilities.	2. Raw data collection: • Exclusively installation and operation by duly calibrated equipment; • Proper maintenance of data and document control procedure; • Responsibilities for the raw data collection are established in job descriptions and as a part of the QMS; • Proper verification by an appointed manager; • Appropriate archiving system established. • Implementation of certified QMS 3.Data aggregation: • Verification of reported data by the experienced manager; • Maintenance of IT; • Clear allocation of responsibilities; • Corporate procedures for protection	2. Raw data collection: • Human mistakes in recording measurements; 3.Data aggregation: None

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
4.Calculation parameters: • Data sources; • Uncertainties. 5.Calculation methods: • Inaccurate input data; • Data storage; • Consistency in following the monitoring plan; • Control of electronic data. 6.Monitoring reporting: • Data transfer to/by the author of the monitoring report; • Issuance of the monitoring report; • Verification and validation of the monitoring report. 7.Management system: • Inadequacy of management	and back-up of electronic and paper data. 4.Calculation parameters: • All parameters and data to be used are defined in the validated monitoring plan 5.Calculation methods: • Quality of input data is ensured; • Validated methodology and electronic tool for calculation emission reduction; • Detailed review of excel spreadsheet. 6.Monitoring reporting: • An experienced specialist is appointed for MR preparation; • Report is checked for adequacy; • MR is verified and validated. 7.Management system: • Monitoring report contains	4.Calculation parameters: • None 5.Calculation methods: • Manual data transfer can only be minimized • Input data are checked for adequacy • The danger of miscalculation can only be minimized 6.Monitoring reporting: • None 7.Management system: • Lack of structured internal audits and reviews of JI project operation may lead to inadequate track of certain

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
system; • Nonconformities in maintenance of management system.	description of main elements of management system • Personnel demonstrates competence and commitments • Internal audits are prescribed by the implemented QMS	critical issues on project performance and GHG emission data

Periodic Verification Protocol Table 4: Detailed audit testing of residual risk areas and random testing

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
1. Raw data generation	• On-site assessment • Evaluation of changes occurred throughout the reporting year • Inspection of calibration and maintenance records for key equipment • An on-site check by the verification team whether any non-COG fuel has been supplied to the boiler during the monitoring period	No significant uncertainties or errors regarding the raw data generation were observed in the course of verification
2. Raw data collection: • Human mistakes in recording measurements	• On-site evaluation of the monitoring routines and practices	All interviewed staff showed relevant competence and experience. No significant uncertainties or errors regarding the raw data collection were observed in the course of verification

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
	• On-site reviews of records and documents • Discussions with process engineers who have detailed knowledge of process uncertainty and error ranges • Inspection of meters calibration and maintenance records • The seals and passports for the key monitoring equipment were inspected	
3.Data aggregation: • None	N/A	No significant uncertainties or errors regarding the data aggregation were observed in the course of verification. Nevertheless, CAR 04 was issued.
4.Calculation parameters:		No significant uncertainties or errors regarding the calculation parameters were

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
• None	N/A	observed in the course of verification
5.Calculation methods:		
• Manual data transfer can only be minimized • Input data are checked for adequacy • The danger of miscalculation can only be minimized	• Random–wise manual recalculations • Off-site check of equations used in calculations	A minor fault cased by the human mistake was observed in the course of verification. Please, refer to CAR 04.
6.Monitoring reporting:		
• The danger of manual data transfer can only be minimized • The danger of	• Cross-checking of the information in the MR and the original data by verifiers • Check of the MR	No significant uncertainties or errors regarding the monitoring reporting were observed in the course of verification.

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including Forward Action Requests)
insufficient control of adequacy 7.Management system: • Lack of structured internal audits and reviews of JI project operation may lead to inadequate track of certain critical issues on project performance and GHG emission data	adequacy by verifiers • Data for the electricity production by the turbine are subject to internal auditing under ISO 9001. • Manuals and instructions specially tailored for the project procedures should be in place	**FAR 01.** Records concerning internal audits and reviews of JI project operation should be demonstrated during the next periodic verification to assure project performance. Refer also to **FAR 02.**

Verification Protocol Table 5: Resolution of Corrective Action and Clarification Requests

Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Verification conclusion
CAR 01. There is an unconformity between the implementation schedule comprised in MR and the PDD. Explain how it can be accounted for?	Table 1 1.4.	The following information was added to the Monitoring Report: *"Installation of the second turbine was postponed from the planned date (March 2010) due to lack of financing. Now almost all assembling works finished and application for the relevant license has submitted. Now it is planned to commission the second turbine in May 2010."* Please see corrected section A.6 of the Monitoring Report.	CAR is closed based on the information added to the MR
CAR 02. Please, provide documented evidence of the Project approval by the Parties involved, if any.	Table 1 2.1.	The Letter of Approval by the Netherlands was issued at February 25th 2010. Letter of Approval ref No 567/23/7 dated 17.05.2010 issued by the National Environmental Investment Agency of Ukraine	CAR 02 is closed based on the documents submitted.
CAR 06. Please, indicate the date and version number of the submitted MR.	Table 1 7.6.	The date and version number were added to the Monitoring Report, section A.1.	CAR is closed based on due amendments made to the MR
CAR 03. Please provide names and functions of	Table 1 3.10	Information concerning name and functions of people involved in and responsible for the JI monitoring were added to Monitoring report.	Issue is closed based on the information provided

Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Verification conclusion
people involved in and responsible for the overall management system of the JI monitoring and reporting.		Please see corrected sections B.2 and C.1.1 of the Monitoring Report.	
CL 01. Please explain in what way responsibilities of relevant functions in the GHG data management were communicated to the persons in charge.	Table 1 3.10	Metering of all parameters needed for monitoring of emissions reduction are carried out in any case and without any dependence of the status of JI project. Therefore, no additional trainings needed. Nevertheless, all staff involved in the monitoring is aware of JI project implemented. All instructions concerning obligations and responsibilities of the relevant staff are contained in the job descriptions.	Response is perused and accepted. CL is closed.
CAR 05. MR lacks data on monitoring of environmental impacts of the project. Please provide information on this issue.	Table 1 6.2	The following information was added to the PDD: "*Proposed project does not create additional sources of emissions but can be considered as a reason of some additional negative effects, such as noise and vibration. These effects can negatively influence working conditions of the staff. To investigate this influence the district sanitation and epidemiological service (SES) makes the measurements in half-year frequency. As a result of these measurements the working condition cards for relevant workplaces are issue. If some parameters exceed the nominal permitted level, it is required to use means of individual protection by staff.* *The following working condition cards were issued for turbine*	Response is accepted. CAR is closed based on the amendments made to the MR and documents seen on site.

Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Verification conclusion
		shop: - *Card No 30-11 "Head of turbine shop";* - *Card No 30-08 "Turbine operator";* - *Card No 30-09 "Turbine operator/man-on-foot"* Please see corrected section B.2.6 of the Monitoring Report.	
CL 03. Please provide passports and the evidence of calibration/maintenance of the electricity meters.	Table 1 3.5.	The passports for all devices used for monitoring were provided during the site visit.	CAR is closed based on the information provided on site.
CL 05. Please explain why the calibration period for both "Energiya-9" electricity meters is different, though they are analogues.	Table 1 3.5.	As it stated in the Monitoring Report, maximum permitted calibration period for "Energiya-9" electricity meters is equal to 6 years. As it shown in table B.1.2 of the Monitoring Report, for one meter (serial number 26711) the difference between the last and the next date of calibration is equal to 5 years. For the second "Energiya-9" electricity meter serial number 54810) the difference between the last and the next date of calibration is equal to 6 years. These meters are installed on different sites. For the purpose of convenience, it was decided to check (calibrate) the meter 26711 before the maximum permitted date, but simultaneously with other measuring devices installed on this site.	Response is accepted. Issue is closed based on exhaustive explanation and documents provided.

Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Verification conclusion
CL 06. Please clarify in what way procedures for protection and back up of electronic and paper data are established.	Table 1 3.6.	The following information was added to Monitoring Report: "*All data achieved by «Alpha CENTER» software are collected and archived in the data base. There is an IT department exist to proceed general maintenance of the IT equipment used on the plant. Monthly all data goes through the archiving and backup procedures. This activity takes place with help of special organization "TRAFIC" which has a relevant contract with ZaporozhCox. "TRAFIC" company is also responsible for adjusting and corrections of the «Alpha CENTER» software on demand of ZaporoxhCox".* Please see corrected section B.3 of the Monitoring Report.	Response is accepted. CL is closed based on the amendment made to the MR
CL 07. Please provide information on the roles and responsibilities of the IT Function in GHG data management process including storing, saving, archiving and protecting of the primary, intermediate and final GHG electronic data.	Table 1 3.10.	Please see the answer on previous CL.	
CL10. Please explain whether the JI specific	Table 1	Metering of all parameters needed for monitoring of emissions	Response is accepted. CL is closed based on the

Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Verification conclusion
training is provided to the personnel involved in the project as well as to the staff related to the execution of the JI Monitoring Plan	3.9.	reduction are carried out in any case and without any dependence of the status of JI project. Therefore, no additional trainings needed. Nevertheless, all staff involved in the monitoring is aware of JI project implemented. It is also planned to create internal Instruction for Monitoring customized for the JI project. This document is going to be ready until the next verification.	interviews conducted on site and documents provided.
CAR 04. For the year 2009 the figure presented in MR (48074.594 MWh) differs only by 0.004% from figure calculated by the verifiers (48072.67 MWh). Please provide explanation for these divergences.	Table 1 4.4.	The differences mentioned between the data from the technical report and data from the log book (which is used as a source for technical reports) can be explained by regular inaccuracy due to human factor existence. This uncertainty is too small to be considered as significant.	Issue is closed based on the conducted spot-check, explanations provided and corrections made to the MR

Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Verification conclusion
CL 11. Please define more accurately the starting date of the reduction generation.	Table 1 7.6. Table 4 7	The starting date of the reduction is February 1st 2008. Please see corrected Monitoring Report, Section A.4.	Response is accepted. CL is closed based on the correction made to the MR
CL 09. Please provide information on whether the Internal Audits of monitoring activities have been undertaken during the monitoring period in consideration.	Table 1 7.7.	In the frame of QMS (Quality Management System) ISO 9001 implemented at ZaporozhCox, the "Report on the processes performance" is developed on a monthly basis. There is a provision "Electricity generated onsite" among the parameters of this report. Therefore, data for the electricity production by the turbine are subject to internal auditing under ISO 9001. Department of Chief Power Engineer provides all data needed to the working group by filling in the form 8.2.ZK01 "Measurement of the QMS processes". Monthly reports composed on the basis of this form are transferred for revision to the First Deputy General Director. This procedure is called "Analysis from the management site". If some parameters are considered not satisfactory, then the "Correction and preventative actions" are prescribed under the 8.5.2.ZK01 procedure. Annual reports based on the monthly reports have to be saved for at list 3 years.	**FAR 01.** Records concerning internal audits and reviews of JI project operation should be demonstrated during the next periodic verification to assure project performance. **FAR 02**. Evidence of the written Internal Instruction for Monitoring developed for the JI project should be demonstrated during the next periodic verification.
CL 02. Please clarify how the procedures for uncertainty assessment of the calculated emission reductions have been taken	Table 1 3.4.	All meters used have sufficient accuracy indexes. Therefore, all possible uncertainties can be considered as insignificant.	Issue is closed based on the explanation and documents provided.

Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Verification conclusion
into account			
CL 04. Please provide verification and calibration schedule for the transformers involved in the project activities. Provide documented evidence that these transformers are the project specific equipment	Table 1 3.5.	Necessary explanation is provided. Please see files: *Transformer_confirmation.pdf* *Transformer_calibration_plan.pdf* *Transformers_passports.pdf*	Response is perused and accepted. CL is closed based on the explanation provided.
CL 08. Please, clarify who is in charge of the whole process of monitoring, the maintenance of the project facilities and monitoring equipment (as well as its accuracy)	Table 1 3.10.	Chief Power Engineer is responsible for both point mentioned.	Issue is closed based on clarification provided.
CL 12. Please, indicate sectoral scope for the project.	Table 1 7.6. Table 4 7	Sectoral scope was indicated. Please see corrected section A.1 of the Monitoring Report.	CL is closed based on the amendment made to the MR
CAR 07. Please denote in section A.8 deviations and revisions to the determined PDD with their	Table 1 7.6	Deviations and revisions to the determined PDD were added. Please see corrected section A.8 of the Monitoring Report.	CAR is closed based on the necessary amendments made to the MR

