



# VERIFICATION REPORT RENERGA, UAB

## SECOND PERIODIC VERIFICATION OF THE BENAICIAI WIND POWER PROJECT

MONITORING PERIOD:

1 JANUARY 2008 TO 31 DECEMBER 2008

REPORT No. LITHUANIA- VER #/0002/2009

REVISION No. 01

**BUREAU VERITAS CERTIFICATION**




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**VERIFICATION REPORT**


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Date of first issue: <b>09/06/2009</b>	Organizational unit: <b>Bureau Veritas Certification Holding SAS</b>
Client: <b>RENERGA, UAB</b>	Client ref.: <b>Diana Kazlauskiene, manager</b>

**Summary:**

Bureau Veritas Certification has carried out the 2nd periodic verification of the JI Track II project "Benaiciai wind power project" based on UNFCCC criteria for the JI, as well as criteria given to ensure 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.

Bureau Veritas Certification has carried out the initial and 1st periodic verification also and has confirmed that the project is implemented as planned and described in determined and approved design documents. Verified emissions of the 1st period are 22174 t CO2 equivalents. 1st period (from 01/01/2007 to 31/12/2007) was prior to the start of the JI crediting period as part of the early crediting. The Government of Lithuania has agreed, in accordance with Article 8 of the Agreement on Testing Ground for the Application of the Kyoto Mechanisms on Energy Projects in the Baltic Sea Region, to transfer to the investor Party (NEFCO in its capacity as a Fund Manager of the Testing Ground Facility) the Assigned Amount Units (AAUs) corresponding to the emission reductions achieved by the Project prior to 2008.

The verification scope is defined as a periodic independent review and ex post determination by the Accredited Independent Entities of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases: i) desk review of the monitoring report, project design document including its 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 Requests, Corrective Actions Requests, Forward Actions Requests (CL, CAR and FAR), presented in Appendix A.

In summary, Bureau Veritas Certification confirms that the GHG emission reduction is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents.

Reporting period: From 01/01/2008 to 31/12/2008.

Baseline emissions	:	27250	t CO2 equivalents
Project emissions	:	0	t CO2 equivalents
Emission Reductions	:	27250	t CO2 equivalents

Report No.: LITHUANIA- VER #/0002/200	Subject Group: JI	
Project title: <b>BENAICIAI WIND POWER PROJECT</b>		
Work carried out by: Team Leader : Ashok Mammen Team Member : Tomas Paulaitis		
Work verified by: <b>Flavio Gomes – Internal technical reviewer</b>		
Date of this revision: <b>07/07/2009</b>	Rev. No.: <b>02</b>	Number of pages: <b>25</b>

**Indexing terms**

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## Abbreviations

AIE	Accredited Independent Entities
CAR	Corrective Action Request
CL	Clarification Request
CO2	Carbon Dioxide
ERU	Emission Reduction Units
FAR	Forward Action Request
GHG	Green House Gas(es)
IETA	International Emissions Trading Association
JI	Joint Implementation
MP	Monitoring Plan
MR	Monitoring report
PCF	Prototype Carbon Fund
PDD	Project Design Document
UAB	Joint stock company (in Lithuanian language)
UNFCCC	United Nations Framework Convention for Climate Change



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## 1 INTRODUCTION

RENERGA,UAB has commissioned Bureau Veritas Certification to verify the emission reductions of its JI project “Benaiciai wind power project” (hereafter called “the project”) near to the villages Benaiciai and Zyneliai, Darbenu seniunija, Kretingos rajonas, Lithuania. The order comprises the second periodic verification and is related to emission reductions achieved during 1 January 2008 to 31 December 2008.

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

The purpose of this verification is a 2nd periodic verification.

The objective of the periodic verification is the review and ex post determination by an AIE of the GHG emission reductions. It includes the verification of the data given in the monitoring report by checking the monitoring records and the emissions reduction calculation.

### 1.2 Scope

The verification of this project is based on the Project Design Document, the Monitoring Report (covers January 1, 2008 to Dec 31, 2008), the monitoring plan as set out in the PDD, supporting documents made available to Bureau Veritas Certification, and information obtained through the on-site interviews and on-site assessment. The documents and information are reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

Bureau Veritas Certification, based on the recommendations in the Validation and Verification Manual (IETA/PCF), has employed a risk-based approach in the verification, focusing on the identification and reporting of significant risks and on reliability of project monitoring and generation of Emission Reductions Units (ERU).

