



# VERIFICATION REPORT 4ENERGIA, UAB

## VERIFICATION OF THE SUDENAI AND LENDIMAI WIND POWER JOINT IMPLEMENTATION PROJECT

MONITORING PERIOD:  
01 JANUARY 2011 TO 31 DECEMBER 2011

REPORT No. LITHUANIA-VER/0052/2012  
REVISION No.01

BUREAU VERITAS CERTIFICATION




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 VERIFICATION REPORT
 

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Date of first issue: 09/05/2012	Organizational unit: Bureau Veritas Certification Holding SAS
Client: 4ENERGIA, UAB	Client ref.: Tadas Navickas, director

## Summary:

Bureau Veritas Certification has made the 3rd periodic verification of the JI Track II Project "Sudenai and Lendimai Wind Power Joint Implementation Project", JI Registration Reference Number 0046, project of 4ENERGIA, UAB applying the project specific methodology on the basis of UNFCCC criteria for the JI as well as the 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 made 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 the defined verification period, and consisted of the following three phases: i) a desk review of the project design, baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and 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.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in the approved project design documents. The installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is ready to generate GHG emission reductions. The GHG emission reduction is calculated accurately and without material errors, omissions or misstatements, and is total 20369 tons of CO<sub>2</sub>eq for the monitoring period 01/01/2011-31/12/2011.

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

Report No.: LITHUANIA-VER/0052/2012	Subject Group: JI	
Project title: Sudenai and Lendimai wind power park Joint implementation project		
Work carried out by: Tomas Paulaitis: Lead Verifier Kęstutis Navickas: Technical specialist		
Work reviewed by: Ashok Mammen		
Work approved by: Witold Dzugan		
Date of this revision: 09/05/2012	Rev. No.: 01	Number of pages: 21

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## 1 INTRODUCTION

4ENERGIA, UAB has commissioned Bureau Veritas Certification to verify the emission reductions of its “Sudenai and Lendimai wind power park joint implementation project” (hereafter called “the project”) near to the villages Sudenai and Lendimai, Kretingos county, Lithuania. This report summarizes the findings of the verification of the project, performed on the basis of UNFCCC criteria, as well as the criteria given to provide for consistent project operations, monitoring and reporting.

The order includes the third periodic verification of the project for the period 01/01/2011-31/12/2011.

### 1.1 Objective

Verification is a periodic independent review and ex post determination by an Accredited Independent Entity of the monitored reductions in GHG emissions during a 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 made by the JI Supervisory Committee, as well as the host country criteria.

### 1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the Accredited Independent Entity (AIE). The verification is based on the submitted monitoring report, the determined project design documents including its monitoring plan and determination report, previous verification reports, the applied monitoring methodology, relevant decisions, clarifications and guidance from the CMP and the JISC and any other information and references relevant to the project activity’s resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the JI Modalities and Procedures and related rules and guidance and also against national Estonian JI Guidelines. The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications, corrective and/or forward may provide input for improvement of the project monitoring towards reductions in GHG emissions.



### 1.3 Verification Team

The verification team consists of the following personnel:

Tomas Paulaitis

Bureau Veritas Certification Team Leader, Climate Change Verifier

Tomas Paulaitis is a lead auditor for the environment and quality management systems with over 10 years of experience and a lead GHG verifier (EU ETS, JI, CDM) with over 6 years of experience in energy, oil refinery and cement industry sectors, he was/is involved in the determination/verification of more than 50 JI projects. Tomas Paulaitis holds a Master's degree in chemical engineering.

Kęstutis Navickas, Associate Professor, Dr.

Bureau Veritas Certification Team member, technical specialist

Kęstutis Navickas is Head of the Lithuanian Academy of Agriculture department of Agroenergetics. He has more 15 years of experience with the research and development in the renewable energy and bioenergy sectors (more than 10 projects).

