VERIFICATION REPORT "UNIPLYT" LTD

VERIFICATION OF THE "UTILIZATION OF WASTE WOOD FOR STEAM PRODUCTION AT "UNIPLYT" LTD WOOD-WORKING AND FIBREBOARD PLANT"

REPORT NO. UKRAINE-VER/0161/2011

REVISION NO. 02

BUREAU VERITAS CERTIFICATION

Report No: UKRAINE-ver/0161/2011

VERIFICATION REPORT "UTILIZATION OF WASTE WOOD FOR STEAM PRODUCTION AT "UNIPLYT" LTD WOOD-WORKING AND FIBREBOARD PLANT"

Date of first issue:	Organizational unit:
07/04/11	Bureau Veritas Certification Holding SAS
Client:	**Client ref.:**
"Uniplyt" Ltd	Joao Rodriques Markes Batista

Summary:

Bureau Veritas Certification has made the initial, 1st periodic verification of the "Utilization of waste wood for steam production at "Uniplyt" Ltd Wood-working and Fibreboard plant", JI Registration Reference Number UA1000220, project of "Uniplyt" Ltd located in Vygoda village, Dolyna district, Ivano-Frankivsk region, Ukraine and applying the methodology AM0036 version 2.1, 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 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 32331 tons of CO_2eq for the monitoring period.

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

Report No.:	Subject Group:
UKRAINE-ver/0161/2011	JI
Project title:	
"UTILIZATION OF WASTE WOOD FOR STEAM PRODUCTION AT "UNIPLYT" LTD WOOD-WORKING AND FIBREBOARD PLANT"	
Work carried out by:	
Oleg Skoblyk – Team Leader, Lead Verifier Vyacheslav Yeriomin – Team Member, Verifier Trainee	
Work reviewed by:	
Ivan Sokolov - Technical Reviewer	
Work approved by:	
Flavio Gomes - Operational Manager	
Date of this revision:	**Rev. No.:** / **Number of pages:**
10/05/2011	02 / 35

Bureau Veritas Certification Holding SAS

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1 INTRODUCTION

"Uniplyt" Ltd has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project "Utilization of waste wood for steam production at "Uniplyt" Ltd Wood-working and Fibreboard plant" (hereafter called "the project") at Vygoda village, Dolyna district, Ivano-Frankivsk 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:

Oleg Skoblyk
Bureau Veritas Certification Team Leader, Climate Change Verifier

Vyacheslav Yeriomin
Bureau Veritas Certification Climate Change Verifier

This verification report was reviewed by:

Ivan Sokolov
Bureau Veritas Certification, Internal Technical Reviewer

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 "Unilpyt" Ltd 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.

The verification findings presented in this report relate to the Monitoring Report versions 1.0, 2.0 and 3.0 as well as project as described in the determined PDD.

2.2 Follow-up Interviews

On 04/02/2011 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 "Uniplyt" Ltd

were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
"Uniplyt" Ltd	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 Training of personnel Quality management procedures and technology Internal audits and check-ups
Scientific Engineering Centre "Biomass"	Monitoring plan Monitoring report Deviations from PDD ERUs calculation model

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 9 Corrective Action Requests, 1 Clarification Request, and 1 Forward Action Request.

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

3.1 Project approval by Parties involved (90-91)

The Project was approved by Host Party (Ukraine). Letter of Approval has been issued by National Environmental Investment Agency of Ukraine (12/02/2010, # 123/23/7). The Project obtained the Letter of Approval from foreign country (United Kingdom of Great Britain and Northern Ireland) acting as the project participant dated 3rd of December 2010 # CCIISICAR/01/2010.
The abovementioned written approvals are unconditional.