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 forward actions and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.



### 1.3 GHG Project Description

Benaiciai wind park joint implementation project is prepared under initiative of RENERGA, UAB. There were installed 6 wind power plants, each having maximum capacity of 2,75 MW at the Benaiciai wind park with total installed capacity of 16,5 MW.

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

Wind Power Park started operating on 11 December 2006.

## 2 METHODOLOGY

The verification is as a desk review and field visit including discussions and interviews with selected experts and stakeholders.

In order to ensure transparency, a verification protocol was customized for the project, according to the Validation and Verification Manual (IETA/PCF) a verification protocol is used as part of the verification. 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 organises, details and clarifies the requirements the project is expected to meet; and
- It ensures a transparent verification process where the verifier will documents how a particular requirement has been verified and the result of the verification;

The verification protocol consists of one table under Initial Verification checklist (applicable only for initial verification) and four tables under Periodic verification checklist. The different columns in these tables are described in Figure 1.

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

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



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<b>Initial Verification Protocol Table 1</b>			
<b>Objective</b>	<b>Reference</b>	<b>Comments</b>	<b>Conclusion (CARs/FARs)</b>
The requirements the project must meet	Gives reference to where the requirement is found.	Description of circumstances and further comments on the conclusion	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance of the stated requirements. Forward Action Request (FAR) indicates essential risks for further periodic verifications.

<b>Periodic Verification Checklist Protocol Table 2: Data Management System/Controls</b>		
<b>Identification of potential reporting risk</b>	<b>Identification, assessment and testing of management controls</b>	<b>Areas of residual risks</b>
The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table.	<p>A score is assigned as follows:</p> <ul style="list-style-type: none"> <li>• Full - all best-practice expectations are implemented.</li> <li>• Partial - a proportion of the best practice expectations is implemented</li> <li>• Limited - this should be given if little or none of the system component is in place.</li> </ul>	Description of circumstances and further commendation to the conclusion. This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non compliance with stated requirements. The corrective action requests are numbered and presented to the client in the verification report. The Initial Verification has additional Forward Action Requests (FAR). FAR indicates essential risks for further periodic verifications.

<b>Periodic Verification Protocol Table 3: GHG calculation procedures and management control testing</b>		
<b>Identification of potential reporting risk</b>	<b>Identification, assessment and testing of management controls</b>	<b>Areas of residual risks</b>
<p>Identify and list potential reporting risks based on an assessment of the emission estimation procedures, i.e.</p> <ul style="list-style-type: none"> <li>➤ the calculation methods,</li> <li>➤ raw data collection and sources of supporting documentation,</li> <li>➤ reports/databases/information systems from which data is obtained.</li> </ul> <p>Identify key source data. Examples of source data include metering</p>	<p>Identify the key controls for each area with potential reporting risks. Assess the adequacy of the key controls and eventually test that the key controls are actually in operation.</p> <p>Internal controls include (not exhaustive):</p> <ul style="list-style-type: none"> <li>➤ Understanding of responsibilities and roles</li> <li>➤ Reporting, reviewing and formal management approval of data;</li> <li>➤ Procedures for ensuring</li> </ul>	<p>Identify areas of residual risks, i.e. areas of potential reporting risks where there are no adequate management controls to mitigate potential reporting risks</p> <p>Areas where data accuracy, completeness and consistency could be improved are highlighted.</p>



