VERIFICATION REPORT

«COMPANY «MT-INVEST» LTD

VERIFICATION OF THE

"CONDUCTION OF THE COMPLEX TECHNICAL AND TECHNOLOGICAL MODERNIZATION OF AN ENTERPRISE WHICH IS AIMED AT THE REDUCTION OF ENERGY CONSUMPTION AND THE IMPLEMENTATION OF THE UTILIZATION SYSTEM OF ORGANIC WASTE FROM SUGAR PRODUCTION ON PJSC «RISE-MAKSYMKO»"

SECOND PERIODIC FOR THE PERIOD 01/01/2012 – 30/11/2012

REPORT NO. UKRAINE-VER/0488/2012

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Date of first issue: 05/12/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: «Company «MT-Invest» LTD	Client ref.: Falendysh Yaroslav

Summary:

Bureau Veritas Certification has made second periodic verification for the period from 01/01/2012 to 30/11/2012 of the «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»» project, located in Yasenivtsi village, Dubno town, Kremenets town, Chervonozavodske town, Ukraine, and applying JI specific approach, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria.

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

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

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions, or misstatements, and the ERUs issued totalize 1031286 tonnes of CO_2 equivalent for the monitoring period from 01/01/2012 to 30/11/2012.

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

Report No.: UKRAINE-ver/0488/2012	Subject Group: JI	
Project title: Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»		
Work carried out by: Olena Manziuk – Team Leader, Lead Verifier Sergiy Kustovskyy – Team Member, Verifier		
Work reviewed by: Ivan Sokolov - Internal Technical Reviewer Iuliia Pylnova – Technical Specialist		☒ No distribution without permission from the Client or responsible organizational unit
Work approved by: Ivan Sokolov – Operational Manager		☐ Limited distribution
Date of this revision: 11/12/2012	Rev. No.: 02	Number of pages: 32 ☐ Unrestricted distribution

Bureau Veritas Certification Holding SAS

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1 INTRODUCTION

«Company «MT-Invest» LTD has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»» (hereafter called "the project") in Yasenivtsi village, Dubno town, Kremenets town, Chervonozavodske town, Ukraine.

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

1.1 Objective

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

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

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

1.2 Scope

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

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

1.3 Verification Team

The verification team consists of the following personnel:

Olena Manziuk Bureau Veritas Certification	Team Leader, Climate Change Lead Verifier
Sergiy Kustovskyy Bureau Veritas Certification	Climate Change Verifier

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

Iuliia Pylnova
Bureau Veritas Certification Technical Specialist

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Monitoring Report (MR) «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»» submitted by «Company «MT-Invest» LTD and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD) 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.

The verification findings presented in this report relate to the Monitoring Report versions 1.0, 2.0 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 03/12/2012 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 «Company «MT-Invest» LTD and PJSC «Rise-Maksymko» were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
PJSC «Rise-Maksymko»	Organizational structure Responsibilities and authorities Roles and responsibilities for data collection and processing Installation of equipment Data logging, archiving and reporting Metering equipment control Metering record keeping system, database IT management Training of personnel Quality management procedures and technology Internal audits and check-ups
«Company «MT-Invest» LTD	Baseline methodology Monitoring plan Monitoring report Excel spreadsheets

2.3 Resolution of Clarification, Corrective and Forward Action Requests

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

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

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

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

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

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

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

3 VERIFICATION CONCLUSIONS

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

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

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 6 Corrective Action Requests and 2 Clarification Requests.

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

3.1 Remaining issues and FARs from previous verifications

No FARs were raised during the previous verification.

3.2 Project approval by Parties involved (90-91)

Written project approval by the Ukraine #1500/23/7 dated 09/06/2012 has been issued by the State Environmental Investment Agency of Ukraine.

Written project approval by Netherlands (letter of approval for the project «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»» № 2011JI36 dated 29/09/2011) has been issued by NL Agency, Ministry of Economic Affairs, Agriculture and Innovation of Netherlands.

The abovementioned written approvals are unconditional.

The identified areas of concern as to the Project approval by Parties involved, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CAR 01).

