VERIFICATION REPORT

JSC "POBUZHSKIY FERONIKELEVIY KOMBINAT"

VERIFICATION OF THE

"MODERNIZATION OF AN ENTERPRISE REGARDING FUEL SWITCHING FROM FUEL OIL TO NATURAL GAS AT PFC, LTD"

FOURTH PERIODIC FOR THE PERIOD OF 01.09.2010-31.12.2010

REPORT NO. UKRAINE-VER/0234/2011

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0234/2011

VERIFICATION REPORT

Date of first issue: 04/04/2011	Organizational unit: Bureau Veritas Certification Holding SAS
Client: JSC “Pobuzhskiy feronikeleviy kombinat”	Client ref.: Mykyta V. Novikov

Summary:
Bureau Veritas Certification has made the 4 periodic for the period of 01.09.2010-31.12.2010 verification of the "Modernization of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD", JI Registration Reference Number UA1000143, project of JSC “Pobuzhskiy feronikeleviy kombinat” located in Urban settlement Pobugskoye, Golovanivskyi District of Kirovohrad region, Ukraine, and applying the methodology ACM0009 "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas" (Version 3.2), on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

The verification scope is defined as a periodic independent review and ex post determination by the Accredited Entity of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

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

In summary, Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is ready to generate GHG emission reductions. The GHG emission reduction is calculated without material misstatements, and the ERUs issued totalize 38847 tons of CO_2eq for the monitoring period.

Report No.: UKRAINE-ver/0234/2011	Subject Group: JI	
Project title: "Modernization of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD"		
Work carried out by: Team Leader, Lead verifier: Kateryna Zinevych Team Member, verifier: Oleg Skoblyk		
Work reviewed by: Ivan Sokolov - Internal Technical Reviewer		
Work approved by: Flavio Gomes – Operational Manager		
Date of this revision: 06/04/2011	Rev. No.: 02	Number of pages: 26

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1 INTRODUCTION

JSC “Pobuzhskiy feronikeleviy kombinat” has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Modernization of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD" (hereafter called “the project”) at Urban settlement Pobugskoye, Golovanivskyi District of Kirovohrad region, Ukraine.

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

1.1 Objective

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

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

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

1.2 Scope

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

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

1.3 Verification Team

The verification team consists of the following personnel:

Kateryna Zinevych
Bureau Veritas Certification Team Leader, Climate Change Verifier

Oleg Skoblyk
Bureau Veritas Certification Climate Change Lead Verifier

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by "Centre-TEST" LLC and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), Approved CDM methodology (if applicable) and/or Guidance on criteria for baseline setting and monitoring, Host party criteria, Kyoto Protocol, Clarifications on Verification Requirements to be Checked by an Accredited Independent Entity were reviewed. After closing all the CARs Project developer has issued new MR as of version 02.

The verification findings presented in this report relate to the Monitoring Report version(s) 02 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 31/03/2011 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of JSC "Pobuzhskiy feronikeleviy kombinat", "Centre-TEST" LLC were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
JSC "Pobuzhskiy feronikeleviy kombinat"	Organizational structure. Responsibilities and authorities. Training of personnel. Quality management procedures and technology. Implementation of equipment (records). Metering equipment control. Metering record keeping system, database. Social impacts. Environmental impacts.
Consultant: JSC "Centre TEST"	Baseline methodology. Monitoring plan. Monitoring report. Deviations from PDD.

2.3 Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

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

(a) Corrective action request (CAR), requesting the project participants to correct a mistake that is not in accordance with the monitoring plan;

(b) Clarification request (CL), requesting the project participants to provide additional information for the AIE to assess compliance with the monitoring plan;

(c) Forward action request (FAR), informing the project participants of an issue, relating to the monitoring that needs to be reviewed during the next verification period.

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 5 Corrective Action Requests.

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

3.1 Project approval by Parties involved (90-91)

Written project approval by Ukraine and the Netherlands has been issued by the NFP of that Party when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest. (see Reference)

The abovementioned written approval is unconditional.

3.2 Project implementation (92-93)

The implementation status of the project is fully operational during the whole monitoring period, which is 01/10/2010 – 31/12/2010, and the starting date of operation is 05/07/2005.

The main project purpose is to reduce greenhouse gas (GHG) emission due to fuel switching from fuel oil to natural gas. GHG emission reduction can be achieved by modernization of a fuel system.

To fulfill this project the enterprise constructed a gas pipeline connected to the public gas transmission system, which provided use of natural gas instead of fuel oil for combustion in the respective production. Also, in order to increase efficiency of natural gas using the enterprise replaced gas burners.