Report clarifications and corrective action requests	Ref. to checklist question in tables 2/3	Summary of project owner response	Verification conclusion
substantiations.			
CL 13. Please, insert information concerning the internal audit procedure to the MR.	Table 1 7.7.	Information concerning the internal audit procedure to the MR was added. Please see corrected section B.3 of the Monitoring Report.	CL is closed based on the information inserted to the MR

APPENDIX B: VERIFICATION TEAM

The verification team consists of the following personnel:

Ivan G. Sokolov, Dr. Sci. (biology, microbiology)

Internal Technical Reviewer, Climate Change Lead Verifier
Bureau Veritas Certification Local Climate Change Product Manager for Ukraine

He has over 25 years of experience in Research Institute in the field of biochemistry, biotechnology, and microbiology. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered), Quality Management System (IRCA registered), Occupational Health and Safety Management System, and Food Safety Management System. He performed over 140 audits since 1999. Also he is Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and Lead Tutor of the IRCA registered ISO 9000 QMS Lead Auditor Training Course. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the determination/verification of 50 JI projects.

Oleg Skoblyk, Specialist (energy management)

Team member, Climate Change Verifier
Bureau Veritas Ukraine Health, Safety and Environmental Project Manager

He has graduated from National Technical University of Ukraine ‘Kyiv Polytechnic University” with specialty Power Management. He is a Lead auditor of Bureau Veritas Certification for Environment Management System (IRCA registered). He performed over 5 audits since 2008. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the determination/verification of 11 JI projects.

Svitlana Gariyenchyk, Ecology Specialist

Team member, Climate Change Verifier
Bureau Veritas Ukraine Health, Safety and Environment Department Project Manager.

She has 8 year working experience as a Project Manager, Head of Investment, Environmental Programs and Training Department in the company operating in the sphere of ecological audit, management and certification. She is experienced in European Union programs as an environmental protection expert.

She followed study and training course within TACIS program on training of managers in the sphere of environmental protection. She has completed intensive training course “Lead verifier of JI projects”. She is involved in the determination/verification of 7 JI projects.

The verification report was reviewed by:

Leonid Yaskin, PhD (thermal engineering)
Internal Technical Reviewer.
Bureau Veritas Certification Rus General Director, Climate Change Local Manager, Lead Auditor, IRCA Lead Tutor, Climate change Lead Verifier

He has over 30 years of experience in heat and power R&D, engineering, and management, environmental science and investment analysis of projects. He worked in Krzhizhanovsky Power Engineering Institute, All-Russian Teploelectroproject Institute, JSC Energoperspectiva. He worked for 8 years on behalf of European Commission as a monitor of Technical Assistance Projects. He is a Lead auditor of Bureau Veritas Certification for Quality Management Systems (IRCA registered), Environmental Management System (IRCA registered), Occupational Health and Safety Management System (IRCA registered). He performed over 250 audits since 2002. Also he is a Lead Tutor of the IRCA registered ISO 14000 EMS Lead Auditor Training Course, and a Lead Tutor of the IRCA registered OHSAS 18001 Lead Auditor Training Course. He is an Assuror of Social Reports. He has undergone intensive training on Clean Development Mechanism /Joint Implementation and was/is involved in the determination of over 50 JI projects.

