



RINA

# JOINT IMPLEMENTATION VERIFICATION REPORT

**FINAL**

**“Bulgarian Renewable Energy Portfolio”**

in


**BULGARIA**


Monitoring period: 01/07/2011 to 31/10/2012

Report N°12-BG-MD-12

Revision N°1.2

## JOINT IMPLEMENTATION VERIFICATION REPORT

<b>Project Title:</b> "Bulgarian Renewable Energy Portfolio"	<b>Country:</b> BULGARIA	<b>Estimated ERUs (tCO<sub>2e</sub>):</b> From the PDD For SHPP Lesitchevo (site 1) 19,737 annual average For SHPP Tumrush (site 2) 18,123 annual average
<b>JI Registration Reference:</b> N°BG1000187	<b>Monitoring period:</b> 01/07/2011 to 31/10/2012	<b>Verified ERUs (tCO<sub>2e</sub>):</b> For SHPP Lesitchevo (site 1) - 10,763 For SHPP Tumrush (site 2) - 11,969
<b>Client:</b> Delectra Hydro JSC	<b>Client contact:</b> Mr. Georgi Dimitrov – Chief powers engineer – Delectra Hydro JSC	
<b>Report No.:</b> 12-BG-MD-12	<b>Revision:</b> 1.2	<b>Date of this report:</b> 11/12/2012
<b>Approved by (Final Report):</b>  Roberto Cavanna		<b>Date of approval:</b> 11/12/2012
<b>Methodology – if applicable</b>		
<b>Number:</b> AMS-I.D	<b>Version:</b> 8	<b>Title:</b> "Grid connected renewable electricity generation"
<b>Scale</b> Small scale		<b>SS(s):</b> 1,2
<p>RINA Services S.p.A. (RINA), commissioned by DELECTRA HYDRO JSC, has verified the greenhouse gas emission reductions reported for the project activity "Bulgarian Renewable Energy Portfolio", JI Registration Reference N° BG1000187, for the period 01/07/2011 to 31/10/2012, with regard to the relevant requirements for JI activities. The verification shall ensure that reported emission reductions are complete and accurate in accordance with applicable UNFCCC requirements. The project activity covered two SHPPs (two subprojects) on two different sites - Site one - SHPP Lesitchevo, located in village Lesitchevo, Pazardjik district own by DELECTRA HYDRO JSC and Site two - SHPP Tumrush, located near village Hrabrino, Plovdiv district own by TRAKIA GAS LTD</p> <p>The project was validated by TUV SUD (Determination report №733895-2, version 01, issued on 03/05/2006 /2/) and it was registered on under the JI registration reference N°BG1000187</p> <p>The GHG emission reductions are calculated on the basis of the approved Methodology AMS-I.D /15/ and the monitoring plan included in the Monitoring Report /3/.</p> <p>In conclusion, it is RINA's opinion that the project activity "Bulgarian Renewable Energy Portfolio", in Bulgaria, as described in the last Monitoring Report version 2 of 03/12/2012 /3/, meets all relevant requirements for JI activities and all relevant host country criteria and correctly applies the baseline and monitoring CDM approved methodology AMS-I.D /15/. Hence RINA confirms that the project is implemented without any changes. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project generates GHG emission reductions. Hence RINA is able to certify that the emission reductions from the project during the monitoring period 01/07/2011 to 31/10/2012 amount to <b>10,763 for SHPP Lesitchevo</b> and <b>11,969 for SHPP Tumrush tCO<sub>2e</sub></b></p>		

<b>Work carried out by:</b>  Konstantin RACHEV Viktor MILKOV	<input checked="" type="checkbox"/> No distribution without permission from the Client or organizational unit responsible  <input type="checkbox"/> Strictly confidential  <input type="checkbox"/> Unrestricted distribution
<b>Work verified by (Final Report - Authorized officer signing for the DOE)</b>    Laura Severino	<b>Keywords:</b>  Climate Change, Kyoto Protocol, Verification, Joint Implementation Mechanism