This verification report was reviewed by:

Mr. Ashok Mammen

Bureau Veritas Certification Internal reviewer

Over 20 years of experience in chemical and petrochemical field. Dr. Mammen is a lead auditor for environment, safety and quality management systems and a lead verifier for GHG projects. He has been involved in the validation and verification processes of more than 100 CDM/JI and other GHG projects.



## 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, the verification protocol was customized for the project according to version 01.1 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, the criteria (requirements), means of verification and 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 determination protocol is enclosed in Appendix A to this report.



## 2.1 Review of Documents

The Monitoring Report (MR) version 1 dated 21/02/2012 submitted by 4ENERGIA, UAB and additional background documents related to the project design and baseline, i.e. the country Law, Project Design Document (PDD), Project Determination Report, 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 project as described in the PDD Version 8, dated 26/05/2009, Monitoring plan revision 1.0 dated 15/07/2010 and the Monitoring Report version 1 dated 21/02/2012.

## 2.2 Follow-up Interviews

On 10/03/2012 Bureau Veritas Certification performed on-site interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. A representative of 4ENERGIA, UAB was interviewed (see 5 References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
4ENERGIA, UAB	Organizational structure, responsibilities and authorities Project implementation and technology Training of personnel Quality management procedures Metering equipment control Monitoring record keeping system Environmental requirements Monitoring plan Monitoring report

## 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 need to be clarified for Bureau Veritas Certification positive conclusion on the GHG emission reduction calculation.

If the Verification Team 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 0 Corrective Action Requests, 1 Clarification Request, and 0 Forward Action 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**

FAR1 was issued during the previous verification with request to address it in the next monitoring report: „Please provide simplified single-line electric diagram with exact position of each electric meter in monitoring scheme.”

Requested scheme is provided in the Monitoring report Annex 6 and was found sufficient to clearly identify electricity measurement system used for monitoring. Hence FAR1 is closed, see section 3.6 for more details on measurement system.

#### **3.2 Project approval by Parties involved (90-91)**

Written project approval has been issued from the Investor party (Sweden) by the DFP (Swedish Energy Agency) 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 (LoA is issued on 15/01/2008).

The abovementioned written approval is unconditional.





### 3.3 Project implementation (92-93)

The project consisting of two near-by wind power plants took over the shares of and control in the following Lithuanian companies:

- Lariteksas UAB – developer of the Sudenai 8 MW wind power plant.
- Vejo Elektra UAB – developer of the Lendimai 6 MW wind power plant.

These companies are operated by 4ENERGIA UAB which is the part of the the OÜ Nelja Energiam (4Energia), (see <http://www.4energia.ee/index.php/lang/eng/category/about-us>).

The project will reduce greenhouse gas emissions by partially substituting power production in other power plants of Lithuania that run on fossil fuel.

The Wind Power Park started to deliver power in December 2008.

The project is implemented according to the PDD, this was verified already during the first verification. There are no project changes identified during the monitoring period. The project activity was completely operational during the monitoring period with some maintenance shutdowns declared in the monitoring report. Due to the good wind conditions in the region during the monitoring period, the project has exceeded the forecasted annual 28987 MWh/year capacity. This was proved with wind turbine SCADA data on average wind speed during 2009-2011 (data are provided in Monitoring report Annex 5).

The actual net delivery to the grid was 32383 MWh. The higher net delivery has also resulted in a higher emission reduction: 20369 tCO<sub>2</sub> in 2011 instead of the estimated 18223 tCO<sub>2</sub>.



### **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 Version 8, dated 26/05/2009 regarding which the determination has been deemed final and is so listed on the UNFCCC JI website:

<http://ji.unfccc.int/UserManagement/FileStorage/UEHOBGRNYTM734ZC89AQ2J0FL6KPD5>, and revised Monitoring plan revision version 1.0 dated 15/07/2010 (<http://ji.unfccc.int/UserManagement/FileStorage/UWSL3V04H1MI6XFC8EP5D7YZNQ29OR>, it was validated during the previous 2nd verification).