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<p>records, process monitors, operational logs, laboratory/analytical data, accounting records, utility data and vendor data. Check appropriate calibration and maintenance of equipment, and assess the likely accuracy of data supplied.</p> <p>Focus on those risks that impact the accuracy, completeness and consistency of the reported data. Risks are weakness in the GHG calculation systems and may include:</p> <ul style="list-style-type: none"> <li>➤ manual transfer of data/manual calculations,</li> <li>➤ unclear origins of data,</li> <li>➤ accuracy due to technological limitations,</li> <li>➤ lack of appropriate data protection measures. For example, protected calculation cells in spreadsheets and/or password restrictions.</li> </ul>	<p>data completeness, conformance with reporting guidelines, maintenance of data trails etc.</p> <ul style="list-style-type: none"> <li>➤ Controls to ensure the arithmetical accuracy of the GHG data generated and accounting records e.g. internal audits, and checking/ review procedures;</li> <li>➤ Controls over the computer information systems;</li> <li>➤ Review processes for identification and understanding of key process parameters and implementation of calibration maintenance regimes</li> <li>➤ Comparing and analysing the GHG data with previous periods, targets and benchmarks.</li> </ul> <p>When testing the specific internal controls, the following questions are considered:</p> <ol style="list-style-type: none"> <li>1. Is the control designed properly to ensure that it would either prevent or detect and correct any significant misstatements?</li> <li>2. To what extent have the internal controls been implemented according to their design;</li> <li>3. To what extent have the internal controls (if existing) functioned properly (policies and procedures have been followed) throughout the period?</li> <li>4. How does management assess the internal control as reliable?</li> </ol>	
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<b>Periodic Verification Protocol Table 4: Detailed audit testing of residual risk areas and random testing</b>		
<b>Areas of residual risks</b>	<b>Additional verification testing performed</b>	<b>Conclusions and Areas Requiring Improvement (including Forward Action Requests)</b>
<p>List the residual areas of risks. Table 2 where detailed audit testing is necessary. In addition, other material areas may be selected for detailed audit testing.</p>	<p>The additional verification testing performed is described. Testing may include:</p> <ol style="list-style-type: none"> <li>1. Sample cross checking of manual transfers of data</li> <li>2. Recalculation</li> <li>3. Spreadsheet 'walk throughs' to check links and equations</li> <li>4. Inspection of calibration and maintenance records for key equipment                             <ul style="list-style-type: none"> <li>➤ Check sampling analysis results</li> <li>➤ Discussions with process engineers who have detailed knowledge of process uncertainty/error bands.</li> </ul> </li> </ol>	<p>Having investigated the residual risks, the conclusions should be noted here. Errors and uncertainties should be highlighted. Errors and uncertainty can be due to a number of reasons:</p> <ul style="list-style-type: none"> <li>➤ Calculation errors. These may be due to inaccurate manual transposition, use of inappropriate emission factors or assumptions etc.</li> <li>➤ Lack of clarity in the monitoring plan. This could lead to inconsistent approaches to calculations or scope of reported data.</li> <li>➤ Technological limitations. There may be inherent uncertainties (error bands) associated with the methods used to measure emissions e.g. use of particular equipment such as meters.</li> <li>➤ Lack of source data. Data for some sources may not be cost effective or practical to collect. This may result in the use of default data which has been derived based on certain assumptions/conditions and which will therefore have varying applicability in different situations.</li> </ul> <p>The second two categories are explored with the site personnel, based on their knowledge and experience of the processes. High risk process parameters or source data (i.e. those with a significant influence on the reported data, such as meters) are reviewed for these uncertainties.</p>

<b>Verification Protocol Table 5: Resolution of Corrective Action and Clarification Requests</b>			
<b>Report clarifications and corrective action requests</b>	<b>Ref. to checklist question</b>	<b>Summary of project owner response</b>	<b>Verification conclusion</b>
<p>If the conclusions from the Verification are either a Corrective Action Request or a Clarification Request, these should be listed in this section.</p>	<p>Reference to the checklist question number in Tables 2, 3 and 4 where the Corrective Action Request or Clarification Request is explained.</p>	<p>The responses given by the Client or other project participants during the communications with the verification team should be summarized in this section.</p>	<p>This section should summarize the verification team's responses and final conclusions. The conclusions should also be included in Tables 2, 3 and 4, under "Final Conclusion".</p>

**Figure 1 Verification protocol tables**



## 2.1 Review of Documents

The Monitoring Report (MR) submitted by UAB RENERGA and additional background documents related to the project design and baseline, i.e. country Law, Project Design Document (PDD), Approved methodology, Kyoto Protocol, Clarifications on Verification Requirements were reviewed by AIE.

The verification findings presented in this report relate to the project as described in the PDD Version 06 and Project Monitoring Report Version 2.

## 2.2 Follow-up Interviews

On 22/04/2009 Bureau Veritas Certification performed interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Renerga, UAB and EIG, UAB were interviewed (see References). The main topics of the interviews are summarized in Table 1.