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## Abbreviations

BE	Baseline Emissions
PE	Project Emission
JI	Joint Implementation Mechanism
LE	Leakages
VER(s)	Verified Emission Reduction(s)
CH <sub>4</sub>	Methane
CL	Clarification Request
CAR	Corrective action request
FAR	Forward action Request
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
CRT	Coordination and Technical Control Staff
DCI	Certification Division of RINA Services Spa
DFP	Designated Focal Point
DVM	Determination and Verification Manual
JISC	Joint Implementation Supervisory Committee
ER	Emission Reductions
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PP(s)	Project Participant(s)
Ref.	Document Reference
RINA	RINA Services Spa
SS(s)	Sectoral Scope(s)
UNFCCC	United Nations Framework Convention on Climate Change
PIN	Project Idea Note
MOEW	Ministry of Environment and Water

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# JOINT IMPLEMENTATION VERIFICATION REPORT

## 1 INTRODUCTION

DELECTRA HYDRO JSC has commissioned RINA to verify the emissions reductions (second periodic verification) of its JI project “Bulgarian Renewable Energy Portfolio” (hereafter called “the project”) at Site one - SHPP Lesitchevo, located in village Lesitchevo, Pazardjik district own by DELECTRA HYDRO JSC and Site two - SHPP Tumrush, located near village Hrabrino, Plovdiv district own by TRAKIA GAS LTD in Bulgaria.

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 as well as Host country criteria.

### 1.1 Objective

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

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 and the technical reviewers consist of the following personnel:

Role	Last Name	First Name	Country
Team Leader JI	Rachev	Konstantin	Bulgaria
Technical Expert JI	Milkov	Viktor	Bulgaria
Technical Reviewer	Severino	Laura	Italy
Technical Reviewer in training	Alfieri	Felice	Italy

## 2 METHODOLOGY

Verification was conducted using RINA procedures in line with the requirements specified in the JI Guideline, the latest version of the JI Determination and Verification Manual, and relevant decisions of the COP/MOP and applying standard auditing techniques.

The verification consisted of the following three phases:

- Desk review;
- On-site assessment:
- The resolution of outstanding issues and the issuance of the final verification report and certification.

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:

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- 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), ver. 01 of 22/11/2012 and revised ver. 02 dated on 03/12/2012 /3/ for the monitoring period submitted by DELECTRA HYDRO JSC and additional background documents (from /4/ to /23/) 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 are presented in this report related to the Monitoring Report /3/ and the project as described in the determined PDD/1/.

### 2.2 Follow-up Interviews

On 28/11/2012 RINA performed (on-site) interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of DELECTRA HYDRO and TRAKIA GAS are interviewed and the main topics of the interviews are summarized in Table 1.

	Date	Name and Role	Organization	Topic
/a/	28/11/2012	Mr. Georgi Dimitrov – chief powers engineer	Delectra Hydro JSC (SHPP Lesitchevo)	Continuing monitoring equipment and measurement Calibration and maintenance of the used monitoring equipment Roles, responsibilities and legal environmental requirements – amendments WWTP technical details
/b/	28/11/2012	Mr. Mr. Krasimir Todorov – head of SHPP	Delectra Hydro JSC (SHPP Lesitchevo)	Project specific documentations and monitoring of the main data Data collecting and archiving
/c/	28/11/2012	Mr. Nasko Stognov - Executive Director	Trakia Gas LTD (SHPP Tumrush)	Continuing monitoring equipment and measurement Calibration and maintenance of the used monitoring equipment Roles, responsibilities and legal environmental requirements – amendments WWTP technical details Project specific documentations and monitoring of the main data Data collecting and archiving
/d/	28/11/2012	Mr. Manev, Project consultant	CoGen Engineering LTD	GHG Emission reduction estimation and calculations. Baseline and Project emission estimations; Monitoring Report consultation