3.3 Project implementation (92-93)

Implementation of the measures under the project allowed to improve energy efficiency of sugar production, provide environmentally save utilization of its organic wastes. In its turn, it resulted in reduction of the amount of energy resources for sugar production,

allowed to deny wastes disposal at landfills. The reduction of greenhouse gases emission into the atmosphere is the result of these measures.

In accordance with project implementation schedule the following measures were undertaken in 2008 – 2011 on Dubenskiy sugar plant:

2008. Automation of diffusion facilities

This measure included the implementation of the following processes:

- measuring of level in beet bunkers (2 units);
- automated control of 6 slicers in accordance with the stated productivity;
- measuring of slices amount for each of two diffusion facilities (belt weights "Mika") DS-12 (№1) and DS-10 (№2);
- Measuring and regulating of pulp-pressed water and supply water;
- temperature maintenance in chambers of both diffusion facilities in accordance with the stated objectives;
- measuring and regulating of diffusion juice amount;
- measuring of levels in chambers of diffusion facilities;
- automatic level maintenance in condensate collectors;
- regulation of supply water diffusion auger revs on steam-contact heater
- sulfitation of condenser water,
- regulation of levels in water collectors (condensed, sulfurated, heated, supply),
- indication of rotating mechanisms movement (augers and diffusions, wheels, pulp augers, pulp belts),
- measuring of levels on pulp elevators.;

Diffusion facilities are regulated by microprocessor «Micro-PC», information from which is displayed on computer's display.

Producer: Viol-2 Ltd, Kyiv

The implementation of this measure allowed to make the diffusion flow stable and to increase the efficiency of the processes.

2008. Reconstruction of beet slicer STsB-12

After washing sector beets are delivered to bunker over slicers.

Before reconstruction 4 units of beet slicers STsB-12 were operating.

In 2008 beet slicers STsB-12 were reconstructed into 16-framed (3 units), 20-framed (1 unit) using frames as it is foreseen in the method of engineer Adamenko. Quality of slices was improved and productivity of beet processing was increased up to 5 tonnes per day due to reduction of distance between frames.

After reconstruction 2 units of beet slicers are operating (2 other are in reserve). It resulted in electric power saving.

2008. Presses «Stord - 2500»

After cooling in diffusion facility, pulp is supplied by pulp elevators and transporters to presses “Stord”. Installation of pulp deep pressing presses gives an opportunity to improve the quality of pulp and dry substances content in it. It allowed to save natural gas while pulp drying. It also allowed to return pulp water and save reduce river water consumption

2008.Implementation of granulator produced by firm KAHL

Granulators produced by the company KAHL are installed after pulp drying drums. Implementation of complex KAHL for dry pulp granulation results in electric power saving due to granulator productivity. Besides, implementation of this measure allowed to improve the pulp’s quality.

2008. Automation of evaporation station

Automation of evaporation station included the following measures:

- measuring and regulation of pure juice,
- heating of juice on heaters before evaporation station,
- measurement and regulation of levels on frames,
- measurement and regulation of steam in steam collector,
- measurement of steam amount in I-a and I-b frames through the gates Du-200,
- temperature measurement in steam and juice chambers of the station,
- regulation of levels in frames by interframe gates,
- pressure measurement in steam and juice chambers of the station,
- measurement and regulation of condensate levels in collectors.
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For emergency cases the circuit of automatic supply of prepared water to juice collector located before evaporation station is installed.

While water evaporation juice thickening takes place, juice temperature decreases due to tilution on tailpiece of the station. Secondary steam on frames of used station are used as heaters for the following frames and are connected to steam consumers on the plant (vacuum facilities, heaters).
Syrup from collector after passing of exaporation station is sulfurized and purified on filters “Borinex” and then goes to syrup collector on vacuum facility.

Evaporation station working is regulated by microcontroller “Shpaider”, which displays information in computer.

While automation inductive flow meters and mass measurement devices SV were used. After the station capacitive levels, pressure gages ”Arlisens”, frequency transformer of juice supply, stop and control valves were used.

Producer of automation system: Viol-2 Ltd.
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2009. Installation of frequency transformers with capacity of 200 kW (2 units).

Two frequency transformers «Tverd» were installed on drives of beet slicers. It allowed to optimize electric power consumption by beet slicers depending on loading of process and achieve the electric power saving.

2009 Installation of ASCME (automated system of commercial measurement of electricity)..

Due to different tariffs ASCME meter was installed. It transferrs the information which allow to reduce payment for electric power.