**Table 1 Interview topics**

Interviewed organization	Interview topics
Renerga, UAB	Implementation of project, monitoring of electricity supplied to the grid, calibration and maintenance of the electric power meters, responsibilities and legal requirements.
EIG, UAB (consulting company)	Quality management requirements, reporting.

## 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.

Findings established during the initial verification can either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified.

Corrective Action Requests (CAR) are issued, where:

- i) there is a clear deviation concerning the implementation of the project as defined by the PDD;
- ii) requirements set by the MP or qualifications in a verification opinion have not been met; or
- iii) there is a risk that the project would not be able to deliver (high quality) ERUs.



Forward Action Requests (FAR) are issued, where:

- iv) the actual status requires a special focus on this item for the next consecutive verification, or
- v) an adjustment of the MP is recommended.

The verification team may also use the term Clarification Request (CL), which would be where:

- vi) additional information is needed to fully clarify an issue.

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



### 3 SECOND PERIODIC VERIFICATION FINDINGS

#### 3.1 Remaining issues, CAR's, FAR's from previous verification

There are no remaining issues and FAR's from initial and first periodic verification.

#### 3.2 Completeness of Monitoring

##### 3.2.1 Discussion

Monitoring routines have been checked. It can be stated that monitoring routines are implemented in accordance with the monitoring plan.

Internal and external data are clearly demonstrated in the monitoring report.

##### 3.2.2 Findings

Comments	Conclusion
<p><b><u>Forward action request No 1:</u></b> Cases of the electric power meters breakdowns and failures should be described in monitoring reports as special events. Identification data, calibration and maintenance dates of the electric power metering devices might be included in the monitoring report.</p>	<p>Electric power meter breakdowns case is sufficiently described in the monitoring report (version 2). Identification data, calibration and maintenance dates included in the monitoring report and are in accordance with data presented on technical passports of the audited commercial power meters.</p>

##### 3.2.3 Conclusions

Bureau Veritas confirms that:

- FAR 1 was implemented efficiently;
- The monitoring is in accordance with the monitoring plan of the approved PDD;
- The monitoring report (version 2) is transparent and complete.



### 3.3 Accuracy of Emission Reduction Calculations

#### 3.3.1 Discussion

Calculations of the emission reductions presented in the monitoring report have been checked.

#### 3.3.2 Findings

None.

#### 3.3.3 Conclusions

Bureau Veritas confirms that:

- Emission reduction calculations are carried out according to the monitoring plan of the approved PDD without mistakes and misstatements.

### 3.4 Quality Evidence to Determine Emission Reductions

#### 3.4.1 Discussion

The calculation of emission reductions was based on internal data (the external emission factor has a fixed value for all monitoring period).

Internal data (the net hourly electricity supplied to the grid) declared in the monitoring report (version 1) is not in accordance with the data declared in electric power dispatch reports and financial documents.

#### 3.4.2 Findings

Comments	Conclusion
<p><b><u>Corrective action request No 1:</u></b> Monitoring form is not in accordance with form presented in PDD, version 6. The net hourly electricity supply to the grid data declared in the monitoring report is not in accordance with the data declared in the electric power dispatch reports and financial documents.</p>	<p>The electricity supplied to the grid data declared in the monitoring report (version 2) now are in accordance with the data in electric power dispatch reports and are correct.</p>



### 3.4.3 Conclusions

Bureau Veritas confirms that:

- CAR 1 was implemented efficiently;
- The monitoring report (version 2) is in conformity with requirements to the quality of evidence.

## 3.5 Management System and Quality Assurance

### 3.5.1 Discussion

The quality assurance procedures are documented and implemented effectively as a result of the CAR1 and FAR1, FAR2, FAR 3 issued during the initial verification (below is provided description of these findings from initial verification):