All data sources for calculation emission reduction are clearly identified, reliable and transparent: monthly production reports issued by the main grid operator (LIETUVOS ENERGIJA, AB), are used for calculating as the initial data source. The accounting is controlled both by the grid operator side and by LIETUVOS ENERGIJA, AB on the other side.

Default emission factors value (0,629 tCO<sub>2</sub>/MWh) is selected by carefully balancing accuracy and reasonableness, and appropriately justified of the choice in the final PDD.

There is no requirement to review this emission factor during the crediting period.

The calculation of emission reductions is based in a transparent manner.

### **3.5 Revision of the monitoring plan (99-100)**

Not applicable. Monitoring plan is not revised during the third monitoring period.

### **3.6 Data management (101)**

The monthly production data on supplied/consumed electric power segmented by day are sent once a month by grid operator LIETUVOS ENERGIJA, AB. The same reports are the basis for electricity sale and consumption invoices.

The production data are entered into the Monitoring protocol/net power calculation tool spreadsheet and compared with the data of the internal Winwind SCADA system of the wind park. Based on the monthly net production, the project assistant generates the annual production report which is the basis for GHG reduction calculations and the monitoring report.

The verification team has reviewed the Monitoring report against monthly production reports and respectively against electricity sale and purchase invoices on 100 % sample basis. No mistakes or misstatements have been found. Then monthly production reports was double checked with the



SCADA system, deviation was found up to 2,3 % what is fully acceptable taking into account uncertainties of the different measurement systems and transmission losses.

The calibration equipment is sealed and functioned without any failures during the monitoring period.

CL1 related with data management was resolved efficiently, see Table 2 for more details.

### **3.7 Verification regarding programmes of activities (102-110)**

Not applicable.



#### 4 VERIFICATION OPINION

Bureau Veritas Certification has performed the 3rd monitoring period verification of “Sudenai and Lendimai wind power park joint implementation project”, which applies the project specific methodology. The verification was performed on the basis of UNFCCC criteria and the 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) a desk review of the project design, baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and issuance of the final verification report and opinion.

The management of 4ENERGIA, UAB is responsible for the preparation of the GHG emission data and the reported GHG emission reductions of the project on the basis set out within the project Monitoring Plan revision 1.0 (dated 15/07/2010). 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 1 (dated 21/02/2012) for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as planned and described in the approved project design documents. The 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 emission 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 31/12/2011

Baseline emissions:	20369 t CO <sub>2</sub> equivalents;
Project emissions:	0 t CO <sub>2</sub> equivalents;
Emission Reductions:	20369 t CO <sub>2</sub> equivalents.

Total Emission Reductions (Year 2011): 20369 t CO<sub>2</sub> equivalents.



## 5 REFERENCES

### Category 1 Documents:

Documents provided by 4ENERGIA, UAB that relate directly to the GHG components of the project.

- /1/ PDD, version 8, dated 26/05/2009
- /2/ Second verification report, No. Lithuania-VER/0022/2011, issued by Bureau Veritas Certification Holding SAS, dated 13/05/2011
- /3/ Monitoring plan, revision 1.0, dated 15/07/2010
- /4/ Monitoring report, version 1, dated 21/02/2012

### Category 2 Documents:

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

- /1/ Electric power delivery and consumption reports and invoices, signed by Lariteksas UAB, Vejo Elektra UAB and LIETUVOS ENERGIJA, AB, year 2011
- /2/ Technical passports (with calibration records inside) for electric power meters
- /3/ Excel spreadsheet *Monitoring data Sudenai-Lendimai.xls*, dated 11/03/2011

### Persons interviewed:

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

- /1/ Tadas Navickas, director (4ENERGIA, UAB, Lariteksas UAB, Vejo Elektra UAB)
- /2/ Julius Mikalauskas, project manager (4ENERGIJA, UAB)
- /3/ Vaida Timinskaite, project assistant (4ENERGIJA, UAB)