2009. Boarding of building frame of sugar plant with metal flank

Heat isolation of building frame was improved through its boarding with metal flank with area of 8200 m^2

It allowed to save heat energy and energy resources necessary for its generation.

2003-2010. Modernization of technological process.

Diffusion juice from diffusion facility, to which pulp-pressed water is supplied through heaters to cavitator as well, is delivered with suspension of II saturation to horizontal facility of predefecation of Brigel-Muller system, where lime milk is added. The aim of predification is the receiving of thick and compact residue, which is stable to high alkalinity influence during main defecation, and to provide high filtration indicators of I saturation juice.
From predefecator juice goes to cold defecator through overflowing box, to where lime milk is supplied. From cold defecator juice is supplied by pump through heaters to the boiler of hot defecation. Main defecation is performed for decomposition of unstable non-sugars in alkali medium and receiving of thermal-stable juice while evaporation.
From hot defecator defecated juice goes to the boiler of I saturation, to where saturation gas is supplied. The aim of I saturation is neutralization of limestone and receiving of juice with high filtration indicators.

In 2003 the scheme of defecosaturation was reconstructed. It resulted in increasing of utilized CO_2 from 45% to 70%.
In 2007 due to reconstruction of defecosaturation the amount of utilized CO_2 have increased from 70% to 90%, and the productivity have increased as well.

Unfiltered juice of I saturation through heaters is supplied to MVZh filters. Filtered juice

is delivered through heaters to defecator of II saturation and then goes to II saturation boiler where adsorbtion of soluted potassium salts. Syrup receiving from evaporation facility is carried out with all necessary technological indicators.
After I saturation MVZh filters suspension is delivered to vacuum filters. Thick dirt is removed from the plant into the disposal fields. Filtrate goes back to collector of unfiltered juice.

Unfiltered juice of II saturation is delivered to defecator tank and then is filtered on MVZh filters juice decanter and then is filtered on filters MVZh-70. Filtered juice is delivered on evaporation station and is boiling until the content of dry substances is 58-60%.

In 2009-2010 filters “BARIMEX” (6 units for each year) were installed for filtration of sulfurated syrup. It ensured the reduction of amount of filtrated tissue and filtration speed increasing. Filtrated juice is delivered to product department for I product massecuite boiling.

After evaporation station syrup is delivered through filtration to I product vacuum facilities VATs-600, where having dilution 0,82 kg/sm^2 and steam pressure 0,7-1,0 kg/sm^2 and temperature 72^{0}C it is boiled until content of solids is 92%. Then massecuite is supplied to massecuite mixer, from where it is delivered to centrifuge.

In 2007-2008 centrifuges BMA-B-1750 were installed. I product massecuite is boiled from syrup and I product white molasses and is spined with hot on periodic centrifuges BMA-B-1750, which were installed in 2007 – 2 units and 2008 – 1 unit.. This reconstruction allowed to increase the productivity of I product massecuite spinning up to 17,5 quintals per one cycle of one centrifuge and receive sugar-sand of high quality without molasses losses with lower humidity (up to 1%). Energy resources consumption becames lower as a result.
While centrifugation of I product massecuite white molasses (which then goes for I product massecuite boiling) and green molasses (which then goes for II product massecuite boiling) and white sugar are achieved. White sugar is delivered into drying drum. Then sugar is delivered by belt-type transporter through the shaker of dry sugar to sugar bunkers, where it is weighed on automatic weights, sewed up into the polyethylene bags with insets and is delivered by belt-type transporter to sugar warehouse for storage.Green molasses (II runoff) of I product is delivered to II product vacuum facilities VATs-600. There been diluted to 0,85-0,9 kg/sm^2 it is boiled until the solids content is 93%. Then it goes to massecuite xer of II product distributor, from where it is delivered to centrifuge.

In 2005 complex modernization of sugar drying sector was carried out (installation of dryind complex produced in Poland). It resulted in reduction of steam consumption, decreasing of sugar humidity, reduction of sugar crystals shattering due to dilution.

In 2008 centrifuge VMA K-2300 with productivity of 10 tonnes per hour and simultaneous liquoring was installed. Melt achieved after centrifuge goes for I product

massecuite boiling. I runoff of molasses achieved after centrifuge goes for III product massecuite boiling.