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**Table 1 Interview topics**

Interviewed organization	Interview topics
DELECTRA HYDRO JSC and Project consultant – Site one	<ul style="list-style-type: none"> <li>❖ Monitoring plan for the crediting period</li> <li>❖ Monitoring Report for the crediting period;</li> <li>❖ Monitoring equipment and measurement;</li> <li>❖ Monitoring parameters;</li> <li>❖ Calibration and maintenance of the used monitoring equipment;</li> <li>❖ Roles, responsibilities, training and legal environmental requirements;</li> <li>❖ Project specific documentations and monitoring of the main data;</li> <li>❖ Organization scheme and responsibilities;</li> <li>❖ Data collecting and archiving;</li> <li>❖ GHG Emission reduction estimation and calculations. Baseline and Project emission estimations;</li> <li>❖ Social and Environmental Responsibilities;</li> </ul>
TRAKIA GAS LTD and Project consultant – Site two	<ul style="list-style-type: none"> <li>❖ Monitoring plan for the crediting period</li> <li>❖ Monitoring Report for the crediting period;</li> <li>❖ Monitoring equipment and measurement;</li> <li>❖ Monitoring parameters;</li> <li>❖ Calibration and maintenance of the used monitoring equipment;</li> <li>❖ Roles, responsibilities, training and legal environmental requirements;</li> <li>❖ Project specific documentations and monitoring of the main data;</li> <li>❖ Organization scheme and responsibilities;</li> <li>❖ Data collecting and archiving;</li> <li>❖ GHG Emission reduction estimation and calculations. Baseline and Project emission estimations;</li> <li>❖ Social and Environmental Responsibilities;</li> </ul>
(LOCAL Stakeholder)	During the second verification no local stakeholder is consulted

### 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 RINA 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.

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

### 2.4 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 1 Corrective Action Requests, 3 Clarification Requests, and 0 Forward Action Requests. All open issues are now closed in the Final Report.

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

### 2.5 Project approval by Parties involved (90-91)

Written project approval by the Bulgarian Ministry of Environment and Water from September 2009 /16/ and Letter of Approval from the State of the Netherlands from August 2010 /17/ have been issued by the DFP of that Party when submitting the first verification report to the secretariat for publication in accordance with paragraph 38 of the JI guidelines, at the latest.

The above mentioned written approvals are unconditional.

### 2.6 Project implementation (92-93)

The project implementation date is described in the PDD /1/ and in the Monitoring Report point 2.1/3/.

The start of operation for both sites as per the registered PDD and MR is given below:

- For Site one – SHPP Lesitchevo – start of operation for unit one is January 2005 and for unit two is February 2006
- For Site two – SHPP Tumrush - start of operation is August 2005

The both projects are implemented as describes in the PDD. The main components of the projects are as follows:

Site one SHPP Lesitchevo (3 MWe) – water chamber; two pressure pipelines; horizontal type “Francis” turbines; electric generators; power transformers and monitoring and control equipment.

Site two SHPP Tumrush (5 MWe) - water chamber; pressure pipeline; vertical type “Pelton” turbine; electric generator; power transformer and monitoring and control equipment.

All of these technical equipment's have been verified during the on-site visit. They correspond to the documented one in the registered PDD /1/.

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

The monitoring occurred in accordance with the monitoring plan included in the Monitoring Report /3/ covering the current monitoring period. For calculating the emission reductions key factors, monitoring parameters, fixed data influencing the baseline emissions and the activity level of the project and the emissions as well as risks associated with the project were taken into account, as appropriate.



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Data sources used for calculating emission reductions such as baseline emission factor of the grid and monthly produced and exported electricity to the grid are clearly identified, reliable and transparent.