3.2 Project implementation (92-93)

The main purpose of the project is substituting of natural-gas fired thermal generating installations (steam boilers) by wood-fired boilers. It is envisaged the construction of new waste wood-fired boiler houses at Wood-working and Fiberboard plant located in Vygoda and at Veneer plant located in Dzviniach village. Thermal energy (steam of required parameters) will be consumed for technological needs of the plant.
Thermal capacity of steam generating unit that is going to be constructed at Vygoda plant is 13,300 kW (steam output is 18 t/h) Steam parameters required by technology applied are following: steam pressure is 20 bars, steam temperature is 250 0C. Steam output will be 18 tons/h of steam (including 12 tons/h for fibreboard shop and 6 tons per/hour for milling shop). Thermal capacity of the boiler to be installed at Dzviniach Veneer plant is 8,000 kW.

All old boilers will be put out of operation but will be remained at the Enterprise and in the case of unforeseen circumstances they could be used as a reserve.
Waste wood fired boiler-house at Vygoda Woodworking Plant put into operation in March 2009.
Due the logistical and financial problems in the company, start of the project in Dzviniach village was delayed.

3.3 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 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.

3.4 Revision of monitoring plan (99-100) "Not applicable"

3.5 Data management (101)

The data and their sources, provided in monitoring report, are clearly identified, reliable and transparent. The amount of purchased biomass will be registered according to invoices and delivery notes of the seller. The weight of purchased waste wood will be determined on the basis of waste wood volume indicated in delivery notes. The calculations will be based on existing literature data and waste wood passports.
The amount of own waste wood is calculated on the basis of boiler's fuel consumption. Amount of combusted wood can be cross-checked from the amount of produced steam considering boiler efficiency and NCV of waste wood.
All the calculations will be cross-checked through produced thermal energy and net calorific value of the waste wood.
Measured boiler's parameters are continuously recorded and archived with a frequency of one second. At the same time graphic dependences of parameters on time are built. Storage period of the data in such form is

theoretically unlimited; archive of all measuring parameters can be opened and viewed at any time. Data generalization and summary is done for the month.
The function of the monitoring equipment, including its calibration status, is in appropriate order.
Calibration of measuring equipment is done by the Governmental enterprise "Ivano-Frankivsk Regional Scientific Engineering Centre of metrology and standardization".
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 the monitored data will be archived once a year and will be stored during 2 years after the end of the crediting period.
Mr. Volodymyr Pylypiv, Head of Steam Power Department, has been appointed for the implementation and management of the monitoring process at the "Uniplyt" Ltd. Mr. Volodymyr Pylypiv is responsible for supervising data collection, measurements, calibration, data recording and storage.
Ms Tetyana Yelovikova, is responsible for baseline and monitoring methodology development.
Mr. Alexey Epik, project manager of "Scientific Engineering Centre "Biomass", is responsible for data processing.

3.6 Verification regarding programmes of activities (102-110) "Not applicable"

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 1st periodic verification of the "Utilization of waste wood for steam production at "Uniplyt" Ltd Wood-working and Fibreboard plant" Project in country, which applies the methodology AM0036 version 2.1. 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 "Uniplyt" 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 02. 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 Reports versions 1.0, 2.0 and 3.0 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

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

Reporting period: From 20/10/2009 to 31/10/2010

Baseline emissions	: 33953	t CO_2 equivalents.
Project emissions	: 1622	t CO_2 equivalents.
Emission Reductions	: 32331	t CO_2 equivalents.

5 REFERENCES

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

/1/ Project Design Document "Utilization of waste wood for steam production at "Uniplyt" Ltd Wood-working and Fibreboard plant" version 02 dated 17/09/09
/2/ Monitoring Report "Utilization of waste wood for steam production at "Uniplyt" Ltd Wood-working and Fibreboard plant" version 01 dated 17/09/09
/3/ Monitoring Report "Utilization of waste wood for steam production at "Uniplyt" Ltd Wood-working and Fibreboard plant" version 02 dated 1/04/11
/4/ Determination and Verification Manual, version 01.
/5/ Letter of Approval from National Environmental Investment Agency of Ukraine dated 12/02/2010 # 123/23/7
/6/ Letter of Approval from United Kingdom of Great Britain and Northern Ireland dated 3/12/2010 # CCIISICAR/01/2010
/7/ Order of National Environmental Investment Agency of Ukraine #19 dated 25/02/2011
/8/ ERUs calculation Excel file "ERU_Calculation_Workbook"
/9/ Monitoring Report "Utilization of waste wood for steam production at "Uniplyt" Ltd Wood-working and Fibreboard plant" version 3.0 dated 10/05/2011