APPENDIX C: DOCUMENTS CHECKED DURING VERIFICATION

1. Three-phase electronic meter Alpha1140.
2. Statement of installation (replacement) of the meter of technical accounting site.
3. Certificate of acceptance and packaging. Three-phase electronic meter Alpha1140., type of meter A114ORAL-B-4T. Verification date: 14.04.2008.
4. Electric meter of multifunctional type "Energy-9". Passport. ААН3 466559.200 ПС.
5. Note on parameterization meter "Energy-9" №26711. 03.12.2007.
6. Technical report of boiler-and-turbine shop for 12 months of the year 2009.
7. Meter "Energy-9" ser. #26711. Verification date: September 2009.
8. Meter "Energy-9" СТК3 -10АІТ3 К4 #54810. Verification date: 22 June 2004.
9. Electric meter of multifunctional type "Energy-9". Passport. ААН3 466559.203 ПС.
10. Technical report of boiler-and-turbine shop for November 2009.
11. Technical report of boiler-and-turbine shop for May 2009.
12. Technical report of boiler-and-turbine shop for January 2009.
13. Technical report of boiler-and-turbine shop for 12 months of the year 2008.
14. Technical report of boiler-and-turbine shop for January 2008.
15. Technical report of boiler-and-turbine shop for March 2008.
16. Technical report of boiler-and-turbine shop for April 2008.
17. Technical report of boiler-and-turbine shop for August 2008.
18. Daily log book of electricity generation for the year 2008.
19. Statements of meters and electricity consumption for December 2008 at boiler-and-turbine shop.
20. Statements of meters and electricity consumption for October 2008 at boiler-and-turbine shop.
21. Statements of meters and electricity consumption for September 2008 at boiler-and-turbine shop.
22. Statements of meters and electricity consumption for August 2008 at boiler-and-turbine shop.
23. Statements of meters and electricity consumption for July 2008 at boiler-and-turbine shop.
24. Statements of meters and electricity consumption for June 2008 at boiler-and-turbine shop.
25. Statements of meters and electricity consumption for May 2008 at boiler-and-turbine shop.
26. Statements of meters and electricity consumption for April 2008 at boiler-and-turbine shop.
27. Statements of meters and electricity consumption for March 2008 at boiler-and-turbine shop.
28. Statements of meters and electricity consumption for February 2008 at boiler-and-turbine shop.
29. Statements of meters and electricity consumption for January 2008 at boiler-and-turbine shop.

30. Daily log book of electricity generation for the year 2009.
31. Current transformer ТЛК 10-5,6,9. Passport ИБЛТ.671213.019 ПС.
32. Certificate of acceptance, conservation and packaging. Current transformer ТЛК-10, ser. #06472. Date of package conservation: 19 July 2006.
33. Certificate of acceptance, conservation and packaging. Current transformer ТЛК-10, ser. #06472. Date of package conservation: 19 July 2006.
34. Certificate of acceptance, conservation and packaging. Current transformer ТЛК-10, ser. #06563. Date of package conservation: 25 July 2006.
35. Schedule of state verification of electricity equipment of boiler-and-turbine shop at side 6 kV and 0,4 kV. Turbine generator #1, steam boilers #1-3.
36. Photo. Meter. ELSTER A1140RAL-B-4T.
37. Photo. Meter "Energy-9".
38. Photo. Generator. УНИПО-К.
39. daily statement. Generator #1 (G1). 6 April 2010.
40. Certificate #280 of V. Alekseenko dated 21.05.2008.
41. Photo - КТП-27 Transformer №2 of own needs ГРУ6kV
42. Photo - Meter Energia-9, #54810
43. Certificate B #004305 on compliance of measurement devices with approved type #UA-MI/2-2236-2007. Issued 26.04.2007. Valid to 02.03.2010.
44. Certificate A #004831on approval of type of measurement devices #UA-MI/1-868-2008 dated 20.03.2008.
45. Licence AB #345689 on production of electricity energy of OJSC "Zaporozhkoks" dated 27.03.2008. Validity period is from 27.03.2008 to 26.03.2018.
46. Structure scheme of information technology service of OJSC "Zaporozhkoks" dated 31.03.2010.
47. Electrical balance, composition of power equipment, and report of work of electricity plant (equipments of electricity generation) for 2008.
48. Electrical balance, composition of power equipment, and report of work of electricity plant (equipments of electricity generation) for 2009.
49. Licence AB #175237 on training by educational institution that connected with professional education on the basis of qualification requirements to the course of vocational and technical education, re-training, education improving dated 12.07.2005p. Validity period is from 21.06.2005 to 21.06.2010.
50. Annex to the licence АБ #175237 dated 12.07.2005.
51. Permit #2310136600-47 on the pollutants emissions to the air by stationary sources dated 09.09.2009.
52. Protocol #363 dated 25.12.2008 on the vibration investigation.
53. Protocol #361 dated 25.12.2008 on the investigation of noise load and infrasound.
54. Map of the labour conditions #30-09.