Due to the absence of the project for production at the enterprise fuel oil was used as fuel, and the main greenhouse gas emissions from fuel combustion are CO_2 emissions. The proposed project allowed the enterprise to switch from oil fuel to another one – natural gas. Greenhouse gas emissions will be reduced at the expense of the fact that

carbon content in fuel oil is much higher than in natural gas, and the lower combustion value of fuel oil is much higher compared to natural gas.

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

The monitoring occurred in accordance with the revised monitoring plan (UKRAINE-ver/0159/2010) included in the Monitoring Report version 03 for the period 01.09.2010 – 31.08.2010 regarding which the verification has been deemed final and is so listed on the UNFCCC JI website.

For calculating the emission reductions or enhancements of net removals, key factors, such as (CO_2 e emission factor for natural gas, CO_2 e emission factor for fuel oil), influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating emission reductions or enhancements of net removals are clearly identified, reliable and transparent.

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

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

3.4 Revision of monitoring plan (99-100)

The project participants provided an appropriate justification for the proposed revision, which considers the NCV estimation. “National Cadastre of Anthropogenic Emissions and Greenhouse Gas Absorption of Ukraine for 1990-2008” (from now on – “National Cadastre of Ukraine”) was used to estimate this parameter during previous monitoring periods but in order to increase level of accuracy data from SE “Ukrtransgas” and UMG “Cherkasytransgas”, which is gas provider for PFC, LTD, were used. At the same time CO_2 e emission factors data is taken from IPCC 1996 not from “National Cadastre of Anthropogenic Emissions and Greenhouse Gas Absorption of Ukraine for 1990-2008” as in registered PDD and previous reports.

Also in this monitoring period changes have been made in respect of measuring instruments used to measure the amount of natural gas consumed. This is due to the fact that in October 2010 to Ltd. "PFC" were put into operation two new drying drums that run on natural gas and not included in the project limits. To account for the quantity of natural gas consumed fuel system Ltd. "PFC", which is included in the scope of the project and consists of four tubular rotary kilns instead of 2 X-commercial natural gas meters type "TZ / FLUXI", used four technological-type meters of natural gas GM-K-Ex installed immediately before the tubular rotary furnace.

The proposed revision improves the accuracy and applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.

3.5 Data management (101)

Key monitoring activities:
- measuring the consumption of fuel (natural gas) tubular rotary furnace;
- information on net calorific value of natural gas from Haysyn LVUMH UMG "Cherkasitransgaz" SE "Ukrtransgas";
- estimation of energy efficiency of the system working on the natural gas.

Natural gas consumption is measured directly with the help of gas flue meters. Gas flue meter is connected to the gas pipeline and is providing the measurement of natural gas consumption entering the system.

Net calorific value of gas taken according to the measurement of chemical-analytical laboratory Haysyn LVUMH UMG "Cherkasitransgaz" SE "Ukrtransgas", which is a supplier of natural gas for Ltd. "PFC". The above laboratory certified in the State Standard of Ukraine.

The calculation is based on energy efficiency data as gas, passport gas burners and HOST 21204.

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

The implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures. These procedures are mentioned in the section “References” of this report.

The function of the monitoring equipment, including its calibration status, is in order.

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

The data collection and management system for the project is in accordance with the monitoring plan. All monitoring data is required to be saved in a paper way. Measurement performance and data archiving is envisaged to the exploitation team. The measurement results are given to the monitoring team for the estimation of GHG emissions reductions. The monitoring team responsibilities are collection of the data that can not be measured, but need to be monitored. The Chief Engineer is responsible for preparation and archiving of monitoring reports.

Third parties involved

SE "Vinnitsa Research and Production Center of Standardization, Metrology and Certification is authorized to conduct of verification and calibration of the measurement devices.

SE “Western expert-technical centre of the national research-scientific institute of the production and labour safety” performs the calculations of the energy efficiency of the system. State Enterprise “Western expert-technical centre of the national research-scientific institute of the production and labour safety” is authorized to perform this kind of work and possess all the required licenses.

Measuring chemical-analytical laboratory Haysyn LVUMH Measure net calorific value of natural gas to be transferred and adopted Gaysinsky LVUHM Ltd. "PFC". The laboratory is certified in the State Standard of Ukraine, has a certificate of qualification issued PU-0078/09 02.06.2009r which was valid until 02/06/2014

Calculation of efficiency of the system working on fuel oil was performed by LTD “Ukr TEST”, which possess all required licenses. At the time of the settlement enterprise Ltd NDTSNSE “Ukr TEST” had all the necessary permissions.