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

1. Premise of fuel store-house
2. Boiler house premise
3. Photo, steam boiler # 6365, registration № I-1634
4. Premise of central electrical unit
5. Premise for operators
6. Production instruction # 397 of 31.12.2009 on maintenance and safe operation of steam generating units ДЕ-25/14 ГМ of boiling house of plate production LLC ''Uniplyt''.
7. Production instruction # 397 of 31.12.2009 on maintenance and safe operation of steam generating units ДКВР - 10/39 of boiling house of plate production LLC ''Uniplyt''.
8. Protocol # 25 of qualification commission meeting of 10.06.2009
9. Protocol # 23 of qualification commission meeting of 01.06.2010
10. Certificate # 7 of boiler house operator Kholin V.I. of 10.06.2009

11. Certificate of boiler house operator of 10.06.2009
12. Certificate # 6 of boiler house operator Triasko I.I.of 10.06.2009
13. Certificate # 5 of boiler house operator Lytvyn L.I.of 10.06.2009
14. Journal of boiler house operator
15. Coefficients of full woodiness
16. Report on fuel supply to boiler VYNCKE
17. Invoice # 1 of 01.02.2011
18. Invoice # 10 of 01.02.2011
19. Invoice # 2 of 01.02.2011
20. Invoice # 12/358 of 01.02.2011
21. Invoice # 12/359 of 01.02.2011
22. Journal of boiler house operator
23. Journal of fuel acceptance at boiler house VYNCKE
24. Coefficients of full woodiness
25. Certificate on verification of working mean of measurement instruments # 1513/T. Valid till 10.08.2011, resistance thermo transmitter of type ТСП-1187 № 124277
26. Certificate on verification of working mean of measurement instruments # 210/T. Valid till 23.02.2011, thermotransmitter thermoelectrical of type Couple S № 48902/1.3
27. Certificate on verification of working mean of measurement instruments # 208/T. Valid till 23.02.2011, differential pressure transmitter of type Fisher № 705159.01.005
28. Protocol of verification of differential pressure sensor Fisher № 705159.01.005 of 23.02.2009
29. Certificate on verification of working mean of measurement instruments # 225/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 48197/1.76
30. Certificate on verification of working mean of measurement instruments # 226/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 41385/1.39
31. Certificate on verification of working mean of measurement instruments # 2192/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 45369/1.124
32. Certificate on verification of working mean of measurement instruments # 220/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 48197/1.73
33. Certificate on verification of working mean of measurement instruments # 221/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 48197/1.20
34. Certificate on verification of working mean of measurement instruments # 222/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 48197/1.70

35. Certificate on verification of working mean of measurement instruments # 223/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 48197/1.62
36. Certificate on verification of working mean of measurement instruments # 224/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 48197/1.1
37. Certificate on verification of working mean of measurement instruments # 244/T. Valid till 16.02.2011, resistance transmitter of type Pt 100, № CC 02 3F05TBR
38. Certificate on verification of working mean of measurement instruments # 245/T. Valid till 16.02.2011, resistance transmitter of type Pt 100, № CC 02 3F05TBS
39. Certificate on verification of working mean of measurement instruments # 248/T. Valid till 16.02.2011, resistance transmitter of type Pt 100, № CC 02 3F05TC2
40. Certificate on verification of working mean of measurement instruments # 246/T. Valid till 16.02.2011, resistance transmitter of type Pt 100, № CC 02 3F05TBV
41. Certificate on verification of working mean of measurement instruments # 247/T. Valid till 16.02.2011, resistance transmitter of type Pt 100, № CC 02 3F05TBQ
42. Certificate on verification of working mean of measurement instruments # 227/T. Valid till 12.02.2011, resistance transmitter of type Pt 100, № 515068
43. Certificate on verification of working mean of measurement instruments # 584/T. Valid till 18.03.2011, resistance transmitter of type Deltabar S № 9700920109 D
44. Protocol of verification of differential pressure sensor Deltabar S № 9700920109 D of 18.03.2009
45. Certificate on verification of working mean of measurment instruments # 583/T. Valid till 18.03.2011, differential pressure sensor of type Deltabar S № 9700930109 D
46. Protocol of verification of differential pressure sensor Deltabar S № 9700930109 D of 18.03.2009
47. Certificate on verification of working mean of measurment instruments # 309/T. Valid till 23.02.2011, differential pressure sensor of type Fisher № 70653.01.020
48. Protocol of verification of differential pressure sensor Fisher № 70653.01.020 of 23.02.2009
49. Certificate on verification of working mean of measurement instruments # 238/T. Valid till 12.02.2010, differential pressure sensor of type Cerabar T, № 9318B601052
50. Protocol of verification of pressure transmitter of type Cerabar T, № 9318B601052 of 12.02.2009