## VERIFICATION REPORT

## APPENDIX A: SUDENAI AND LENDIMAI WIND POWER PARK JOINT IMPLEMENTATION PROJECT 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
<b>Project approvals by 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?	<p>A written project approval (Letter of Approval) from the Investor party was provided, issued by Swedish Energy Agency on 15/01/2008.</p> <p>A written project approval (Letter of Approval) from the Host party was provided, issued by Lithuanian Ministry of Environment on 30/01/2008.</p> <p>These Letters of Approval were submitted for IAE already during the previous verification and were found acceptable.</p>	O.K.	O.K.
91	Are all the written project approvals by Parties involved unconditional?	Yes, all the written project approvals by Parties involved are unconditional.	O.K.	O.K.
<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?	<p>The project implementation has been checked according to the information provided in the PDD:  <a href="http://ji.unfccc.int/UserManagement/FileStorage/UEHOBGRNYT/M734ZC89AQ2J0FL6KPD5">http://ji.unfccc.int/UserManagement/FileStorage/UEHOBGRNYT/M734ZC89AQ2J0FL6KPD5</a>.</p> <p>The project consisting of two near-by wind power plants took over the shares of and control in the following Lithuanian companies:</p> <ul style="list-style-type: none"> <li>• Lariteksas UAB – developer of the Sudenai 8 MW wind power plant.</li> <li>• Vejo Elektra UAB – developer of the Lendimai 6 MW wind power plant.</li> </ul>	O.K.	O.K.



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
		<p>These companies are operated by 4ENERGIA UAB which is the part of the the OÜ Nelja Energiam (4Energia), (<a href="http://www.4energia.ee/index.php/lang/eng/category/about-us">http://www.4energia.ee/index.php/lang/eng/category/about-us</a>). The turbines were put into operation in December 2008. The electric power meters were installed according to the requirements of the national legislation: the accuracy class for this type of commercial and control measurement devices is not less than 0,5 s. See more details on the electric power meters' validation status in 101 (b) below.</p>		
93	What is the status of operation of the project during the monitoring period?	<p>The project is implemented according to the PDD, this was verified already during the first verification. There are no project changes identified during the monitoring period. The project activity was completely operational during the monitoring period with some maintenance shutdowns declared in the monitoring report. Due to the good wind conditions in the region during the monitoring period, the project has exceeded the forecasted annual 28987 MWh/year capacity. This was proved with wind turbine SCADA data on average wind speed during 2009-2011 (data are provided in Monitoring report Annex 5). SCADA data were checked during site visit and were found higher than regional mean annual wind speed (4,5-5,0 m/s, according Hydrometeorological Service under the Ministry of environment (<a href="http://www.meteo.lt/english/climate_wind.php">http://www.meteo.lt/english/climate_wind.php</a>)).</p> <p>The actual net delivery to the grid was 32383 MWh. The higher net delivery has also resulted in a higher emission reduction: 20369 tCO<sub>2</sub> in 2011 instead of the estimated 18223 tCO<sub>2</sub>.</p>	O.K.	O.K.
Compliance with monitoring plan				