Operational team

PFC, LTD general director assigns the responsible personnel, who are obliged to provide exploitation and maintenance of the fuel system as well as providing stability and effectiveness of system work. These functions are as well foreseeing all necessary for monitoring data registration. Personnel are also responsible for maintaining optimal exploitation level.

Functions and responsibilities of monitoring team determined by the Order of General Director of PFC, LTD #294 dated 23.11.2009. Monitoring staff identified by the Order of General Director of PFC, LTD #300 dated 30.11.2009.

The fuel system performance monitoring group is headed by Chief Engineer of PFC, LTD. Monitoring is conducted in close contact with the exploitation team and include monitoring, as well as analysis and archiving of all monitoring data. Calculation of the emission reduction volume is also an obligation of the monitoring team. Periodical data on natural gas consumption is analyzed in respect of the respective registered factors provided by the exploitation team to confirm their consistency. In case of discrepancies between the data their origin may be established in cooperation with the exploitation team. If any discrepancy is detected in monitoring data, respective adjustment shall be made in the monitoring system of a respective factor or the monitoring system of the fuel system.

The Chief Engineer is responsible for preparation and archiving of monitoring reports. The General Director regularly analyses the consolidated monitoring data and respective documentation.

Measurement performance and measurement data archiving is envisaged to the exploitation team.
The measurement results are given to the monitoring team for the estimation of emission reductions. The monitoring team responsibilities are collection of the data that can not be measured, but need to be monitored. Measurement results of natural gas consumption are registered as Statement of transferring-acceptance of services of natural gas transportation that signed by representatives of PFC, LTD and an enterprise that supplies natural gas. Estimation results of energy efficiency of the system working fired with natural gas are registered as a regime card.

Monitoring data is kept during all crediting period and for 2 years after the last estimation of emissions reduction units.

Environmental impact

The proposed interference into the existing production scheme has a positive environmental impact owning to switching of PFC, LTD from fuel oil to natural gas and will correspondingly lead to greenhouse gas emissions reduction into the air.

Emissions reduction will occur as a result of realization of this project, namely: at the expense of the fact that carbon content in fuel oil is much

higher than in natural gas, and lower calorific value of fuel oil is higher than in natural gas.

Emissions reduction, achieved as a result of implementation of this project, has environmental impact in Ukraine and does not impact greenhouse gas emissions abroad Ukraine.

Environment Impact Assessment (EIA) has been conducted for the proposed JI project. The environmental characteristics and impact evaluation in compliance with EIA has been presented in the PDD version 05. According to the EIA opinion, fuel switch on the enterprise will lead to the significant pollutant emissions reductions of the fuel system that will have positive effect on the population of the nearby area.

3.6 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 4th periodic for the period of 01.09.2010-31.12.2010 verification of the "Modernization of an enterprise regarding fuel switching from fuel oil to natural gas at PFC, LTD", JI Registration Reference Number UA1000143, project of JSC “Pobuzhskiy feronikeleviy kombinat” located in Urban settlement Pobugskoye, Golovanivskyi District of Kirovohrad region, Ukraine, which applies the methodology ACM0009 "Consolidated methodology for industrial fuel switching from coal or petroleum fuels to natural gas" (Version 3.2). The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

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

The management of PFC, LTD is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the final PDD version 05. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 02 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as per determined changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

Bureau Veritas Certification can confirm that the GHG emission reduction is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: From 01/09/2010 to 31/12/2010

Baseline emissions	: 96837	t CO_2 equivalents.
Project emissions	: 57990	t CO_2 equivalents.
Emission Reductions	: 38847	t CO_2 equivalents.

5 REFERENCES

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

/1/ Project Design Document, version 05 dated 27/01/2010

/2/ Monitoring Report version 01

/3/ Monitoring Report version 02

/4/ Determination Report by Bureau Veritas Certification Holding SAS No UKRAINE/0068/2009 of 15/02/2010

/5/ Verification Report by Bureau Veritas Certification Holding SAS No UKRAINE/0091/2010 of 16/04/2010

/6/ Verification Report by Bureau Veritas Certification Holding SAS No UKRAINE/0106/2010 of 16/04/2010

/7/ Verification Report by Bureau Veritas Certification Holding SAS No UKRAINE/0107/2010 of 16/04/2010

/8/ Verification Report by Bureau Veritas Certification Holding SAS No UKRAINE/0159/2010 of 19/12/2010

/9/ Letter of Approval of National Environmental Investment Agency of Ukraine No 188/23/7 of 05/03/2010

/10/ Letter of Approval of the Ministry of Economic Affairs of the Netherlands No 2010JI08 of 13/04/2010

/11/ Determination and Verification Manual, version 01

Category 2 Documents:
Background documents related to the design and/or methodologies employed in the design or other reference documents.