Comments	Conclusion
<p><b><u>Corrective action request No 1:</u></b> A quality management scheme should be provided as stated in the PDD section D.3. This corrective action request is related to FAR No 1-3.</p>	<p>Quality management procedures were documented in the Renega, UAB director's order No V.1-1-09/19 issued on 19/05/2009. The procedures describes sufficiently:</p> <ul style="list-style-type: none"> <li>- qualification requirements for personnel;</li> <li>- data flow processes;</li> <li>- data retention and internal control.</li> </ul>
<p><b><u>Forward action request No 1:</u></b> Qualification and training requirements for personnel working on the emission reduction project (including subcontracted consultants) might be documented.</p>	
<p><b><u>Forward action request No 2:</u></b> A documented procedure might be prepared for the data which is required for monitoring and archiving. The procedure should define responsibilities and the retention period for archiving the data to ensure that the data are available at least for two years after the end of the crediting period.</p>	
<p><b><u>Forward action request No 3:</u></b> Internal control procedures might be documented.</p>	

## 3.5.2 Findings

None.

## 3.5.3 Conclusions

Bureau Veritas confirms that:

- The monitoring is in accordance with the PDD requirements for the management system and operational control.

## 4 PROJECT SCORECARD

Risk Areas		Conclusions			Summary of findings and comments
		Baseline Emissions	Project Emissions	Calculated Emission Reductions	
<b>Completeness</b>	Source coverage/ boundary definition	✓	✓	✓	Relevant sources are covered by the monitoring plan. Boundaries of the project are defined transparently and correctly.
<b>Accuracy</b>	Physical Measurement and Analysis	✓	✓	✓	Physical measurements and analysis are reliable.
	Data calculations	✓	✓	✓	Data are calculated correctly.
	Data management & reporting	✓	✓	✓	Data management and reporting are reliable.
<b>Consistency</b>	Changes in the project	✓	✓	✓	There are no changes in the project; results are consistent to underlying raw data.



## 5 SECOND PERIODIC VERIFICATION STATEMENT

Bureau Veritas Certification has performed the 2nd periodic verification of the project “Benaiciai wind power project”. The verification is based on the currently valid documentation of the United Nations Framework Convention on the Climate Change (UNFCCC).

The management of Renerga, UAB 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 06. 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 v02 for the reporting period as indicated below.

Bureau Veritas Certification can confirm that the GHG emission reduction is calculated without material misstatements. Our opinion relates to the project’s GHG emissions and resulting GHG emissions reductions reported and related to the valid and approved project baseline and monitoring, and its associated documents. Based on the information we have seen and evaluated we confirm the following statement:

Reporting period: From 01/01/2008 to 31/12/2008

Baseline emissions	: 27250	t CO <sub>2</sub> equivalents.
Project emissions	: 0	t CO <sub>2</sub> equivalents.
Emission Reductions	: 27250	t CO <sub>2</sub> equivalents.



## 6 REFERENCES

### Category 1 Documents:

Documents provided by Renega, UAB that relates directly to the GHG components of the project.

- /1/ PDD "Benaiciai wind power project", version 06 April 2008
- /2/ Determination report No. 907778, revision 2, issued by *TUV SUD Industrie Service GmbH* on 05 May 2008
- /3/ Benaiciai wind power park joint implementation project – 2<sup>nd</sup> monitoring report, version 1
- /4/ Benaiciai wind power park joint implementation project – 2<sup>nd</sup> monitoring report, version 2, issued on 20 May 2009
- /5/ Monitoring form, completed by engineer for energy, version 1
- /6/ Monitoring form, completed by engineer for energy, version 2
- /7/ Initial and First Periodic verification report No LITHUANIA- VER #/0002/200, issued by Bureau Veritas Certification Holding SAS.

### Category 2 Documents:

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

- /1/ Electric power dispatch reports, signed by *Renega, UAB and Lietuvos energija, AB*, year 2008
- /2/ Technical passports (with calibration records inside) for commercial electric power meters
- /3/ Extract from contract between *Renega, UAB and Lietuvos energija, AB*, signed on 27 November 2006
- /4/ Competence and qualification documents of engineer for energy
- /5/ Benaiciai wind power park scheme (No 0512/3-TP/DP-SP-II-01)
- /6/ Wind power park noise level monitoring report (issued by *Klaipedos visuomenes sveikatos centras* on 21 February 2007)
- /7/ *Renega, UAB* director's order "Regarding responsibility for monitoring" issued on 29 December 2006
- /8/ *Renega, UAB* director's order "Regarding quality management scheme for Joint Implementation projects" issued on 29 December 2006