Emission factor is selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice. It is available at:

[http://www3.moew.government.bg/files/file/Climate/Climate\\_Change\\_Policy\\_Directorate/IETM/Joint\\_Implementation/JI\\_documents/Baseline\\_CEF\\_Summary.pdf](http://www3.moew.government.bg/files/file/Climate/Climate_Change_Policy_Directorate/IETM/Joint_Implementation/JI_documents/Baseline_CEF_Summary.pdf)

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

The relevant threshold to be classified as JI SSC project was not exceeded during any monitoring period on an annual average basis.

### 2.8 Revision of monitoring plan (99-100)

The project participants have been provided an appropriate justification for the proposed revision, which mainly covered improving the accuracy and applicability of information collected, compared to the original monitoring plan, without changing conformity with the relevant rules and regulations for the establishment of monitoring plans.

### 2.9 Data management (101)

The project uses the approved Monitoring Methodology AMS-I.D “Grid connected renewable electricity generation” /15/ for the two subprojects (sites) SHPP Lesitchevo and SHPP Tumrush. The chosen methodology AMS-I.D has designed for grid-connected renewable power generation project activities. The two small hydro power plants have similar structure to monitor the generated electricity. An electrical meter (own by the grid) monitor every kWh produced and delivered to the grid. The technical staff of each SHPP and the responsible person of the local distribution company both checks the electricity produced. Monthly they read the meter (day, night and peak kWh) and sign the monthly produced amount in a special monthly monitoring protocol /11/ and /13/. The technical staff of each SHPP holds a copy of this paper. The data has recorded in a logbook on a daily, weekly, monthly and yearly basis /4-9/ and /14/. The delivery and sales documentation (invoice) copies are archived too /10/ and /12/. All these records have been verified during the on-site visit /4-14/.

The data and their sources, provided in Monitoring report and Monitoring Plan /3/, 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 and internal company requirements.

The function of the monitoring equipment, including its calibration status, is in order /18-21/.

The evidence and records used for the monitoring are maintained in a traceable manner /4-14/.

The data collection and management system for the project is in accordance with the monitoring plan /1/ and /3/.

### 2.10 Verification regarding programmes of activities - Not applicable

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### 3 VERIFICATION OPINION

RINA Service Spa (RINA) has performed 2nd verification of the emission reductions reported for the project activity “Bulgarian Renewable Energy Portfolio” in Bulgaria, JI Registration Reference N° BG1000187, for the period 01/07/2011 to 31/10/2012, with regard to the relevant requirements for JI activities.

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 project participants of the “Bulgarian Renewable Energy Portfolio” project are responsible for:

- the preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered project design document, ver. 13 dated on 21/04/2006 /1/
- the development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project

It is RINA’s opinion that the GHG emission reduction stated in the monitoring report ver 2 of 03/12/2012 for the “Bulgarian Renewable Energy Portfolio” project in Bulgaria for the period 01/07/2011 to 31/10/2012 are fairly stated. The GHG emission reductions were calculated correctly on the basis of the CDM Methodology AMS - I.D “Grid connected renewable electricity generation”, ver. 8 of 24/02/2006 and the monitoring plan contained in the registered PDD.

Hence RINA is able to certify that the emission reductions from the project during the monitoring period 01/07/2011 to 31/10/2012 amount to 10,763 for SHPP Lesitchevo and 11,969 for SHPP Tumrush tCO<sub>2e</sub>

Reporting period: From 01/07/2011 to 31/10/2012 - SHPP Lesitchevo

Baseline emissions	: 10,763 t CO <sub>2e</sub>
Project emissions	: 0 t CO <sub>2e</sub>
Emission Reductions	: 10,763 t CO <sub>2e</sub>

**TOTAL** Emission Reductions : 10,763 t CO<sub>2e</sub>

Reporting period: From 01/07/2011 to 31/10/2012 - SHPP Tumrush

Baseline emissions	: 11,969 t CO <sub>2e</sub>
Project emissions	: 0 t CO <sub>2e</sub>
Emission Reductions	: 11,969 t CO <sub>2e</sub>