51. Certificate on verification of working mean of measurement instruments # 239/T. Valid till 16.02.2010, differential pressure sensor of type Cerabar T, № 9318B401052
52. Protocol of verification of pressure transmitter of type Cerabar T, № 9318B401052 of 16.02.2009
53. Certificate on verification of working mean of measurement instruments # 751/T. Valid till 29.04.2010, differential pressure sensor of type MBS 3000 № 060G1412
54. Certificate on verification of working mean of measurement instruments # 750/T. Valid till 29.04.2010, differential pressure sensor of type MBS 3000 № 060G1412
55. Protocol of verification of differential pressure sensor Danfoss MBS 3000 № 060G1412 of 22.04.2009
56. Protocol of verification of differential pressure sensor Danfoss MBS 3000 № 060G1412 of 22.04.2009
57. Certificate on verification of working mean of measurement instruments # 711/T. Valid till 22.04.2011, differential pressure sensor of type Cerabar T № 8103E701052
58. Certificate on verification of working mean of measurement instruments # 710/T. Valid till 22.04.2011, differential pressure sensor of type Cerabar T № ABOCC901052
59. Protocol of verification of pressure transmitter of type Cerabar T, № 8103E701052 of 22.04.2009
60. Protocol of verification of pressure transmitter of type Cerabar T, № ABOCC901052 of 22.04.2009
61. Certificate on verification of working mean of measurements instruments # 706/T. Valid till 22.04.2011, resistance transmitter of type Pt 100, № 52849/1.148
62. Certificate on verification of working mean of measurement instruments # 707/T. Valid till 22.04.2011, resistance transmitter of type Pt 100, № 52849/1.123
63. Certificate on verification of working mean of measurement instruments # 704/T. Valid till 22.04.2011, resistance transmitter of type Pt 100, № 52849/1.131
64. Certificate on verification of working mean of measurement instruments # 705/T. Valid till 22.04.2011, resistance transmitter of type Pt 100, № 52849/1.127
65. Certificate on verification of working mean of measurement instruments # 708/T. Valid till 22.04.2011, resistance transmitter of type Pt 100, № 52849/1.140
66. Certificate on verification of working mean of measurement instruments # 709/T. Valid till 22.04.2011, resistance transmitter of type Pt 100, № 52849/1.147
67. Certificate on verification of working mean of measurement instruments # 228/T. Valid till 12.02.2011, temperature transmitter of type PTP50J, № 2804213