**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/ Linas Sabaliauskas, director
- /2/ Egidijus Vysniauskas, engineer of energy
- /3/ Diana Kazlauskiene, manager
- /4/ Faustas Andrijauskas, consultant (*EIG, UAB*)

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## APPENDIX A: PROJECT VERIFICATION PROTOCOL

Initial Verification Protocol Table 1			
Objective	Reference	Comments	Conclusion (CARs/FARs)
The requirements the project must meet	Gives reference to where the requirement is found.	Description of circumstances and further comments on the conclusion	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance of the stated requirements. Forward Action Request (FAR) indicates essential risks for further periodic verifications.
Not applicable since this the 2 <sup>nd</sup> periodic verification	N/A	N/A	N/A

**Table 2: Data Management System/Controls**

The project operator's data management system/controls are assessed to identify reporting risks and to assess the data management system's/control's ability to mitigate reporting risks. The GHG data management system/controls are assessed against the expectations detailed in the table. A score is assigned as follows:

- Full - all best-practice expectations are implemented.
- Partial - a proportion of the best practice expectations is implemented
- Limited - this should be given if little or none of the system component is in place.

Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i> )
<b>1. Defined organisational structure, responsibilities and competencies</b>		
<b>1.1. Position and roles</b> Position and role of each person in the GHG data management process is clearly defined and implemented, from raw data generation to submission of the final data. Accountability of senior management must also be demonstrated.	Full	The responsibilities and roles for monitoring and reporting are stated in accordance with the monitoring plan. Senior management (director Linas Sabaliauskas) clearly demonstrated his accountability and awareness during the on-site visit.



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Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i> )
<b>1.2. Responsibilities</b> Specific monitoring and reporting tasks and responsibilities are included in job descriptions or special instructions for employees.	Full	The responsibility for monitoring lies on the engineer for energy (order Nr. V-06/29 issued on Dec. 29, 2006 by the director).
<b>1.3. Competencies needed</b> Competencies needed for each aspect of the GHG determination process are analysed. Personnel competencies are assessed and training programme implemented as required.	Full	The monitoring of power production is carried out by an engineer who has the necessary competence and skills. The consultant's competence regarding the preparation of monitoring reports is also sufficient. Therefore, training programmes are not needed at present.
<b>2. Conformance with monitoring plan</b>		
<b>2.1. Reporting procedures</b> Reporting procedures should reflect the monitoring plan content. Where deviations from the monitoring plan occur, the impact of this on the data is estimated and the reasons justified.	Full	The reporting procedures are described in the monitoring plan and the PDD section 3. The reporting was performed without any deviations from the monitoring plan.
<b>2.2. Necessary Changes</b> Necessary changes to the monitoring plan are identified and changes are integrated in local procedures as necessary.	Full	There were no changes in measuring systems and the data flow during the 2 <sup>nd</sup> monitoring period.
<b>3. Application of GHG determination methods</b>		
<b>3.1. Methods used</b> There are documented description of the methods used to determine GHG emissions and justification for the chosen methods. If applicable, procedures for capturing emissions from non-routine or exceptional events are in place and implemented.	Full	The method to determine GHG emissions is clearly documented.
<b>3.2. Information/process flow</b> An information/process flow diagram, describing the entire process from raw data to reported totals is developed.	Full	The information/process flow is quite simple and is sufficiently described in the monitoring plan, the PDD section D.3 and director's order No V.1-1-09/19 issued on 19/05/2009.
<b>3.3. Data transfer</b> Where data is transferred between or within systems/spreadsheets, the method of transfer (automatic/manual) is highlighted - automatic links/updates are implemented where possible. All assumptions and the references to original data sources are documented.	Full	There is no data transfer between or within systems/spreadsheets, the data from month power dispatch confirmation documents are used.



