VERIFICATION REPORT
EEA "NOVOSVIT"

VERIFICATION OF THE
GREENHOUSE GASES EMISSION REDUCTION DUE TO REPLACEMENT OF POWER, GENERATED BY THE TRADITIONAL FUEL FIRED POWER PLANTS, AS A RESULT OF REHABILITATION AND CONSTRUCTION OF THE SMALL HYDROPOWER PLANTS, OPERATED BY EEA "NOVOSVIT" AND "ENERGOINVEST", LTD.

(FOURTH PERIODIC FOR THE PERIOD 01/01/2011-31/08/2011)

BUREAU VERITAS CERTIFICATION

REPORT NO. UKRAINE-VER/0374/2011

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Client:	**Client ref.:**
EEA "Novosvit"	Kostyantyn Mandybura

Summary:

Bureau Veritas Certification has made the 4th periodic verification of the "Greenhouse gases emission reduction due to replacement of power, generated by the traditional fuel fired power plants, as a result of rehabilitation and construction of the small hydropower plants, operated by EEA "Novosvit" and "Energoinvest", Ltd." project of EEA "Novosvit" and "Energoinvest", Ltd. located in Vinnytsya, Khmelnytsky, Ternopil, Chernivtsi, Cherkasy, Ivano-Frankivsk and Lviv regions of Ukraine, and applying the JI specific approach, on the basis of UNFCCC criteria for the JI, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 6 of the Kyoto Protocol, the JI rules and modalities and the subsequent decisions by the JI Supervisory Committee, as well as the host country criteria

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

The first output of the verification process is a list of Clarification, Corrective Actions Requests, Forward Actions Requests (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 19633 tons of CO_2eq for the monitoring period from 01/01/2011 to 31/08/2011.

Report No.:	Subject Group:
UKRAINE-ver/0374/2011	JI

Project title:

Greenhouse gases emission reduction due to replacement of power, generated by the traditional fuel fired power plants, as a result of rehabilitation and construction of the small hydropower plants, operated by EEA "Novosvit" and "Energoinvest", Ltd.

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Bureau Veritas Certification Holding SAS

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1 INTRODUCTION

EEA “Novosvit” and “Energoinvest”, Ltd has commissioned Bureau Veritas Certification to verify the emissions reductions of its JI project “Greenhouse gases emission reduction due to replacement of power, generated by the traditional fuel fired power plants, as a result of rehabilitation and construction of the small hydropower plants, operated by EEA “Novosvit” and “Energoinvest”, Ltd.” (hereafter called “the project”) at Vinnytsya, Khmelnytsky, Ternopil, Chernivtsi, Cherkasy, Ivano-Frankivsk and Lviv regions in the western and central parts of 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, 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:

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

Daniil Ukhanov
Bureau Veritas Certification, Technical specialist

2 METHODOLOGY

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

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

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

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

2.1 Review of Documents

The Monitoring Report (MR) submitted by The Institute of Engineering Ecology 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 01, 02 and project as described in the determined PDD.

2.2 Follow-up Interviews

On 3/10/2011 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 EEA "Novosvit" and "Energoinvest", Ltd. were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
EEA "Novosvit" and "Energoinvest", 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 nternal audiys and check-ups
Institute of Engineering Ecology	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 2 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 are available from previous verification.

3.2 Project approval by Parties involved (90-91)

Written project approval by Host Party has been issued by The National Environmental Investment Agency of Ukraine (#1819/23/7 dated 13/07/2011). Letter of Approval by Netherlands Ministry of Economic Affairs #2010JI09 has been issued 13/04/2010 when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest.

The abovementioned written approvals are unconditional.

3.3 Project implementation (92-93)

The project's main goal is the reduction of the greenhouse gases emissions from the thermal power plants which consume traditional fossil fuel by means of replacement of electric power generated by them to the state grid with the electric power generated by the small hydro power plants as a renewable, due to rehabilitation, renew and retrofit of existing obsolete small HPPs and building of the new ones.

The Supplier for this project is the External Economic Association "Novosvit", which at present operates 15 small hydropower plants with the

installed capacity of 10 280 kW. The first three of them (Sandratska HPP, Gordashivska HPP and Bodnarivska HPP) were renovated in 1999-2000 by the Ukrainian Energy Consortium, the founder of the EEA "Novosvit", and were then rented by EEA "Novosvit", these small HPP are not included in the project. The other 12 already rehabilitated/constructed are included in the project, as well as 9 HPPs that are planned for rehabilitation/construction, in total 21 small HPPs with total scheduled installed capacity of 13.360 MW.
Also, the EEA "Novosvit" is empowered to represent in this project the interests of company "Energoinvest" Ltd., which at present operates 11 already rehabilitated/constructed small hydropower plants with total installed capacity of 13.038 MW. Ten of these small HPPs are included in the project.