This reconstruction resulted in reduction of energy resources consumption and increasing of II product massecuite spinning productivity.

Achieved II product sugar melt is supplied on sulfitization. II product green molasses goes for boiling of III product massecuite.

In 2007 III product centrifuge K-2300 was installed. III product massecuite is boiled from II product green molasses. III product massecuite is delivered to mixers-crystallizers. Massecuite cooled to 45 ^{o}C is sludged on centrifuges continuous action. In 2007 III product centrifuge K-2300 was installed. It resulted in reduction of fuel consumption and reduction of sucrose content in molasses.
Achieved III product sugar melt is supplied on sulfitization. III product molasses is weighed and pumped into molasses containers.
In 2004 scheme of water clarification of II category, which uses flocculating agent (magnofloc-25) was installed. It resulted in reduction of fresh river water for 10%.
In 2009 scheme of pulp-pressed water circulation was implemented. It resulted in reduction of condenser water used for vapor in evaporation facility.The amount of steam reduces as well as the amount of natural gas consumed.

2010. Reconstruction of boiler BKZ-50. Changing the fuel type from coal to natural gas.

Changing of boiler's BKZ-50 fuel type from coal to gas with installation of backstone in the underbody of furnace, made it possible to extend operation time of tube system, increase coefficient of efficiency and productivity of boiler.
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2011. Installation of saturation gas separators.

Separator PGS-6 purifies the gas that is used for production of sand-dust. It also improves gas ovens' efficiency, extends the operation lifetime of gas pumps, reduces expenses for repair.

2011. Replacement of heating surface area of boiler BKZ-50

Heating surface area of boiler BKZ-50 contains waterwall tubes in boiler's furnace, through which vapor-air mixture passes. This measure allowed to increase the boiler's reliability and quality of it's operation.

2011. Replacement of steam communications using isolation materials

Steam communications located inside the boiler and communications for used steam

supply were replaced. It resulted in workshop's operational reliability increasing and heat energy saving up to 10%.

2011. Installation of softstarters – 4 units.

Installation of softstarters (2 units) on beet slicers allowed to reduce start current of electric motors, achieve the stable current on substation transformer and protect electromotors from overload.

Besides, installation of softstarter (1 unit) «Danfos» on chlorate water supply pump, on condenser and pumps for water spilling from waste disposal facilities was carried out.

In accordance with project implementation schedule the following measures were undertaken in 2008 – 2011 on Kremenetskiy sugar plant:

2008. Implementation of filters "Barimex" for syrup filtration.

Implementation of this measure allowed to reduce the syrup thickness that leads to energy resources saving.

2008. Reconstruction of pulp drying section with recurring heat using from flue gases for pulp drying.

Implementation of system of reccuring heat using from flue gases allowed to use flue gases that go out from drying drum having temperature of 90 ^{0}C. It leads to significant natural gas saving.

2008. Implementation of I product centrifuges VMA-1750 2 units.

Centrifuges VMA-1750 were implemented into the scheme of I product massecuite jointing.

It allowed to improve the quality of sugar and save electricity.

2008 – 2009. Reconstruction and automation of juice purifying section (defecosaturation).

Implementation of defecosaturation in accordance with Barakaev system includes installation of::

- progressive predefecator,
- cold defecator,
- hot defecator, cavitator,
- presaturator,
- I, II saturator.

In this system process of juice purification from nonsugars for further delivering of juice toevaporation station takes place. There juice is processed with lime milk and carbon dioxide.

Reconstruction allowed to utilize CO2 and reduce energy resources consumption.

2008. Installation of frequency transformers to electric motors of pumps

Installation of frequency transformers (MFC310 -160 kW – 3 units , MFC710 - 200 kW 1 unit., MFC710 - 250 kW) on electric motors of pumps allowed to optimize electric power consumption of electric motors in dependence on pump loading. It resulted in electric power saving.

In accordance with project implementation schedule the following measures were undertaken in 2008 – 2011 on Lokhvitskiy sugar plant:

2008. River water and II category water piping replacement (Ø 377mm, Ø 530 mm).

After river water and II category water piping replacement for the time of all production campains appeared no emergency situations due to pipeline breaking, so there was no related reduction of productivity. Pipelines are operating with increased water pressure, so the time of beet transporting through hydrotransporters have decreased, sugar losses in transporting and washing water decreased for 0,2% of beets mass.