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion														
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?	<p>The approach and data sources used for the monitoring were analyzed and compared with the requirements of the monitoring plan revision (version 1.0, 15/07/2010). The summary results of this analysis are described in the table below:</p> <table border="1"> <thead> <tr> <th>Requirement</th> <th>Results</th> </tr> </thead> <tbody> <tr> <td>Continuous measurements</td> <td></td> </tr> <tr> <td>Actual power production, kWh, Sudenai</td> <td>O.K.</td> </tr> <tr> <td>Actual power consumption, kWh, Sudenai</td> <td>O.K.</td> </tr> <tr> <td>Actual power production, kWh, Lendimai</td> <td>O.K.</td> </tr> <tr> <td>Actual power consumption, kWh, Lendimai</td> <td>O.K.</td> </tr> <tr> <td>Electricity production according to SCADA , MWh ( for data quality assurance purpose)</td> <td>O.K.</td> </tr> </tbody> </table>	Requirement	Results	Continuous measurements		Actual power production, kWh, Sudenai	O.K.	Actual power consumption, kWh, Sudenai	O.K.	Actual power production, kWh, Lendimai	O.K.	Actual power consumption, kWh, Lendimai	O.K.	Electricity production according to SCADA , MWh ( for data quality assurance purpose)	O.K.	O.K.	O.K.
Requirement	Results																	
Continuous measurements																		
Actual power production, kWh, Sudenai	O.K.																	
Actual power consumption, kWh, Sudenai	O.K.																	
Actual power production, kWh, Lendimai	O.K.																	
Actual power consumption, kWh, Lendimai	O.K.																	
Electricity production according to SCADA , MWh ( for data quality assurance purpose)	O.K.																	
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?	See 94 b) above.	O.K.	O.K.														
95 (b)	Are data sources used for calculating emission reductions or enhancements of net removals clearly identified, reliable and transparent?	Power dispatch reports issued by the national grid operator LIETUVOS ENERGIJA, AB are used for calculating as the initial data source. The data are reliable and transparent, the accounting is controlled both by Lariteksas UAB and Vejo Energija UAB on one side and by LIETUVOS ENERGIJA, AB on the other side.	O.K.	O.K.														
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?	The default emission factor $EF_{LE}$ 0,629 tCO <sub>2</sub> /MWh is used as required by the PDD. There is no requirement to review this factor during the crediting period.	O.K.	O.K.														
95 (d)	Is the calculation of emission reductions or enhancements of net removals based on	See 94, 95 (a), (b), (c) above.	O.K.	O.K.														




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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	conservative assumptions and the most plausible scenarios in a transparent manner?			
<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 relevant threshold (15 MW installed capacity) was not exceeded.	O.K.	O.K.
<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?	Not applicable.	O.K.	O.K.
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.	O.K.	O.K.
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.	O.K.	O.K.
<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?	Not applicable.	O.K.	O.K.
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	Not applicable.	O.K.	O.K.



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	plans?			
<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?	<p>The monthly production data on supplied/consumed electric power segmented by day are sent once a month by grid operator LIETUVOS ENERGIJA, AB. The same reports are the basis for electricity sale and consumption invoices.</p> <p>The production data are entered into the Monitoring protocol/net power calculation tool spreadsheet and compared with the data of the internal Winwind SCADA system of the wind park. Based on the monthly net production, the project assistant generates the annual production report which is the basis for GHG reduction calculations and the monitoring report. During approval process Director has conducted annual monitoring performance review in order to identify possibilities to improve monitoring through the use of the corrective and preventive actions. Since monitoring was conducted smoothly without any nonconformities, any corrective or preventive actions were not raised.</p> <p>Employees were trained already on 2008 prior the first verification, since then neither the responsible staff nor the monitoring requirements have changed and no problems related with insufficient staff competence have been identified. Hence, there is no need for additional training programmes so far.</p> <p>The verification team has reviewed the Monitoring report against monthly production reports and respectively against electricity sale and purchase invoices on 100 % sample basis. No mistakes or misstatements have been found. Then monthly production reports was double checked with the SCADA system, deviation was found up to 2,3 % what is fully acceptable taking into account uncertainties of the different measurement systems and transmission losses. However, CL1 is issued:</p> <p>CL1: there is stated in the monitoring plan, that if the difference with the SCADA data exceeds 2 percents, investigation will be</p>	CL1	O.K.