Thus, in frames of this project, the total installed capacity of the 22 small hydropower plants that are already rehabilitated/renovated, is 20.528 MW, and the total installed capacity of all 33 small hydropower plants included in the project at the present stage is planned to be 25.848 MW.

Clarification Request 01
Monitoring Report indicates that Yurpilska HPP and Kryvokolinska HPP put into operational in 2011. Please clarify in Monitoring Report situation on these HPPs

Response
According to the PDD for this project, rehabilitation of the Yurpilska small HPP and Kryvokolinska small HPP was scheduled to be completed in 2011. Up till 31.08.2011, these works are not completed, and these small HPPs are under rehabilitation. This is indicated in Monitoring Report (Table 4, page 11).

Clarification Request 02
Negative values of emission reduction units for Glybochanska HPP and Dmytrenkivska HPP were indicated in calculations of emission reductions (Annex 2 of Monitoring Report). Please clarify.

Response
The negative values of emission reduction units for Glybochanska HPP and Dmytrenkivska HPP indicated in calculations of emission reductions (Annex 2 of Monitoring Report) are originated from the negative difference between the actual amount of electricity supplied by the project activity to the grid during the reported period, and the baseline amount of electricity supplied to the grid during the similar period. Calculations were made according to the approved consolidated baseline and monitoring methodology ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"

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 or net removals and the activity level of the project and the emissions or removals as well as risks associated with the project were taken into account, as appropriate.

Data sources used for calculating emission reductions or enhancements of net removals, such as paper logbooks at HPPs, daily and monthly reports of joined dispatcher centre, commissioning acts, electronic data on electricity producing are clearly identified, reliable and transparent.

Emission factors is 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.

3.5 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. In 2004, EEA «Novosvit» and «Energoinvest», Ltd. developed and implemented an automated system for commercial electric power accounting (ASCEPA). Created system is designed for automated collection, processing, storage, visualization and transfer of data on accounting cross-flows of active and reactive power and organization of multi-tariff commercial accounting of electric power and capacity. Data from HPPs are transferred to the joint dispatcher center of EEA “Novosvit” and “Energoinvest”, Ltd. The ASCEPA provides the automatic control of the technical state of the measuring equipment. The collected data can be transmitted to the customer in the required format, with using the e-mail or through the local network with using the standard exchange protocol TCP/IP. Calculated values may be presented in the MS Excel format.
ASCEPA is recertified by State Enterprise “Enerhorynok” each 6 month.

The function of the monitoring equipment, including its calibration status, is in order. Periodical calibration of the measuring equipment at small HPPs was carried out by Vinnitsa regional state scientific-production center of standardization and metrology in compliance with actual Ukraine legislation.

The evidence and records used for the monitoring are maintained in a traceable manner. Data on electric producing is collected on HPPs in operational and electric producing logbooks. Daily data is transferred to the joint dispatcher center of EEA “Novosvit” and “Energoinvest”, Ltd by phone and local network. Data in paper format is kept at HPPs in logbooks and at joint dispatcher centre in monthly reports.

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

All collected data are transferred to Mr. Konstantyn Mandybura, who is responsible for data storage and archiving, filling the monitoring spreadsheets with input data.
The vice director of the Institute of Engineering Ecology, PhD Dmytro Paderno, is responsible for baseline and monitoring methodology development and application, and for development of the Monitoring Report.

Corrective Action Request 01
Monitoring Plan indicates only main electric meters used for monitoring electricity production. Please provide data on reserve power meters

Response
According to the “Instruction on the order of commercial account of electric power” [http://zakon.nau.ua/doc/?code=va349227-98], in every point of account of voltage of 110 kV and higher, two electric power meters (the main and the doubling ones, of the same accuracy) must be installed.
The small HPPs included in project supply the electric power of 10 kV and 35 kV (two small HPPs) voltage, thus installation of the doubling (reserve) meters are not obligatory.
Nevertheless, the majority of small HPPs included in the project are equipped with the doubling electric power meters, in order to provide the continuous measuring in case of any mailfunction of the main meter. No such cases were registered during the reported period.
Information on the doubling electric power meters is provided in Annex 3 to the Monitoring Report, version 02.