The amount of additionally received sugar is 548 tonnes for the seasons of 2008-2011.

It resulted in additional increase of production output that leads to energy resources saving.

2008. Installation of pulp press «Stord-2500».

Installation of pulp press «Stord» allowed to increase the level of pulp pressing after presses due to reduction of number of turns of screw pulp presses(in 2008 while operation of 5 presses the content of dry substances was 24,07%), it leads to reduction of removed water in pulp drying drum, so natural gas consumption for pulp drying is lower. The amount of reccured pulp pressing water increases, that leads to water and energy resources saving.

2008. Construction of pulp drying and granuling complex with the productivity of 340 tonnes of dry pulp per day and warehouse of dry and granular pulp with the capacity of 20 thousand tonnes.

Construction of pulp drying and granuling complex and warehouse of dry and granular pulp solved the problem of reduction of dry pulp part, it resulted in pulp utilization and increasing of demand on dry and granular pulp.

2010. Modernization of feed water supply scheme to diffusion facility with pulp

pressing water distribution.

The main goal of the modernization was reduction of diffusion juice spooling from diffusion facility. It allowed to reduce energy consumption for water evaporation from the juice.

2010. Installation of two pulp eliminators with withdrawal of pulp to pulp presses «Stord».

Installation of two pulp eliminators with withdrawal of pulp to pulp presses «Stord» allowed to improve the diffusion process due to pulp withdrawal from facility and pressing of it on pulp presses.
Facility includes two apple steamers SYa-10 produced by the plant «Prodmash», Simferopil, having the productivity of 10 t/hour.

In accordance with project implementation schedule the following measures were undertaken in 2008 – 2011 on Zolochivskiy sugar plant:

2008.Implementation of pulp granulators "Grantex".

Raw pulp with dry substances content of 18% is supplied to the pulp drying drum, where it is dryed until the dry substance content is 84% and then is granulated by press GT-500. Rolls depress pulp into the matrix and granules with diameter of 10 mm and length 10-20 mm are received.

Measures, planned to be implemented in the period 2001 – 2011 were implemented in the full extent and the project is generating greenhouse gases emission reduction units.

Measures planned for 2012 were not implemented due to the lack of financial resources.

Amount of emission reduction provided for the period /01/2012 – 30/11/2012 in the MR differs from the amount of emission reduction for the corresponding period predicted in the registered PDD (version 05, dated 20/03/2012). This difference can be explained by the fact that some parameters, such as Net calorific value of coal, Net calorific value of natural gas for preliminary calculation were used on the basis of statistic data of Ukraine. For the monitoring period actual data of the sugar plants were used.

The identified areas of concern as to the project implementation, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CAR 02).

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

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

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

Data sources used for calculating emission reductions are clearly identified, reliable and transparent.

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

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

The identified areas of concern as to the compliance of the monitoring plan with the monitoring methodology, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CARs 03-05, CL 01).

3.5 Revision of monitoring plan (99-100)

Not applicable

3.6 Data management (101)

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

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

The identified areas of concern as to the data managemet, project participants responses and Bureau Veritas Certification's conclusions are described in Appendix A to this report (refer to CAR 06, CL 02).

3.7 Verification regarding programmes of activities (102-110)

Not applicable.

4 VERIFICATION OPINION

Bureau Veritas Certification has performed second periodic verification of the «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»» Project in Ukraine, which applies JI specific approach. The verification was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The verification consisted of the following three phases: i) desk review of the monitoring report against 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 «Company «MT-Invest» 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 Plan indicated in the final PDD version 05 dated 20/03/2012. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

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

Amount of emission reduction provided for the period 01/01/2012 – 30/11/2012 in the MR differs from the amount of emission reduction for the corresponding period predicted in the registered PDD (version 05, dated 20/03/2012). This difference can be explained by the fact that some parameters, such as Net calorific value of coal, Net calorific value of natural gas for preliminary calculation were used on the basis of statistic data of Ukraine. For the monitoring period actual data of the sugar plants were used.