**TOTAL** Emission Reductions : 11,969 t CO<sub>2e</sub>

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### 4 REFERENCES

#### Category 1 Documents:

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

- /1/ PDD "Bulgarian Renewable Energy Portfolio", ver. 13 dated on 21/04/2006
- /2/ Determination Report №733895-2, version 01, issued on 03/05/2006 from TUV SUD
- /3/ Monitoring Report of JI Project - "Bulgarian Renewable Energy Portfolio", ver. 01 of 22/11/2012 and ver 2 of 03/12/2012
- /4/ Ann.1-Monitoring PDD SHPP Lesitchevo 02.2005-10.2012 - excel file for the crediting period
- /5/ Ann.1-Monitoring PDD SHPP Tumrush 02.2005-10.2012 - excel file for the crediting period
- /6/ Ann.1-Monitoring PDD Tumpush+Lesitchevo 02.2005-10.2012 Total ER - excel file for the crediting period
- /7/ SHPP Lesitchevo "measurement data crosscheck log" for the crediting period
- /8/ SHPP Tumrush "measurement data crosscheck log" for the crediting period
- /9/ SHPP Lesitchevo Measurement Data Journal 2011-2012
- /10/ SHPP Lesitchevo monthly sold electricity invoices 2011-2012
- /11/ SHPP Lesitchevo monthly sold electricity protocols 2011-2012
- /12/ SHPP Tumrush monthly sold electricity invoices 2011-2012
- /13/ SHPP Tumrush monthly sold electricity protocols 2011-2012
- /14/ SHPP Turmush Measurement Data Journal 2011-2012
- /15/ CDM EB: AMS - I.D "Grid connected renewable electricity generation", ver. 8 of 24/02/2006

#### Category 2 Documents:

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

- /16/ Ministry of Environment and Water of Bulgaria Letter of Approval №17-00-33 dated on 11/09/2009
- /17/ The State of the Netherlands Letter of Approval, dated on 24/08/2010
- /18/ EVN: SHPP Lesitchevo electrometer exchange protocols for the verification period  
Protocol 24091/08.09.2010 (electrometer ser. N 85890526); Protocol 33537/09.08.2011 (electrometer ser. N 85890526); Protocol 33538/09.08.2011 (electrometer ser. N 00440226); Protocol 33540/11.08.2011 (electrometer ser. N 00440226).
- /19/ EVN: SHPP Tumrush electrometer exchange protocols for the verification period  
Protocol 25638/28.09.2010 (electrometer ser. N 85890517); Protocol 25639/28.09.2010 (electrometer ser. N 85890517); Protocol 32669/13.07.2011 (electrometer ser. N 00440222); Protocol 29983/11.07.2012 (electrometer ser. N 00440222); Protocol 32689/13.06.2012 (electrometer ser. N 00440227);
- /20/ SHPP Lesitchevo measurement devices technical information, test protocols and approval type certificates
- /21/ SHPP Tumrush measurement devices technical information, test protocols and approval type certificates
- /22/ SHPP Lesitchevo staff training protocols of 02/11/2012
- /23/ SHPP Tumrush staff training protocols of 25/07/2011
- /24/ RINA: First Periodic Verification Report, ver. 1.1 of 18/10/2011 covering the period of 01/01/2005 to 30/06/2011

## APPENDIX A: VERIFICATION PROTOCOL

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**TABLE 1 REQUIREMENTS CHECK LIST**