Corrective Action Request 02

The Monitoring Plan indicates that main electric meters were replaced during the monitoring period. Please provide data on this replacement and describe relevant procedure

Response
Several electric power meters at the small HPPs included in project were replaced during the reported period, which was caused by approaching the data of finishing of the valid calibration interval.
The data of replacement of the electric power meters are provided in Annex 3 to the Monitoring Report, version 02. The relevant procedure is described in section B.1.1 of the Monitoring Report, version 02.

3.7 Verification regarding programmes of activities (102-110)

"Not applicable"

4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 4th periodic, verification of the "Greenhouse gases emission reduction due to replacement of power, generated by the traditional fuel fired power plants, as a result of rehabilitation and construction of the small hydropower plants, operated by EEA "Novosvit" and "Energoinvest", Ltd." Project in Ukraine, which applies the 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 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 EEA "Novosvit" and "Energoinvest", 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 07. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report version 02 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in approved project design documents. Installed equipment

being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

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

Reporting period: From 01/01/2011 to 31/08/2011

Baseline emissions	: 19633	t CO_2 equivalents.
Project emissions	: 0	t CO_2 equivalents.
Emission Reductions	: 19633	t CO_2 equivalents.

5 REFERENCES

Category 1 Documents:
Documents provided by EEA "Novosvit" and "Energoinvest", Ltd. that relate directly to the GHG components of the project.

/1/ Project Design Document "Greenhouse gases emission reduction due to replacement of power, generated by the traditional fuel fired power plants, as a result of rehabilitation and construction of the small hydropower plants, operated by EEA "Novosvit" and "Energoinvest", Ltd." version 07 dated 23 November 2010

/2/ Monitoring Report #_55M/04 "Greenhouse gases emission reduction due to replacement of power, generated by the traditional fuel fired power plants, as a result of rehabilitation and construction of the small hydropower plants, operated by EEA "Novosvit" and "Energoinvest", Ltd." version 01 dated 27 September 2011

/3/ Monitoring Report#_55M/04 "Greenhouse gases emission reduction due to replacement of power, generated by the traditional fuel fired power plants, as a result of rehabilitation and construction of the small hydropower plants, operated by EEA "Novosvit" and "Energoinvest", Ltd." version 02 dated 5 October 2011

/4/ Letter of Approval, issued by Netherlands Ministry of Economic Affairs #2010JI09 dated 13/04/2010

/5/ Letter of Approval, issued by State National Environmental Agency of Ukraine #1819/23/7 dated 13/07/2011

/6/ ERUs calculation model excel file "MR4_ Annex2_2011_print"

/7/ ERUs calculation model excel file "MR4_ Annex3_Meters05_print"

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

1. Server on operational data logging and keeping in EEA "Novosvit" and "Energoinvest" LLC control centre
2. State technical commission statement on acceptance Korghivska HPP as finished, dated 28/10/2004
3. Agreement #444/03 dated 01/07/2003 on lease property of Novokostyantynivska and Schedrivska HPPs
4. Annex to agreement #444/03. Rent calculations dated 01/07/2003
5. Statement on acceptance-transmitting Novokostyantynivska and Schedrivska HPPs main facilities in operational lease EEA "Novosvit" dated 01/07/2003
6. Purchase-sell agreement #5621/01 dated 29/07/2009 on electric energy transmitting between "Energorynok" SE and EEA "Novosvit"
7. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Hordashivska HPP

8. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Hordashivska HPP
9. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Hordashivska HPP
10. Division of electric networks balance ownership and operational responsibilities of the Parties electric scheme at Hordashivska HPP
11. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
12. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Zvenihorodska HPP
13. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Zvenihorodska HPP
14. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Zvenihorodska HPP
15. Division of electric networks balance ownership and operational responsibilities of the Parties electric scheme at Zvenihorodska HPP
16. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
17. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Korsun-Shevchenkivska mini-HPP
18. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Korsun-Shevchenkivska mini-HPP
19. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Korsun-Shevchenkivska mini-HPP
20. Division of electric networks balance ownership and operational responsibilities of the Parties electric scheme at Korsun-Shevchenkivska mini-HPP
21. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
22. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Korsun-Shevchenkivska HPP
23. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Korsun-Shevchenkivska HPP
24. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Korsun-Shevchenkivska HPP
25. Division of electric networks balance ownership and operational responsibilities of the Parties electric scheme at Korsun-Shevchenkivska HPP
26. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.

27. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Steblivska HPP
28. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Steblivska HPP
29. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Steblivska HPP
30. Division of electric networks balance ownership and operational responsibilities of the Parties electric scheme at Steblivska HPP
31. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
32. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Lotashivska HPP
33. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Lotashivska HPP
34. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Lotashivska HPP
35. Division of electric networks balance ownership and operational responsibilities of the Parties electric scheme at Lotashivska HPP
36. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
37. Protocol on agreement of data exchange regulations between EEA “Novosvit” and SE “Enerhorynok”, dated 22/06/2009
38. Note on EEA “Novosvit” planned actions
39. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Lysyanskiy HPP
40. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Lysyanskiy HPP
41. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Lysyanskiy HPP
42. Division of electric networks balance ownership and operational responsibilities of the Parties electric scheme at Lysyanskiy HPP
43. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
44. Statement on division of electric networks balance ownership and operational responsibilities of the Parties electric scheme at Lysyanska HPP
45. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Lysyanskiy HPP
46. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Sandratska HPP
47. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Yablunitska HPP
48. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Yablunitska HPP

49. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Yablunitskiy HPP
50. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
51. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Koropetska HPP
52. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Koropetska HPP
53. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Koropetska HPP
54. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
55. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Schedrivska HPP
56. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Schedrivska HPP
57. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Schedrivska HPP
58. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
59. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Bodnarivska HPP
60. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Bodnarivska HPP
61. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Bodnarivska HPP
62. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics.
63. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Novo-Kostyantynivska HPP
64. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Novo-Kostyantynivska HPP
65. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Novo-Kostyantynivska HPP
66. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics at Novo-Kostyantynivska HPP.
67. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Korghivska HPP
68. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Korghivska HPP
69. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational

responsibilities of the Parties at Korghivska HPP

70. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics at Korghivska HPP.
71. Annex #1 to agreement #5621/01. List of record keeping system and devices installation locations at Velykokughelevetska HPP
72. Annex #2 to agreement #5621/01. record keeping system and devices location linear plan at Velykokughelevetska HPP
73. Annex #3 to agreement #5621/01. Statement on division of electric networks balance ownership and operational responsibilities of the Parties at Velykokughelevetska HPP
74. Annex #4 to agreement #5621/01. Commercial data keeping complexes technical characteristics at Velykokughelevetska HPP.
75. Joint Implementation Project s Letter of Approval
76. Certificate on inclusion in automatic system for commercial measuring of power consumption Register ASCMPC EEA “Novosvit”. Valid till 14/01/2011 to 30/06/2011
77. Certificate№СВ510-2011 on Novokostyantynivska HPP modernized automatic system for commercial measuring of power consumption state metrological attestation, dated 14/03/2011
78. Report #У04728690/8.510-2011П Novokostyantynivska HPP modernized automatic system for commercial measuring of power consumption state metrological attestation, dated 14/03/2011
79. Report #37 on Novo-Kostyantynivska HPP measuring voltage losses, load losses and power coefficient measuring dated 02/08/2005
80. Report #333 on Schedrivska HPP measuring current transformers voltage losses, load losses and power coefficient measuring dated 12/05/2010
81. Report #334 on Schedrivska HPP measuring current transformers voltage losses, load losses and power coefficient and voltage circuits losses in electric power meters measuring dated 12/05/2010
82. Novo-Kostyantynivska HPP measuring complex passport-protocol
83. Certificate №СВ511-2011 on Schedrivska HPP modernized automatic system for commercial measuring of power consumption state metrological attestation, dated 14/03/2011
84. Report # У04728690/8.511-2011П on Schedrivska HPP automatic system for commercial measuring of power consumption state metrological attestation, dated 14/03/2011
85. Schedrivska HPP measuring complex passport-protocol
86. Report #335 on Schedrivska HPP measuring current transformers voltage losses, load losses and power coefficient measuring dated 12/05/2010
87. Report #336 on Schedrivska HPP measuring current transformers voltage losses, load losses and power coefficient and voltage circuits losses in electric power meters measuring dated 12/05/2010