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

Reporting period: From 01.01.2012 to 30.11.2012

Baseline emissions	:	1101013	tonnes of CO2 equivalent
Project emissions	:	69727	tonnes of CO2 equivalent
Emission Reductions	:	1031286	tonnes of CO2 equivalent

5 REFERENCES

Category 1 Documents:
Documents provided by «Company «MT-Invest» LTD that relate directly to the GHG components of the project.

/1/ PDD «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»» version 05 dated 20/03/2012.
/2/ Monitoring Report for 01/01/2012-30/11/2012 «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»», version 1.0 dated 01/12/2012.
/3/ Monitoring Report for 01/01/2012-30/11/2012 «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»», version 2.0 dated 04/12/2012.
/4/ Excel-file «MR2008-2011_Kremenets_v.1»
/5/ Excel-file «MR2008-2011_Zolochiv_v.1»
/6/ Excel-file «MR2008-2011_Lohvytsi_v.1»
/7/ Excel-file «MR2008-2011_Dubno_v.1»
/8/ Excel-file «MR2008-2011_TotalER_v.1»
/9/ Letter of Approval #1500/23/7 for the project «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»» issued by State Environmental Investment Agency of Ukraine dated 09/06/2012.
/10/ Letter of Approval № 2011JI36 dated 29/09/2011 for the project «Conduction of the complex technical and technological modernization of an enterprise which is aimed at the reduction of energy consumption and the implementation of the utilization system of organic waste from sugar production on PJSC «Rise-Maksymko»» issued by NL Agency, Ministry of Economic Affairs, Agriculture and Innovation of Netherlands.

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

/1/ Passport АРКС.404.611.001 ПС. Bunker scales "Норма-Т" №2519
/2/ Verification certificate for working measurement device №39-1/0372.
/3/ Measuring multiparameter counter-transformer ПМ-3В reg.№52 dated 04.08.2010
/4/ State metrological attestation certificate №3/024 dated 24.10.2008. Natural gas consumption accounting assembly.
/5/ Verification certificate for working measurement device №6А/158 for resistance thermal transformer ТСМ-1088 №028-25 dated 19.08.2011
/6/ Passport №103 for weght ЕрМак ВБ-800 №914 dated 09.06.2011
/7/ Order №76 dated 01.09.2000 on establishing of working group on the reduction of specific energy resources losses.
/8/ Order №2 dated 02.09.2011 on establishing of working group on the reduction of specific energy resources losses.
/9/ Passport №0003975 for turbine natural gas meter ЛГ-К-ЕХ reg.№10301
/10/ Bunker electronic tensometric scales ЕрМак ВБ-800. Operational manual.
/11/ Semi-automatic weigher "Норма-С". Operational manual.
/12/ Note on conformity of devices with the registration numbers on Dubenskiy sugar plant
/13/ Note on conformity of devices with the registration numbers on Kremenetskiy sugar plant
/14/ Note on wastes processing before 2000 on Dubenskiy sugar plant dated 03.10.2011
/15/ Note on conformity of devices with the registration numbers on Zolochivskiy sugar plant
/16/ Contract №890/13931770 dated 13.07.2007
/17/ Contract №132 dated 05.07.2007
/18/ Note on conformity of devices with the registration numbers on Lokhvitskiy sugar plant
/19/ Verification certificate for working measurement device №167 for weigher reg.№1 dated 07.09.2011
/20/ Statement №8/11 on putting into operation of automobile tensometric scales "Булат-А-80-Н" dated 04.11.2010.
/21/ Passport №104 for scales ЕрМак ВБ-800 №1232 dated 09.06.2011
/22/ Passport №101 for scales ЕрМак ВБ-800 №915 dated 09.06.2011
/23/ Passport АРКС.404.612.001 ПС. Semi-automatic weigher "Норма-С" №1688
/24/ Verification certificate for working measurement device №165 for weigher reg.№1507 dated 07.09.2011
/25/ Verification certificate for working measurement device №164 for weigher reg.№7 dated 07.09.2011
/26/ Verification certificate for working measurement device №168 for weigher reg.№425 dated 07.09.2011
/27/ Verification certificate for working measurement device №166 for