68. Protocol of verification of resistance transmitter of type PTP50J, № 2804213 of 12.02.2009
69. Certificate on verification of working mean of measurement instruments # 1030. Valid till 07.08.2011, thermometers electrocontact ТПК
70. Certificate on verification of working mean of measurement instruments # 376. Valid till 11.03.2010, resistance transmitter of type ТСМ-1288, № 285
71. Example of table filling on calibration of devices
72. Analyzer of wood moisture, Volumetric and surface АВД6100ОП
73. Certificate on acceptance of analyzer of wood moisture АВД6100ОП № 711236851
74. Premise of fibre-board shop
75. Premise of the laboratory of plate production
76. Calorie content and fuel moisture
77. Contract # 367/14 on tests performance of 07.12.2010
78. Statement of fuel acceptance by quantity # 20/05 of 31.05.2010
79. Statement of fuel acceptance by quantity # 12/06 of 23.06.2010
80. Statement of fuel acceptance by quantity # 1/09 of 01.09.2010
81. Invoice # 01/09/05 of 01.09.2010
82. Statement of fuel acceptance by quantity # 20/05 of 31.05.2010
83. Invoice for displacement # 626 of 13.03.2010
84. Statement of fuel acceptance by quantity # 07/10 of 17.10.2010
85. Statement of fuel acceptance by quantity # 08/10 of 19.10.2010
86. Premise of boiler house # 1
87. Reactive energy meter of type СР4У-И673М, № 63499
88. Active energy meter of type СА3У-И670М, № 437177
89. Reactive energy meter of type СР4У-И673М, № 436931
90. Active energy meter of type СА3У-И670М, № 904415
91. Premise of gas counting unit
92. Gas meter G 400, № 8329
93. Gas meter ЛГ-К-100.250.06.01
94. Gas volume corrector ОЕ
95. Photo, verification group
96. Project # 1.3438, Document # 08-32008-13438, Juidance of boiler house operator
97. Description of bimetal thermometers: Bimetal standard thermometers, bimetal thermometers for industrial applications, bimetal air duct thermometers
98. Differential pressure switch of type 21D-DS21

99. Differential pressure transmitter FISCHER of type DE 50
100. Self-supporting linear position transducer with magnetic pulling, patent pending, GEFRAN PMA 12
101. Installation instructions of NRG 16-11, NRG 17-11, NRG 19-11
102. Scheme of NRG 16-11, NRG 17-11, NRG 19-11
103. Installation and Service instructions 803966-03 of NRS 1-7
104. Scheme of NRS 1-7
105. Installation instructions of NRG 16-12, NRG 17-12, NRG 19-12
106. Scheme of NRG 16-12, NRG 17-12, NRG 19-12
107. Installation and Service instructions 803967-01 of NRS 1-8
108. Scheme of NRS 1-8
109. Installation instructions 818447-00 of PA 46, PA 47, MPA 46, MPA 47
110. Capacity proximity switches KD0009
111. Pressure alarm low Penn P 32
112. Sensitive differential pressure switch P 32 Series
113. Interior view of the P32AA Differential Pressure Switch
114. Operating instructions Soliwave M FQR50, FDR 50
115. Installation instructions 808237-01 LRR 1-5, LRR 1-6
116. Description and schemes of LRT 1-5b, LRT 1-6b
117. Installation instructions 818578-01 of NRG 16-11, NRG 17-11, NRG 19-11
118. Description and scheme of meter of type FISCHER
119. Operating instructions of pressure transducer Cerabar T PMC131
120. Description of Fischer
121. Electrobalance, energy equipment and report on electrical station opeartion (electrical generating units) for 2010
122. Report about results of fuel, heat and electrical energy use for January - December 2010
123. Actual fuel consumption for production of separate kinds of production and works for 2010
124. Report about results of fuel, heat and electrical energy use for January - December 2010
125. Actual fuel consumption for production of separate kinds of production and works for 2010
126. Report about results of fuel, heat and electrical energy use for January June 2010
127. Report about results of fuel, heat and electrical energy use for January June 2010
128. Report about results of fuel, heat and electrical energy use for January June 2010
129. Report about results of fuel, heat and electrical energy use for January June 2003
130. Actual fuel consumption for production of separate kinds of production and works for 2009