1. Contract #10/2010-обс dated 10/02/2010 between Ltd. “PFC” and Teploenerhoresurs Scientific and Production Incorporation LLC on execution of de/installation, repair, metrology and calibration works upon meters of the natural gas consumption units
2. Agreement #15-16725/10 dated 01/12/2009 between Ltd. “PFC” and UMG "Cherkasitransgaz" SE "Ukrtransgas" on natural gas cross-country pipeline transportation for ordering party which receives gas directly from gas transportation system
3. Certificate on TVP operation for September 2010
4. Certificate on TVP operation for October 2010
5. Certificate on TVP operation for November 2010
6. Certificate on TVP operation for December 2010

7. Passport on physical and chemical properties of natural combustible gas at Soiuz gas pipeline for September 2010, issued by Gaysinsky LVUHM Measurement Chemical Laboratory
8. Passport on physical and chemical properties of natural combustible gas at Soiuz gas pipeline for October 2010, issued by Gaysinsky LVUHM Measurement Chemical Laboratory
9. Passport on physical and chemical properties of natural combustible gas at Soiuz gas pipeline for November 2010, issued by Gaysinsky LVUHM Measurement Chemical Laboratory
10. Passport on physical and chemical properties of natural combustible gas at Soiuz gas pipeline for December 2010, issued by Gaysinsky LVUHM Measurement Chemical Laboratory
11. Scheme of gas meters installation at TVP Ltd. “PFC” dated 21/02/2011
12. Passport ФБ 2.784.008 ПС on turbine gas meter ЛГ-К-150-650-1.6-01-Ex, serial #6375, produced in 2001
13. Passport ФБ 2.784.008 ПС on turbine gas meter G 650 ЛГ-К-150-1/30-1.6-1-Ex, serial #9044, produced 13/12/2004
14. Passport ФБ 2.784.008 ПС on turbine gas meter G 650 ЛГ-К-150-1/30-1.6-1-Ex, serial #9036, produced 14/12/2004
15. Passport ФБ 2.784.008 ПС on turbine gas meter G 650 ЛГ-К-150-1/30-1.6-1-Ex, serial #9449, produced 18/11/2005
16. Order #100 dated 28/03/2011 on establishing of new intercalibration interval of measurement equipment that doesn’t undergo state obligatory calibration
17. Labour protection and industry safety expert opinion #1687.11.46.40.30.0/2099 dated 28/03/2011, Performance Cards on TVP Furnace Gas Burners at Ltd. “PFC” documentation expert analysis, issued by Western Expert Technical Centre of Ukrainian National Mining Control State Enterprise
18. Performance card on TVP #1 gas burners for September 2010
19. Performance card on TVP #2 gas burners for September 2010
20. Performance card on TVP #3 gas burners for September 2010
21. Performance card on TVP #4 gas burners for September 2010
22. Performance card on TVP #1 gas burners for October 2010
23. Performance card on TVP #2 gas burners for October 2010

24. Performance card on TVP #3 gas burners for October 2010
25. Performance card on TVP #4 gas burners for October 2010
26. Performance card on TVP #1 gas burners for November 2010
27. Performance card on TVP #2 gas burners for November 2010
28. Performance card on TVP #3 gas burners for November 2010
29. Performance card on TVP #4 gas burners for November 2010
30. Performance card on TVP #1 gas burners for December 2010
31. Performance card on TVP #2 gas burners for December 2010
32. Performance card on TVP #3 gas burners for December 2010
33. Performance card on TVP #4 gas burners for December 2010
34. Turbine gas meter ЛГ-К-150-650-1.6-01-Ex, serial #6375
35. TVP #1 gas corrector
36. TVP #2 gas corrector
37. TVP #3 gas corrector
38. TVP #4 gas corrector
39. Turbine gas meter G 650 ЛГ-К-150-1/30-1.6-1-Ex, serial #9449
40. Turbine gas meter G 650 ЛГ-К-150-1/30-1.6-1-Ex, serial #9044
41. Contract #1041-1 dated 09/03/2011 between Western Expert Technical Centre of Ukrainian National Mining Control State Enterprise and Centre Test LLC on expertise of Ltd. “PFC” project
42. Contract #5268 dated 12/03/2010 between Vinnytsia Scientific and Production Centre of Standardization, Metrology and Certification State Enterprise and Teploenerhoresurs Scientific and Production Association LLC on providing the metrology services
43. Contract #116 dated 10/01/2011 between Vinnytsia Scientific and Production Centre of Standardization, Metrology and Certification State Enterprise and Teploenerhoresurs Scientific and Production Association LLC on providing the metrology services
44. Attestation certificate # ПУ-0078/09 dated 02/06/2009 issued by Vinnytsia Scientific and Production Centre of Standardization, Metrology and Certification State Enterprise