weigher reg.№4 dated 07.09.2011
/28/ Verification certificate for working measurement device №170 for weigher reg.№2 dated 07.09.2011
/29/ Verification certificate for working measurement device №169 for weigher reg.№423 dated 07.09.2011
/30/ Verification certificate for working measurement device №163 for weigher reg.№11688/01 dated 07.09.2011
/31/ Conclusion of state ecological expertise №16/22.06.2011-137 dated 25.07.2011
/32/ Conclusion of state ecological expertise №10 dated 22.01.2009
/33/ Order №11/1 on environmental protection dated 25.02.2011
/34/ Permission №5610300000-3 for pollutants emission from stationary sources into the atmospheric air dated 16.10.2006
/35/ Permission №564030/22 dated 13.09.2010 for waste disposal in 2011
/36/ Agreement for threadbare tires handing over №A0505 dated 05.05.2011
/37/ Agreement №140 for services provision dated 14.04.2011
/38/ Agreement on handing over of scrap and wastes of ferrous and non-ferrous metals №87 dated 18.04.2011
/39/ Passport of place for wastes removal №49. Registration date 18.04.2003
/40/ Passport of place for wastes removal №50. Registration date 18.04.2003
/41/ Register card of the wastes generation object №32. Registration date 18.04.2003
/42/ Permission №4621888501-1 for pollutants emission from stationary sources into the atmospheric air dated 24.04.2008
/43/ Permission for special water usage №Укр-90-10 dated 06.05.2010
/44/ Order on renewal of working group operation directed on reduction of specific energy resources consumption №65 dated 01.09.2011
/45/ Terminal report on production of industrial products (Form №1-P monthly) for January 2012.
/46/ Terminal report on production of industrial products (Form №1-P monthly) for February 2012.
/47/ Terminal report on production of industrial products (Form №1-P monthly) for March 2012.
/48/ Terminal report on production of industrial products (Form №1-P monthly) for April 2012.
/49/ Terminal report on production of industrial products (Form №1-P monthly) for May 2012.
/50/ Terminal report on production of industrial products (Form №1-P monthly) for June 2012.
/51/ Terminal report on production of industrial products (Form №1-P monthly) for July 2012.
/52/ Terminal report on production of industrial products (Form №1-P monthly) for August 2012.

/53/ Terminal report on production of industrial products (Form №1-P monthly) for September 2012.
/54/ Terminal report on production of industrial products (Form №1-P monthly) for October 2012.
/55/ Terminal report on production of industrial products (Form №1-P monthly) for November 2012.

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/ Vasily Ker'yachenko - Chief Engineer, Dubenskiy sugar factory
/2/ Igor Zolotar - Chief Energy Engineer, Dubenskiy sugar factory
/3/ Kuzmuk Andrei - Heat Engineer, Dubenskiy sugar factory
/4/ Redko Victor - Chief Engineer, Kremenetskiy sugar factory
/5/ Nikolai Volchalyuk - Chief Energy Engineer, Kremenetskiy sugar factory
/6/ Anatoly Polishchuk - Heat Engineer, Kremenetskiy sugar factory
/7/ Nikolai Zarechny - Chief Engineer, Zolochivskiy sugar factory
/8/ Roman Nedelskyy - Chief Energy Engineer, Zolochivskiy sugar factory
/9/ Vyshinsky Igor - Heat Engineer, Zolochivskiy sugar factory
/10/ Olexandr Lukyanov - Chief Energy Engineer, Lokhvytskiy sugar factory
/11/ Leonid Harkavin - Technical Director, Lokhvytskiy sugar factory
/12/ Anatoly Yevtushenko - Head of CHP, Lokhvytskiy sugar factory
/13/ Evgen Zuravliov – Director on Ecology projects «Company «MT-Invest» LTD