88. Report #38 on Schedrivska HPP measuring voltage losses, load losses and power coefficient measuring dated 02/08/2005
89. Passport and calibration certificate electric power meter типу ET 2A5E7URLT № 41544
90. Passport and calibration certificate electric power meter типу ET 2A5E7URLT № 6777
91. Passport and calibration certificate electric power meter типу ET 2A5E7URLT № 8448
92. Passport and calibration certificate electric power meter типу ET 2A5E7URLT № 7107
93. EEA “Novosvit” and LLC “Energoinvest” operational control centre control board
94. EEA “Novosvit” and LLC “Energoinvest” operational control centre
95. Schedrivska HPP entrance to turbine hall
96. Schedrivska HPP gate
97. Schedrivska HPP dam
98. Schedrivska HPP main building
99. Schedrivska HPP control room
100. Electric meter ЕЛВІН ET 2A5E7URLT № 7636 with calibration marks
101. Hydrogenerator #15051
102. Hydro turbine vane’s angle variation mechanism
103. Generators spider
104. Schedrivska HPP electric meters logbook
105. Schedrivska HPP principal electric scheme
106. Electric meter ENERGOMERA Ф68700B, №39013393
107. Electric meter ЕЛВІН ET 2A5E7URLT № 6777 with calibration marks
108. Schedrivska HPP distributing gear 10 kV electric meters compartment
109. Schedrivska HPP distributing gear 10 kV compartments
110. Novo-Kostyantynivska HPP main building
111. Novo-Kostyantynivska HPP drain tunnel input
112. Novo-Kostyantynivska HPP drain tunnel output
113. Water measuring gage
114. Novo-Kostyantynivska HPP dam
115. Novo-Kostyantynivska HPP gate
116. Hydrogenerators
117. Electric meter ЕЛВІН ET 3B5E8URLT №27489
118. Electric meter ЕЛВІН ET 3B5E8URLT №27490
119. Electric meter ЕЛВІН ET 3B5E8URLT №27491
120. Novo-Kostyantynivska HPP control room
121. Electric meter ЕЛВІН ET 2B5E7URLT №38271
122. Electric meters ЕЛВІН ET 2B5E7URLT №38271 and №41544
123. Novo-Kostyantynivska HPP operational logbook
124. Novo-Kostyantynivska HPP electric meters logbook
125. Novo-Kostyantynivska HPP tail pond

126. Korghivska HPP electric meters ЕЛВІН ЕТ 2В5Е7URLT №8448 and №7107
127. Generators electric power meters ЕЛВІН 3В5Е8URLT № 27492, №27493
128. Generators
129. Korghivska HPP operational logbook
130. Korghivska HPP electric meters logbook
131. Water measuring gage
132. Korghivska HPP dam
133. Korghivska HPP turbine hall entrance
134. Determination and verification manual, version 1.0

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/ Kostyantyn Mandybura – vice-director of EEA “Novosvit” joined dispatcher centre
/2/ Valeriy Klekit – vice director of “Energoinvest” LLC joined dispatcher centre
/3/ Pavlo Midyanyi – Head Metrologist of EEA “Novosvit”
/4/ Serhiy Lyamprekht – vice director of EEA “Novosvit” joined dispatcher centre
/5/ Dmytro Paderno – engineer of Institute of Engineering Ecology

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?	Written Project Approvals have been submitted by Sponsor Party (Ukraine) and Sponsor Party (Netherlands). The State Environmental Investment Agency of Ukraine has issued the Letter of Approval on behalf of Ukraine for this project No. 1819/23/7 dated 13.07.2011. The Ministry of Economic Affairs of the Netherlands (Party of Buyer) has issued the Letter of Approval on behalf of The Netherlands for this project No. 2010JI09 dated April 13, 2010.	OK	OK
91	Are all the written project approvals by Parties involved unconditional?	Written Project Approvals 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?	The Project has been implemented in accordance with the project documentation. *Clarification Request 01* Monitoring Report indicates that Yurpilska HPP and Kryvokolinska HPP put into operational in 2011. Please clarify in Monitoring Report situation on these HPPs	CL01	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
93	What is the status of operation of the project during the monitoring period?	The project is in work during the monitoring period.	OK	OK
Compliance with monitoring plan				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	The monitoring provided 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. 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, reliable and transparent?	The data sources used for calculating emission reduction are clearly identified, reliable and transparent	OK	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing	Emission factor of Ukraine grid was used according to the recent Order of the National Environmental Investment Agency of Ukraine, that is: 1.063 t CO_2e/MWh for 2011 (Order No. 75 dated 12.05.2011)	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	accuracy and reasonableness, and appropriately justified of the choice?			
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?	*Clarification Request 02* Negative values of emission reduction units for Glybochanska HPP and Dmytrenkivska HPP were indicated in calculations of emission reductions (Annex 2 of Monitoring Report). Please clarify.	CL02	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?	Not applicable	Not applicable	Not applicable
Applicable to bundled JI SSC projects only				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	Not applicable	Not applicable	Not applicable
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a common monitoring report?	Not applicable	Not applicable	Not applicable
98	If the monitoring is based on a	Not applicable	Not	Not