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

/1/ Kolesnikov Victor – consultant-specialist JSC “Centre TEST”
/2/ Victor Romanenko – Chief engineer PFK
/3/ Aleksandr Lisnevskiy – Head of the gas service PFK
/4/ Inna Sokolova – engineer ecologist PFK
/5/ Lidiia Linishevska – Head of the training department PFK
/6/ Lyudmila Moroz – Human Resources PFK
/7/ Oleg Sergeyev – Head energetic PFK
/8/ Ivan Kapran – Head of the professional technical department PFK

VERIFICATION PROTOCOL

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

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
Project approvals by Parties involved				
90	Has the DFPs of at least one Party involved, other than the host Party, issued a written project approval when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest?	The project has been approved by both NFPs. The Letters of Approval were presented to the verification team. Letters of Approval by both Parties were submitted to the secretariat on the final determination stage.	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	OK	OK
Project implementation				
92	Has the project been implemented in accordance with the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	To fulfill this project the enterprise constructed a gas pipeline connected to the public gas transmission system, which provided use of natural gas instead of fuel oil for combustion in the respective production. Also, in order to increase efficiency of natural gas using the enterprise replaced gas burners.	OK	OK
93	What is the status of operation of the project during the monitoring period?	Project has been operational for the whole monitoring period, which is 01.09.2010 – 31.12.2010.	OK	OK
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	Yes, the monitoring occured in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website. CAR 1. Please note that monitoring period is 01.09.2010 – 31.12.2010 so convert information considering ERUs	CAR 1,2	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		difference in MR from PDD from the one for the whole 2010 to the one for defined monitoring period. CAR 2. According to determined PDD version 5 ERUs for the monitoring period were supposed to be 33252,33 tCO2e but MR version 1 showed ERUs amount as 38847 tCO2e. Clarify the difference.		
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	Yes, for calculating the emission reductions or enhancements of net removals, key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project were taken into account, as appropriate.	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	Yes, data sources used for calculating emission reductions or enhancements of net removals are clearly identified, reliable and transparent	OK	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	Yes, emission factors, including default emission factors, that are used for calculating the emission reductions or enhancements of net removals, are selected by carefully balancing accuracy and reasonableness, and are appropriately justified of the choice.	OK	OK
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on conservative assumptions and the most plausible scenarios in a transparent manner?	Yes, the calculation of emission reductions or enhancements of net removals are based on conservative assumptions and the most plausible scenarios in a transparent manner	OK	OK
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?			
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	N/a	N/a	N/a
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	N/a	N/a	N/a
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	N/a	N/a	N/a
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	Yes, project participants provided an appropriate justification for the proposed revision, which was fully described in the MR version 1.	OK	OK
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	Revision to the previously determined monitoring plan was caused by the fact that in October 2010 to Ltd. "PFC" two new drying drums that run on natural gas and not included in the project boundaries were put into operation. To account for the quantity of natural gas consumed fuel system Ltd. "PFC", which is included in the scope of the project and consists of four tubular rotary kilns instead of 2 X-commercial natural gas meters type "TZ / FLUXI", four technological-type meters of natural gas GM-K-150-1/30-1,6-1-Ex were	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		installed immediately before the tubular rotary furnace.		
Data management				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	Yes, the implementation of data collection procedures is in accordance with the monitoring plan, including the quality control and quality assurance procedures.	OK	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	Yes, the function of the monitoring equipment, including its calibration status is in order. CAR 3. Site visit revealed that calibration of monitoring equipment is provided by another organization. Please correct. CAR 4. Please correct the type of meter #6375. It is GM-K-150-**650**-1,6-1-Ex. CAR 5. Please provide the accreditation certificate for the laboratory that provides NCV analyses.	CAR 3, 4, 5	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	Yes, the evidence and records used for the monitoring are maintained in a traceable manner	OK	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	Yes, the data collection and management system for the project is in accordance with the monitoring plan	OK	OK
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	N/a	N/a	N/a
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/a	N/a	N/a
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	N/a	N/a	N/a
104	Does the monitoring period not overlap with previous monitoring periods?	N/a	N/a	N/a
105	If the AIE learns of an erroneously included	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	JPA, has the AIE informed the JISC of its findings in writing?			
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: − The types of JPAs; − The complexity of the applicable technologies and/or measures used; − The geographical location of each JPA; − The amounts of expected emission reductions of the JPAs being verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?	N/a	N/a	N/a
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	N/a	N/a	N/a
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site	N/a	N/a	N/a