APPENDIX A: 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?	**Corrective Action Request (CAR) 01:** Please, include the information concerning the Letters of Approval from the parties involved into the Monitoring Report.	CAR 01	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?	**Corrective Action Request (CAR) 02:** In the section A.2 of the Monitoring Report, registration number of the JI project is not indicated. Please, indicate JI reference registration number in the Monitoring Report.	CAR 02	OK
93	What is the status of operation of the project during the monitoring period?	Project equipment has been installed with minor deviations from the schedule and is fully operational.	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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 occurs in accordance with the monitoring plan included in the PDD.	OK	OK
95 (a)	For calculating the emission reductions or enhancements of net removals, were key factors, e.g. those listed in 23 (b) (i)-(vii) above, influencing the baseline emissions or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project taken into account, as appropriate?	Yes, all relevant key factors 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?	**Clarification Request (CL) 01.** Please specify the enumeration formulas of pictures in the Monitoring Report. **Corrective Action Request (CAR) 03:** Please provide references on relevant excel spreadsheets with calculations in section C of MR	CL 01 CAR 03	OK OK
95 (c)	Are emission factors, including	**Corrective Action Request (CAR) 04.**	CAR 04	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?	In Excel calculation spreadsheets (lists BEELEC) mistakenly indicated out-of-date emission factor. Please, make the proper corrections in the calculation spreadsheets and in the MR. **Corrective Action Request (CAR) 05.** Please provide the units for the following parameters $NCV_{Coal,y,i}$, $EF_{CO2,Coal}$.	CAR 05	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 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 emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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	OK	OK
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	OK	OK
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	OK	OK
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?	N/A	OK	OK
99 (b)	Does the proposed revision	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?			
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, in order?	**Clarification Request (CL) 02.** Please, were applicable, correct the form of ownership for PJSC “Rise-Maksymko”. **Corrective Action Request (CAR) 06.** Please describe the length and structure of the storage of data concerning JI project at the enterprise. Please, add this information to the MR	CL 02 CAR 06	OK OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The evidences and records used for the monitoring maintained are in a traceable manner	OK	OK
101 (d)	Is the data collection and	The data collection and management system	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	management system for the project in accordance with the monitoring plan?	for the project is in accordance with the monitoring plan		
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	OK	OK
103	Is the verification based on the monitoring reports of all JPAs to be verified?	N/A	OK	OK
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	N/A	OK	OK
104	Does the monitoring period not overlap with previous monitoring periods?	N/A	OK	OK
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	N/A	OK	OK
Applicable to sample-based approach only				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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			

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	verified; and − The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	N/A	OK	OK
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	N/A	OK	OK
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	N/A	OK	OK
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated	N/A	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?			

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

Corrective Action Request (CAR) 01: Please, include the information concerning the Letters of Approval from the parties involved into the Monitoring Report.	90	The information on the approval by Parties involved has been included to the Section A.2 of the Monitoring Report.	Based on the information added to the Monitoring Report, CAR 01 is closed.
Corrective Action Request (CAR) 02: In the section A.2 of the Monitoring Report, registration number of the JI project is not indicated. Please, indicate JI reference registration number in the Monitoring Report.	92	Registration number UA1000348 has been indicated in the Section A.2 of the Monitoring Report.	Based on the corrections made in the Monitoring Report, CAR 03 is closed.
Corrective Action Request (CAR) 03: Please provide references on relevant excel spreadsheets with calculations in section C of MR	95 (b)	The MR was corrected. Please see MR version 2.0	The relevant corrections were made. Issue is closed.
Corrective Action Request (CAR) 04. In Excel calculation spreadsheets (lists BEELEC) mistakenly indicated out-of-date emission factor. Please, make the proper corrections in the calculation spreadsheets and in the MR.	95 (c)	Corresponding corrections were made in the Excel calculation tables and in the Monitoring Report. Corrected tables and Monitoring Report were provided to Bureau Veritas.	The relevant corrections were made. Issue is closed.

Corrective Action Request (CAR) 05. Please provide the units for the following parameters $NCV_{Coal,y,i}$, $EF_{CO2,Coal}$.	95 (c)	The necessary corrections were made	Issue is closed.
Corrective Action Request (CAR) 06 Please describe the length and structure of the storage of data concerning JI project at the enterprise. Please, add this information to the MR	101(c)	The necessary information was added to the section B of the MR.	Issue is closed based on the corrections made in the MR.
Clarification Request (CL) 01. Please specify the enumeration formulas of pictures in the Monitoring Report	95 (b)	Enumeration of formulas and pictures was corrected.	Issue is closed based on the corrections made in the Monitoring Report.
Clarification Request (CL) 02. Please, were applicable, correct the form of ownership for PJSC “Rise-Maksymko”.	101(b)	The necessary corrections were made in the Monitoring report version 2.0	Issue is closed