131. Electrobalance, energy equipment and report on electrical station operation (electrical generating units) for 2009
132. Report on heat energy supply for 2009
133. Report about results of fuel, heat and electrical energy use for January June 2009
134. General production norms of specific consumptions of fuel and energy resources for 2010 at LLC ''Uniplyt''
135. Contract # 350 on electrical energy supply of 12.09.06
136. Annex 11 to the contract on electrical energy supply # 350 of 12.09.06 - Order of calculation for giving services on compensation of spilling the reactive electrical energy.
137. Annex 12 to the contract on electrical energy supply # 350 of 12.09.06 - Data on electrical energy supply to subcomsumers
138. Statement of distance survey of 22.11.2010
139. Statement of distance survey of 04.08.2010Statement of distance survey of 05.08.2010
140. Statement of distance survey of 06.08.2010
141. Statement of distance survey of 09.08.2010
142. Annex to the Contract # 24 of 25.01.2006 of natural gas supply. Additional agreement of 31.12.2010
143. Contract # 24 of 25.12.2005 on natural gas supply
144. Additional agreement # 2 of 01.11.2010 to the contract (technical agreement) on supply and transportation of natural gas (about the order of gas counting organization) № Д/п-09-07 of 06.01.2009
145. Additional agreement # 2 of 01.11.2010 to the contract № Л-Д-К-09-217 of 01.04.2010 on natural gas supply
146. Additional bargain of 18.06.2010 on amendments and additions to the Contract on electrical energy supply # 350 of 04.10.2006
147. Statement of acceptance and transfer of natural gas of 03.05.2010
148. Statement of acceptance and transfer of natural gas of 04.01.2010
149. Statement of acceptance and transfer of natural gas of 04.01.2010
150. Statement about volumes of transported active electrical energy during calculation period from 01-21.12.2010, Contract # 350 LLC ''Uniplyt''
151. Statement about used electrical energy at LLC ''Uniplyt'' under calculation meters from 01-31.12.2010
152. Annex to the Contract # 24 of 25.01.2006 of natural gas supply. Additional agreement of 28.12.2009.
153. JSC "Mizhgirskiy Lisocombinat" certificate "About woodwaste keeping" #053, dated 25/03/11

154. "Uniplyt" Ltd certificate "About woodwaste producing and keeping" #08/601, dated 30/03/11

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/ Volodymyr Pylypiv – Head of Heat Energy Department
/2/ Svitlana Balashuk – Head of Technology Department
/3/ Mar'iana Holovata – Engineer-Constructor of Head Mechanic Department
/4/ Tetiana Boitzeva – Haed of Labor Safety and Environmental Department
/5/ Olena Bukovtzeva – Engineer-Laborer of Heat Energy Department
/6/ Boitzev Dmytro – Master of Metrology Department
/7/ Vasyl Dudyrivka – head of Energy Department
/8/ Natalia Tatarenko – Head bookkeeper
/9/ Alexey Epik – project manager, Scientific Engineering Centre "Biomass"