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Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i> )
<b>3.4. Data trails</b> Requirements for documented data trails are defined and implemented and all documentation are physically available.	Full	All documents with primary data are available (month power dispatch confirmation documents). Additionally, the data of produced electric power are publicly available and are announced on the website of <i>Lietuvos energija, AB</i> .
<b>4. Identification and maintenance of key process parameters</b>		
<b>4.1. Identification of key parameters</b> The key physical process parameters that are critical for the determination of GHG emissions (e.g. meters, sampling methods) are identified.	Full	All key parameters are identified; this was also verified during the on-site visit.
<b>4.2. Calibration/maintenance</b> Appropriate calibration/maintenance requirements are determined.	Full	It is defined in the contract (Contract Nr. 998-06, signed between <i>Renega, UAB</i> and <i>Lietuvos energija, AB</i> on Nov. 27, 2006), that <i>Lietuvos energija, AB</i> is responsible for the calibration and maintenance of commercial electric power meters.
<b>5. GHG Calculations</b>		
<b>5.1. Use of estimates and default data</b> Where estimates or default data are used, these are validated and periodically evaluated to ensure their ongoing appropriateness and accuracy, particularly following changes to circumstances, equipment etc. The validation and periodic evaluation of this is documented.	Full	The default value of the emission factor has been already described in the PDD and has been confirmed in the determination report.
<b>5.2. Guidance on checks and reviews</b> Guidance is provided on when, where and how checks and reviews are to be carried out, and what evidence needs to be documented. This includes spot checks by a second person not performing the calculations over manual data transfers, changes in assumptions and the overall reliability of the calculation processes.	Full	Monthly values of electricity supplied to the grid are controlled by the grid owner (AB <i>Lietuvos energija</i> ). The calculation process is quite simple and has been fully checked by the verifier; therefore, checks by a second person are not needful.
<b>5.3. Internal verification</b> Internal verifications include the GHG data management systems, to ensure consistent application of calculation methods.	Full	Internal verifications are implemented as described in order No V.1-1-09/19 issued on 19/05/2009.



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Expectations for GHG data management system/controls	Score	Verifiers Comments (including <i>Forward Action Requests</i> )
<p><b>5.4. Internal validation</b> Data reported from internal departments should be validated visibly (by signature or electronically) by an employee who is able to assess the accuracy and completeness of the data. Supporting information on the data limitations, problems should also be included in the data trail.</p>	Full	Data reported are validated by a responsible engineer.
<p><b>5.5. Data protection measures</b> Data protection measures for databases/spreadsheets should be in place (access restrictions and editor rights).</p>	Full	No databases are used.
<p><b>5.6. IT systems</b> IT systems used for GHG monitoring and reporting should be tested and documented.</p>	Full	No IT systems are used for GHG monitoring and reporting.

**Table 3: GHG calculation procedures and management control testing**

Identification of potential reporting risk	Identification, assessment and testing of management controls	Areas of residual risks
Monitoring failure of the electricity supplied to the grid	<p>Errors because of technical failure or insufficient calibration are possible. The grid owner (<i>Lietuvos energija, AB</i>) is responsible for and interested in calibrating and maintenance the meters according to the requirements of the manufacturer and legal requirements to ensure reliable data.</p> <p>Procedures how electric power should be monitored in case of meter failure are clearly described.</p>	<p>The main commercial meter (position VJ-2.T-101) data are simultaneously measured by another meter (position VJ-2.T-101D); therefore, the risk of not identifying the meter failure is considered to be low.</p>
Errors because of wrong input data and mistakes in calculations	<p>The calculations are performed by a consultant. There is a possibility of errors because of mistakes and misstatements in the input data (electricity supplied to the grid).</p>	<p>Data about the electricity supplied to the grid where collected and calculated before quality assurance procedures where implemented as a result of the CAR1 and FAR1, FAR2, FAR 3 issued during the initial verification. Therefore there are the same risks like in first verification that the data about the electricity supplied to the grid are with mistakes and misstatements. These risks are managed by verifier using 100 % sampling to verify electricity supplied to the grid data (declared in the monitoring report) according to the data in month reports and financial documents.</p>



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**Table 4: Detailed audit testing of residual risk areas and random testing**