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DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion						
		<p>carried out to find a reason and to take a corrective action (if applicable). Please provide results of this investigation for July, when 2 percent threshold was exceeded.</p> <p>The calibration equipment is sealed and functioned without any failures during the monitoring period.</p>								
101 (b)	Is the function of the monitoring equipment, including its calibration status, in order?	<p>The calibration status of the measuring equipment was verified and found valid during all the monitoring period. The calibration periodicity is 8 years according to the national legislation. The calibration equipment is sealed and functioned without any failures during the monitoring period.</p> <p>The results of the monitoring equipment calibration status and sealing were verified and are described in the table below:</p> <table border="1" data-bbox="945 774 1637 995"> <thead> <tr> <th>Measurement device, No</th> <th>Calibration status</th> </tr> </thead> <tbody> <tr> <td>VJ-3.T-101 (commercial accounting), No 289132, calibrated on 29/09/2005</td> <td>O.K.</td> </tr> <tr> <td>VJ-3.T-101/D (duplicated commercial accounting), No 379391, calibrated on 16/08/2006</td> <td>O.K.</td> </tr> </tbody> </table>	Measurement device, No	Calibration status	VJ-3.T-101 (commercial accounting), No 289132, calibrated on 29/09/2005	O.K.	VJ-3.T-101/D (duplicated commercial accounting), No 379391, calibrated on 16/08/2006	O.K.	O.K.	O.K.
Measurement device, No	Calibration status									
VJ-3.T-101 (commercial accounting), No 289132, calibrated on 29/09/2005	O.K.									
VJ-3.T-101/D (duplicated commercial accounting), No 379391, calibrated on 16/08/2006	O.K.									
101 (c)	Are the evidence and records used for the monitoring maintained in a traceable manner?	See 101 (a) above.	O.K.	O.K.						
101 (d)	Is the data collection and management system for the project in accordance with the monitoring plan?	See 101 (a) above.	O.K.	O.K.						
<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?	Not applicable.	O.K.	O.K.						
103	Is the verification based on the monitoring reports of all JPAs to be verified?	Not applicable.	O.K.	O.K.						
103	Does the verification ensure the accuracy and conservativeness of the emission reductions or	Not applicable.	O.K.	O.K.						



## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
	enhancements of removals generated by each JPA?			
104	Does the monitoring period not overlap with previous monitoring periods?	Not applicable.	O.K.	O.K.
105	If the AIE learns of an erroneously included JPA, has the AIE informed the JISC of its findings in writing?	Not applicable.	O.K.	O.K.
<b>Applicable to sample-based approach only</b>				
106	Does the sampling plan prepared by the AIE: (a) Describe its sample selection, taking into account that: (i) For each verification that uses a sample-based approach, the sample selection shall be sufficiently representative of the JPAs in the JI PoA such extrapolation to all JPAs identified for that verification is reasonable, taking into account differences among the characteristics of JPAs, such as: – The types of JPAs; – The complexity of the applicable technologies and/or measures used; – The geographical location of each JPA; – The amounts of expected emission reductions of the JPAs being verified; – The number of JPAs for which emission reductions are being verified; – The length of monitoring periods of the JPAs being verified; and – The samples selected for prior verifications, if any?	Not applicable.	O.K.	O.K.
107	Is the sampling plan ready for publication through the secretariat along with the verification report and supporting documentation?	Not applicable.	O.K.	O.K.



## VERIFICATION REPORT

DVM Paragraph	Check Item	Initial finding	Draft Conclusion	Final Conclusion
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.	O.K.	O.K.
109	Is the sampling plan available for submission to the secretariat for the JISC.s ex ante assessment? (Optional)	Not applicable.	O.K.	O.K.
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.	O.K.	O.K.



## VERIFICATION REPORT

**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
<p>CL1: there is stated in the monitoring plan, that if the difference with the SCADA data exceeds 2 percents, investigation will be carried out to find a reason and to take a corrective action (if applicable). Please provide results of this investigation for July, when 2 percent threshold was exceeded.</p>	101 (a)	<p>The difference between Turbine SCADA and commercial reports is caused by energy loses in 20kV cable lines and power transformer of the substation. Ambient and soil temperature have influence to resistance of the power cables and windings of the power transformer. July has highest temperatures so resistance is bigger and the losses are slightly higher also. Therefore 2,3 % difference with the SCADA in July 2001 was found acceptable and additional investigation was not necessary.</p>	<p>Response was found reasonable, slightly higher difference with the SCADA data was observed in the summer months of the 2009-2010 year also. Hence CL1 is closed.</p>