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
<b>Project approval by the parties involved</b>				
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?	Yes, Letter of approval from the Ministry of Environment and Water, Bulgaria, dated on 11/09/2009 /16/ and Letter of Approval from the State of the Netherlands dated on 24/08/2010 /17/ have been issued and verified during the first verification.		OK
91	Are all the written project approvals by Parties involved unconditional?	Yes, both Letters of approval are unconditional.		OK
<b>Project implementation</b>				
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?	Yes, the project is been implemented as described in the registered PDD /1/. During the crediting period no changes in the production are found for both sites. The producing process is carried on as per the technology plan and weather condition.		OK
93	What is the status of operation of the project during the monitoring period?	No changes have been found during the crediting period /3/.		OK
<b>Compliance with monitoring plan</b>				
94	Did the monitoring occur in accordance with the monitoring plan included in the PDD regarding which the determination has been deemed final and is so listed on the UNFCCC JI website?	Yes, the project monitoring plan in the MR /3/ for this crediting period is according to the registered PDD. No deviations found.		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?	The ERUs are generated by the project, which foresees the production of electricity using renewable hydraulic energy sources. The project covered two SHPPs which generate and export electricity to the national electrical distribution grid (EVN). The reporting procedures are described in the MR /3/. All of the used monitoring methods and parameters are verified during the on-site visit of the company and are found reliable /4-14/.		OK

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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	All monitoring data are clearly identified, transparent and conservative. For more traceability and accuracy the following Corrective actions and Clarification requests were documented:  <b><u>Corrective action request №1</u></b> <b><u>Clarification requests from № 1 to № 3</u></b>	<del>CAR 1</del> <del>CL 1-3</del>	OK
95 (c)	Are emission factors, including default emission factors, if used for calculating the emission reductions or enhancements of net removals, selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice?	Grid emission factor approved by MOEW is documented reasonably.		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?	All monitoring parameters and used emission reduction calculations are well described and documented in the MR /3/ as well as in /4-14/.		OK
<b>Applicable to JI SSC projects only</b>				
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?	The total installed capacity for both SHPPs is up to 15 megawatts /3/. Project activities are not bundled.		OK
<b>Applicable to bundled JI SSC projects only</b>				
97 (a)	Has the composition of the bundle not changed from that is stated in F-JI-SSCBUNDLE?	n/a		
97 (b)	If the determination was conducted on the basis of an overall monitoring plan, have the project participants submitted a	n/a		

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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	common monitoring report?			
98	If the monitoring is based on a monitoring plan that provides for overlapping monitoring periods, are the monitoring periods per component of the project clearly specified in the monitoring report? Do the monitoring periods not overlap with those for which verifications were already deemed final in the past?	n/a		
<b>Revision of monitoring plan</b>				
<b>Applicable only if monitoring plan is revised by project participant</b>				
99 (a)	Did the project participants provide an appropriate justification for the proposed revision?	The MP /3/ for this verification period is not revised. The conducted amendments improve the accuracy and the way of collecting and archiving the monitoring data /4-14/.		OK
99 (b)	Does the proposed revision improve the accuracy and/or applicability of information collected compared to the original monitoring plan without changing conformity with the relevant rules and regulations for the establishment of monitoring plans?	Yes, the proposed amendments improve the accuracy and its results of the used Monitoring Plan /3/. The proposed amendments are not changing conformity with the relevant rules and regulations for the establishment of monitoring plans.		OK
<b>Data management</b>				
101 (a)	Is the implementation of data collection procedures in accordance with the monitoring plan, including the quality control and quality assurance procedures?	The main data that is collected is the quantity of the generated and exported electricity. This data is collected daily, monthly and early. This data is also cross-checked all the time. Final monitoring files are checked again before presented to the verifiers. During the on-site visit of the company all data, protocols and Invoices for the monitoring period have been verified /4-14/. The staff's responsibilities are identified and documented in the MR /3/.		OK
101 (b)	Is the function of the monitoring equipment, including its calibration status, is in order?	The main monitoring equipment that is used is the electrometers which are owned by the EVN (electrical distribution company). They are periodically exchanged by the EVN and this is document in the Protocols /18/ and /19/. All Protocols have been verified for both sites during the on-		OK