Areas of residual risks	Additional verification testing performed	Conclusions and Areas Requiring Improvement (including <i>Forward Action Requests</i> )
Monitoring failure of the electricity supplied to the grid	1) Inspection of maintenance and calibration records. 2) Inspection how procedures are operated in case of meters failure (if applicable).	<p>Responsible persons were interviewed regarding calibration status and cases of failure of the electric meters. There was meter breakdown occurred in T-101 position on 10 October 2008. Broken meter was replaced with a new one on 14 October 2008. Accounting of delivered and consumed electric energy in this period was calculated according contract requirements with grid owner and was based on readings of the redundant meter in position T-101D.</p> <p>Maintenance records and calibration records have been reviewed and valid calibration records have been delivered to all meters, including to new one in position T-101. However, this emergency situation was not described in monitoring report as special event.</p> <p><b><u>FAR 1</u></b></p> <p>Cases of the electric power meters breakdowns and failures should be described in monitoring reports as special events. Identification data, calibration and maintenance dates of the electric power metering devices might be included in the monitoring report.</p>
Errors in calculation	1) Re-calculation of GHG emission reductions. 2) 100 % sampling to verify the electricity supplied to the grid data (declared in the monitoring report) according to the data in month reports and financial documents.	<p>Total re-calculation of GHG emission reduction has been performed. No errors or misstatements have been found in the GHG emission reduction calculation. However, some material mistakes were indicated in the initial data (see CAR 1); therefore, GHG emission reduction calculations should be carried out and a new version of the monitoring report should be issued (after the implementation of CAR 1 corrective actions).</p> <p><b><u>CAR 1:</u></b></p> <p>Monitoring form is not in accordance with form presented in PDD, version 6. The net hourly electricity supply to the grid data declared in the monitoring report is not in accordance with the data declared in the electric power dispatch reports and financial documents.</p>



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**Table 5: Resolution of Corrective Action and Clarification Requests**

Report clarifications and corrective action requests	Reference to checklist question	Summary of project owner response	Verification conclusion
<p><b><u>Corrective action request No 1:</u></b> Monitoring form is not in accordance with form presented in PDD, version 6. The net hourly electricity supply to the grid data declared in the monitoring report is not in accordance with the data declared in the electric power dispatch reports and financial documents.</p>	Table 3	Project owner has acknowledged that data input mistakes had occurred in the monitoring form and later in the monitoring report. Version 2 of the completed monitoring form and version 2 of the monitoring report was issued and presented to verifier. Final net hourly electricity supply to the grid data has been changed from 43,563.216 MWh to 43,531.024 MWh. This has resulted emission reductions change from 22,271 to 22,250 tons.	The electricity supplied to the grid data declared in the monitoring report (version 2) now are in accordance with the data in electric power dispatch reports and are correct.
<p><b><u>Forward action request No 1:</u></b> Cases of the electric power meters breakdowns and failures should be described in monitoring reports as special events. Identification data, calibration and maintenance dates of the electric power metering devices might be included in the monitoring report.</p>	Table 3	Electric power meter breakdown case was described in the monitoring report (version 2). Identification data, calibration and maintenance dates of the electric power metering devices were included in the monitoring report (version 2).	Electric power meter breakdowns case is sufficiently described in the monitoring report (version 2). Identification data, calibration and maintenance dates included in the monitoring report and are in accordance with data presented on technical passports of the audited commercial power meters.



## APPENDIX B: VERIFICATION TEAM

The verification team consists of the following personnel:

Ashok Mammen

Bureau Veritas Certification Team Leader, Climate Change Verifier

Dr. Mammen is a lead auditor for the environment, safety and quality management systems and a lead verifier for GHG projects with over 20 years of experience in chemical and petrochemical field with a Ph. D. in oils and lubricants. He has been involved in the validation and verification processes of more than 60 CDM/JI and other GHG projects.

Tomas Paulaitis

Bureau Veritas Certification Climate Change Verifier

Tomas Paulaitis is a lead auditor for environment and quality management systems and a GHG verifier with over 4 years of experience in verifying GHG emissions (mainly according to EU ETS scheme). He holds a Master's degree in chemical engineering.

Flavio Gomes

Bureau Veritas Certification, Internal reviewer

Flavio Gomes is a Chemical and Safety Engineer, with a MSc title in Civil Engineer (Sanitation). He spent four years at RIPASA Pulp and Paper as Environmental Process Engineer. He is, since 2006 the Global Manager for Climate Change. Previously and since 1997, he was senior consultant for Bureau Veritas Consulting in fields of Environment, Health, Safety, Social Accountability and Sustainability audit and management systems. He also acted as Clean Development Mechanism verifier, and Social/Environmental Report auditor, in the name of Bureau Veritas Certification. Flavio is pursuing this PhD on Energy Management at the Imperial College – London.