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?			
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	N/a	N/a	N/a
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	N/a	N/a	N/a

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR 1. Please note that monitoring period is 01.09.2010 – 31.12.2010 so convert information considering ERUs difference in MR from PDD from the one for the whole 2010 to the one for defined monitoring period.	94	Section A.7. Monitoring report corrected information regarding the increase of emission reduction units for the last 4 months of 2010 compared with a value that corresponds to the deterministic PDD, with 33 252,33 tons of CO2 equivalents to 38 847 tons of CO2 equivalents.	Issue is closed.

CAR 2. According to determined PDD version 5 ERUs for the monitoring period were supposed to be 33252,33 tCO2e but MR version 1 showed ERUs amount as 38847 tCO2e. Clarify the difference.	94	The difference is caused by two factors: - due to increased production volume, compared with a projected value in PDD increased consumption tubular rotating furnaces with natural gas predicted value 27,164 million m³ to 30,758 million m³. - increased efficiency actual fuel system, which is the average for the last 4 months of 2010 actually amounted to 74,43% compared to the number listed in the PDD predicted value 73,5%.	Issue is closed.
CAR 3. Site visit revealed that calibration of monitoring equipment is provided by another organization. Please correct.	101 (b)	Correction made. Calibration of monitoring equipment is SE "Vinnitsa Research and Production Center of Standardization, Metrology and Certification".	Issue is closed.
CAR 4. Please correct the type of meter #6375. It is GM-K-150-**650**-1,6-1-Ex.	101 (b)	Correction made in Table 2 of Monitoring report.	Issue is closed.

CAR 5. Please provide the accreditation certificate for the laboratory that provides NCV analyses.	101 (b)	According to the request, Ltd. "PFC", invited testimony on Assessment of measuring chemical-analytical laboratory Haysyn LVUMH. The laboratory is certified in the State Standard of Ukraine, has a certificate of qualification issued PU-0078/09 02.06.2009 which was valid until 02.06.2014. Facsimile copy of the certificate given verifier.	Issue is closed.

APPENDIX B: VERIFICATION TEAM

The verification team consists of the following personnel:

Kateryna Zinevych, M.Sci. (environmental science)

Team Leader, Climate Change Lead Verifier
Bureau Veritas Ukraine Health, Safety and Environment Department Senior Project Manager

Kateryna Zinevych has graduated from National University of Kyiv-Mohyla Academy with the Master Degree in Environmental Science. She has experience at working in a professional position (analytics) involving the exercise of judgment, problem solving and communication with other professional and managerial personnel as well as customers and other interested parties at analytical centre “Dergzovnishinform” and “Burea Veritas Ukraine” LLC. She has successfully completed IRCA registered Lead Auditor Training Course for Environment Management Systems and Quality Management Systems. She has successfully completed Climate Change Verifier Training Course and she participated as verifier in the determination/verification of 53 JI projects.

Oleg Skoblyk, Specialist (Power Management)

Climate Change Lead Verifier
Bureau Veritas Ukraine HSE Department project manager

Oleg Skoblyk has graduated from National Technical University of Ukraine ‘Kyiv Polytechnic University” with specialty Power Management. He has successfully completed IRCA registered Lead Auditor Training Course for Environment Management Systems and Quality Management Systems. Oleg Skoblyk has undergone

intensive training on Clean Development Mechanism /Joint Implementation and he is involved in the determination/verification of 52 JI projects.

The verification report was reviewed by:

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

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

Acting CEO Bureau Veritas 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 is Lead Tutor of the Clean Development Mechanism /Joint Implementation Lead Verifier Training Course and he was involved in the determination/verification over 60 JI/CDM projects.