APPENDIX A: COMPANY PROJECT VERIFICATION PROTOCOL

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?	CAR №01 Information, concerning Project approval, is missing in the Monitoring Report. Please add any information about Project approval in Monitoring report.	CAR №01	OK
91	Are all the written project approvals by Parties involved unconditional?	Not available.		
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?	CAR №02. Please provide the calculation of ERU, achieved at monitoring period, to periods from 1 January to 31 December to comparison with values, specified as planned in PDD. CAR №03 Please provide an explanation, regarding the difference between emission reduction achieved during 1st monitoring period, and emission	CAR №02 CAR №03	OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		reduction, specified in PDD.		
93	What is the status of operation of the project during the monitoring period?	CAR №04 Please clarify in Monitoring Report, if any equipment, related to the project were installed and operated during the monitoring period.	CAR №04	OK
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	The Monitoring plan, included in PDD, got positively determination conclusion. This plan is available on UNFCCC JI website The monitoring passed in accordance, with the Monitoring Plan, include to the PDD ver. 01, has been deemed final.	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. The key factors, e.g. those listed in 23 (b) (i)-(vii) of the DVM check list, 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 for calculating the emission reductions.	OK	OK
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified,	CAR №05 Please provide in Monitoring report information, related to the monitoring natural gas NCV.	CAR №05	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	reliable and transparent?	CAR №06 During the site-visit on the fibreboard plant it has been detected, that calculation of weight of burning biomass is made from quantity of produced steam, and fuel mass is measured by capacity and density of waste wood, without traceable and transparent references from weight and quality of fuel. Please, provide in Monitoring Report traceable methodology, describing measuring weight of biomass with corresponding accuracy. CAR №07 During the site-visit on the fibreboard plant, it has been detected, that about 20 types of biomass are used. Types of biomass depend on kind of trees (pine, spruce, larch, etc.) and parts of trees (branches, sawdust, bark, etc.). Please provide in Monitoring Report. - Description of each type of biomass; - Data, display quantity and weight of each type of biomass, used per year.	CAR №06 CAR №06 CAR №08	OK OK OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		CAR №08 Please provide in PDD and Monitoring report information, related to the: - Length of storage period of biomass, before it's burning and how this factor has been taken into account in ERU's calculations. - Description of calculation biomass NCV, depend on age and type of ones.		
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?	CAR №09 Please provide correct and traceable references for the emission factors used: - Emission factor of fossil fuel type, displaced by biomass (tCO_2/GJ); - Emission factor for trucks (tCO_2/km); - Emission factor of the most carbon intensive fuel used in country.	CAR №09	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?	CL №01 Please provide in Monitoring Report description of procedure, measuring generated heat.	CL №01	OK
Applicable to JI SSC projects only				
96	Is the relevant threshold to be classified as JI SSC project not exceeded during	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	the monitoring period on an annual average basis? If the threshold is exceeded, is the maximum emission reduction level estimated in the PDD for the JI SSC project or the bundle for the monitoring period determined?			
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	Not applicable	Not applicable	Not applicable
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	Not applicable	Not applicable	Not applicable
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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?	Not applicable	Not applicable	Not applicable
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	Not applicable	Not applicable	Not applicable
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?	Implementation of data collection procedures are in accordance with the Monitoring Plan, included in the determined PDD.	OK	OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	All the equipment, specify in monitoring plan, periodically calibrated by state metrological office. The procedure of calibration was found satisfactory. All meters are calibrated in accordance with the Ukrainian national standard	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	FAR №01 Please, submit any documented instruction which indicates that the data monitored and required for ERUs calculation (including historical data for baseline emissions estimation) are to be kept for two years after the crediting period.	FAR №01	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection and management system		
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	Not applicable	Not applicable	Not applicable
103	Is the verification based on the monitoring reports of all JPAs to be verified?	Not applicable	Not applicable	Not applicable
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	Not applicable	Not applicable	Not applicable
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable	Not applicable	Not applicable
105	If the AIE learns of an erroneously	Not applicable	Not	Not

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	included JPA, has the AIE informed the JISC of its findings in writing?		applicable	applicable
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	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	Not applicable	Not applicable	Not applicable
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	Not applicable	Not applicable	Not applicable
109	Is the sampling plan available for submission to the secretariat for the	Not applicable	Not applicable	Not applicable

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

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion
CAR №01 Information, concerning Project approval, is missing in the Monitoring Report. Please add any information about Project approval in Monitoring report.	90	All necessary information regarding project approval has been provided in the added separate section of Monitoring Report version 2.0 (See section 1.4)	Monitoring Report checked. The issue closed.

CAR №02. Please provide the calculation of ERU, achieved at monitoring period, to periods from 1 January to 31 December to comparison with values, specified as planned in PDD.	92	The requested values have been provided in the Section 1.2 of Monitoring Report version 2.0.	Monitoring Report checked. The issue closed.	
CAR №03 Please provide an explanation, regarding the difference between emission reduction achieved during 1st monitoring period, and emission reduction, specified in PDD.	92	The justification of emission reduction difference has been provided in Section 1.2 of Monitoring Report version 2.0.	Monitoring Report checked. The issue closed.	
CAR №04 Please clarify in Monitoring Report, if any equipment, related to the project were installed and operated during the monitoring period.	93	No additional equipment has been installed and operated during monitoring period of project activity which is proved by the appropriate reference, which has been requested from the enterprise and provided to verification team.	Monitoring Report checked. The issue closed.	
CAR №05 Please provide in Monitoring Report information, related to the monitoring natural gas NCV.	95(b)	Gas certificates from gas supplier has been provided to verification team.	The issue closed.	