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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		site visit. As a result it can be stated that all devices /20-21/ are calibrated /18-19/ from authorized laboratory and regarding Bulgarian Laws. All necessary protocols are physically available and checked. No deviation found.		
101 I	Are the evidence and records used for the monitoring maintained in a traceable manner?	Yes, all the documentation concerning monitoring equipment and data is maintained in good traceable manner /4-14/.		OK
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	CO2 emission reductions calculations have been performed on a monthly basis by the Projects manager and consultant /6/. All energy sources flows such as electricity logging in Excel files /4,5,7-9/. All protocols and Invoices for the sold electricity are collected from the PP /10-13/. All the monitoring parameters are collected, documented and checked by the Project manager and consultant as per the MR /3/. All the data collection and emission reduction estimation correspond to the MP /3-14/. The documentation is reliable.		OK
<b>Verification regarding programs of activities (additional elements for assessment)</b>				
102	Is any JPA that has not been added to the JI PoA not verified?	n/a		
103	Is the verification based on the monitoring reports of all JPAs to be verified?	n/a		
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or enhancements of removals generated by each JPA?	n/a		
104	Does the monitoring period not overlap with previous monitoring periods?	n/a		
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	n/a		
<b>Applicable to sample-based approach only</b>				
106	Does the sampling plan prepared by the AIE: (2) Describe its sample selection,	n/a		



# RINA

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	<p>taking into account that:</p> <p>(2) 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:</p> <ul style="list-style-type: none"> <li>– The types of JPAs;</li> <li>– The complexity of the applicable technologies and/or measures used;</li> <li>– The geographical location of each JPA;</li> <li>– The amounts of expected emission reductions of the JPAs being verified;</li> <li>– The number of JPAs for which emission reductions are being verified;</li> <li>– The length of monitoring periods of the JPAs being verified; and</li> <li>– The samples selected for prior verifications, if any?</li> </ul>			
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	n/a		
108	Has the AIE made site inspections of at least the square root of the number of total JPAs, rounded to the upper whole number? If the AIE makes no site inspections or fewer site inspections than the square root of the number of total JPAs, rounded to the upper whole number, then does the AIE provide a reasonable explanation and justification?	n/a		

# RINA

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)	n/a		
110	If the AIE learns of a fraudulently included JPA, a fraudulently monitored JPA or an inflated number of emission reductions claimed in a JI PoA, has the AIE informed the JISC of the fraud in writing?	n/a		

**TABLE 2 RESOLUTIONS OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS**

Draft report clarifications and corrective action requests by validation team	Ref. To checklist question in table 1	Response by project participants	Verification team conclusion
<b><u>Corrective action request № 1</u></b> The start and final date of the crediting period of the project is not stated in format DD/MM/YYYY	95 (b)	Yes, the discrepancy has been cleared. A new version of MR has been issued.	The dates are now correctly stated in the amended MR ver. 3 of 03/12/12 CL 1 is closed.
<b><u>Clarification request № 1</u></b> There is inconsistency between the stated date of the current MR, on page 4 and in footer of the document.	95 (b)	Yes, the discrepancy has been cleared. A new version of MR has been issued.	The date is now correctly stated in the amended MR ver. 3 of 03/12/12 CL 1 is closed.
<b><u>Clarification request № 2</u></b> The provided link to the Bulgarian Ministry of Environment and Water does not be found.	95 (b)	Yes, the discrepancy has been cleared. A new version of MR has been issued.	The provided link to the Bulgarian Ministry of Environment and Water is now available in the amended MR ver. 3 of 03/12/12 The CL 2 is closed.
<b><u>Clarification request № 3</u></b> There is inconsistency between the names and position of the project consultant staff, on page 4, 19 and 20 of the MR.	95 (b)	Yes, the discrepancy has been cleared. A new version of MR has been issued.	The names are now correctly stated in the amended MR ver. 3 of 03/12/12 CL 3 is closed.

TABLE 3 FORWARD ACTION REQUEST

Forward action request	Ref. to checklist question in table 1	Summary of project participant response	Verification team conclusion	
None				