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	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?		applicable	applicable
Revision of monitoring plan				
Applicable only if monitoring plan is revised by project participant				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	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?	Data collection procedures is in accordance with the monitoring plan including the quality control and quality assurance procedures	OK	OK

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	*Corrective Action Request 01* Monitoring Plan indicates only main electric meters used for monitoring electricity production. Please provide data on reserve power meters *Corrective Action Request 02* The Monitoring Plan indicates that main electric meters were replaced during the monitoring period. Please provide data on this replacement and describe relevant procedure	CAR01 CAR02	OK
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	The records used for the monitoring are obtained in a traceable manner	OK	OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	The data collection procedure and management system for the project is in accordance with the monitoring plan. Data used for ERUs calculation are to be stored during two years after the end of the crediting period, according to the Order # 13/11 dated 01.06.2011	OK	OK
Verification regarding programs of activities (additional elements for assessment)				
102	Is any JPA that has not been added to the JI PoA not verified?	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	Not applicable	Not	Not

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?		applicable	applicable
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable	Not applicable	Not applicable
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	Not applicable	Not applicable	Not applicable
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;	Not applicable	Not applicable	Not applicable

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	− The geographical location of each JPA; − The amounts of expected emission reductions of the JPAs being verified; − The number of JPAs for which emission reductions are being verified; − The length of monitoring periods of the JPAs being verified; and − The samples selected for prior verifications, if any?			
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

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

Table 2 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion

Corrective Action Request 01 Monitoring Plan indicates only main electric meters used for monitoring electricity production. Please provide data on reserve power meters	101(b)	According to the "Instruction on the order of commercial account of electric power" [http://zakon.nau.ua/doc/?code=va349227-98], in every point of account of voltage of 110 kV and higher, two electric power meters (the main and the doubling ones, of the same accuracy) must be installed. The small HPPs included in project supply the electric power of 10 kV and 35 kV (two small HPPs) voltage, thus installation of the doubling (reserve) meters are not obligatory. Nevertheless, the majority of small HPPs included in the project are equipped with the doubling electric power meters, in order to provide the continuous measuring in case of any mailfunction of the main meter. No such cases were registered during the reported period. Information on the doubling electric power meters is provided in Annex 3 to the Monitoring Report, version 02.	The issue is closed

Corrective Action Request 02 The Monitoring Plan indicates that main electric meters were replaced during the monitoring period. Please provide data on this replacement and describe relevant procedure	101(b)	Several electric power meters at the small HPPs included in project were replaced during the reported period, which was caused by approaching the data of finishing of the valid calibration interval. The data of replacement of the electric power meters are provided in Annex 3 to the Monitoring Report, version 02. The relevant procedure is described in section B.1.1 of the Monitoring Report, version 02.	The issue is closed
Clarification Request 01 Monitoring Report indicates that Yurpilska HPP and Kryvokolinska HPP put into operational in 2011. Please clarify in Monitoring Report situation on these HPPs	92	According to the PDD for this project, rehabilitation of the Yurpilska small HPP and Kryvokolinska small HPP was scheduled to be completed in 2011. Up till 31.08.2011, these works are not completed, and these small HPPs are under rehabilitation. This is indicated in Monitoring Report (Table 4, page 11).	The issue is closed

Clarification Request 02 Negative values of emission reduction units for Glybochanska HPP and Dmytrenkivska HPP were indicated in calculations of emission reductions (Annex 2 of Monitoring Report). Please clarify.	95(d)	The negative values of emission reduction units for Glybochanska HPP and Dmytrenkivska HPP indicated in calculations of emission reductions (Annex 2 of Monitoring Report) are originated from the negative difference between the actual amount of electricity supplied by the project activity to the grid during the reported period, and the baseline amount of electricity supplied to the grid during the similar period. Calculations were made according to the approved consolidated baseline and monitoring methodology ACM0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”	The issue is closed