CAR №06 During the site-visit on the fibreboard plant, has been detected, that calculation of burning biomass weight make from quantity of produced steam, and measuring fuel mass by capacity and density of waste wood, without traceable and transparent references from weight and quality of fuel. Please, provide in Monitoring Report traceable methodology, describing measuring weight of biomass with corresponding accuracy.	95(b)	The traceable references on the applied methodology of biomass consumption were provided (see State Standard of Soviet Union "Wood. Technical conditions # 3243-88" and State Standard of Soviet Union "Technological Chips # 15815-83". Soviet Union Standards are valid on the territory of Ukraine. The density of biomass wood waste has been confirmed by the reliable national data (see Thermal Energy Technical Reference Book, Section 5, Table 5.4).	. The issue closed.

CAR №07 During the site-visit on the fibreboard plant, has been detected, that about 20 types of biomass is used. Types of biomass depend on kind of trees (pine, spruce, larch, etc.) and parts of trees (branches, sawdust, bark, etc.). Please provide in Monitoring Report. Description each type of biomass; Data, display quantity and weight of each type of biomass, used per year.	95(b)	The description of biomass types has been provided in separate technical file "Технологічна тріска.doc". The data with volume of each biomass type used per month are provided in technical Excel files "поставка палива 2010р.xls", поставка палива 2009р.xls", "зведена таблиця.xls". The form of documentation is proved according to the adopted instruction. All mentioned documentation has been provided to verification team.	The issue closed.

CAR №08 Please provide in Monitoring Report information, related to the: Length of storage period of biomass, before it's burning and how this factor taken into account in ERU's calculations. Description of calculation biomass NCV, depend on age and type ones	95(b)	All appropriate documentation, which confirms the terms of biomass residues stockpiling has been provided to verification team (original references from suppliers with indication of type of biomass, percents of appropriate type in total biomass supplied and name of supplier). The NCV of major types (more than 90 % by volume) of biomass residues has been separately determined in the independent laboratory of Ivano-Frankivsk Cement enterprise. Files "довідка 1.pdf" довідка 2.pdf" confirm the terms of biomass stockpiling and Protocol of fuel tests which confirms the net calorific value of 6 biomass types have been provided to verification team.	The issue closed.

CAR №09 Please provide correct and traceable references for the emission factors used: Emission factor of fossil fuel type, displaced by biomass (tCO_2/GJ); Emission factor for trucks (tCO_2/km); Emission factor of the most carbon intensive fuel used in country.	95(c)	The traceable references on the appropriate guidelines and reasonable documents has been provided in the revised monitoring plan (see Annex 2, Section D.1.1.2). The "Emission factor of most carbon intensive fuel…" is not used in calculation so it is excluded from monitoring plan and monitoring report as unreasonable according to JI specific approach.	Monitoring Report checked. The issue closed.
CL №01 Please provide in Monitoring Report description of procedure, measuring generated heat.	95(d)	The procedure has been provided in the revised monitoring plan (See Annex 2 Section D.1.1.4).	The issue is closed.
FAR №01 Please, submit any documented instruction which indicates that the data monitored and required for ERUs calculation (including historical data for baseline emissions estimation) are to be kept for two years after the crediting period.	101(c)	The appropriate Order has been detected at the enterprise and provided to verification team.	The issue is closed.

APPENDIX B: VERIFIERS CV'S

Work carried out by:

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.

Vyacheslav Yeriomin, Specialist (Electromechanic)
Climate Change Verifier
Bureau Veritas Ukraine HSE Department project manager

Vyacheslav Yeriomin has graduated from National Technical University of Ukraine 'Kyiv Polytechnic University" with specialty Electromechanic. He has experience related to working in a professional position (engineering) involved with the exercises in heavy machinery, electric drive, metallurgy at JSC "Inzhenernyi Dom". Vyacheslav Yeriomin has successfully completed IRCA registered Internal Auditor Training Course for Environment Management Systems and Quality Management Systems as well as IRCA registered Lead Auditor Training Course for Quality Management Systems.
Vyacheslav Yeriomin is involved in the determination/verification of 6 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