



Gold Standard Verification and Certification Report

*of "Alize Çamseki 20.8 MW Wind Farm
Project, Turkey"*

GLC Report No: GS 020, Rev. 05

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Organisational Unit Germanischer Lloyd Certification GmbH (GLC), Greenhouse Gas Services		
Client Alize Enerji Elektrik Üretim A.ğ.	Client reference person Mr. Yagmur Karabulut	
Summary:		
GS Ref.	"GS399"	
Project Name:	"Alize Çamseki 20.8 MW Wind Farm Project, Turkey"	
Project Country:	Turkey	
Sectoral Scope, Technical Area	Sectoral Scope 1, Technical Area 1.2 (According to UNFCCC)	
Methodology:	ACM0002	
Version:	07	
Name:	"Consolidated baseline methodology for grid-connected electricity generation from renewable sources"	
Project Size:	<input checked="" type="checkbox"/> Large Scale <input type="checkbox"/> Small Scale	
Number of verification:	2 nd	
Dates of monitoring period (incl. both days)	2010-09-01 to 2011-10-31	
Project assessed by: Mr. Srikanth Meesa Mr. Karunakar Avuram Mr. Manan Shah Ms. Beyza Doyduk Attila	Assessment reviewed by: Mr. Jose-Emilio Moreno Mr. Markus Weber	Work approved by: Mr. Markus Weber
Date of this revision:	Revision No.	Number of pages
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History of report revisions:

Rev.	Date	Person (short sign or name)	Function	Action
01	2011-12-27	Karunakar	Auditor	Draft report preparation
02	2011-12-29	Srikanth Meesa	ATL	Completion of the Draft report
03	2012-01-05	JMor	Reviewer	Review with comments
04	2012-01-10	Karunakar	Auditor	Addressing TR comments and final report preparation
05	2012-01-12	Markus Weber	Reviewer and Approver	Final review and approval

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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board (the board)
CL	Clarification request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DOE	Designated Operation Entity
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GLC	Germanischer Lloyd Certification GmbH
GS	Gold Standard
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project Design Document
PMUM	Market Financial Settlement Centre – a division of TEIAS
PP	Project Participant
QA/QC	Quality Assurance / Quality Control
tCO ₂ e	Ton of Carbon dioxide equivalent
TEIAS	Turkish Electricity Transmission Corporation
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reduction

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1 INTRODUCTION

Alize Enerji Elektrik Üretim A.ğ. has commissioned the Germanischer Lloyd Certification GmbH (GLC) to carry out the 2nd verification of the Gold Standard project, "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" with regard to the relevant requirements for GS project activities. The project activity was registered as a VER project with Gold Standard under Version 1.0 with project ID "GS399" on [2010-06-29](#). The verifiers have reviewed the implementation of the monitoring plan (MP) as described in the registered PDD ^{/5/} and the Monitoring Report ^{/8/}, version 1.3, dated 2012-01-10.

GHG data for the monitoring period was verified in detailed manner applying the set of requirements, audit practices and principles as required under the Validation and Verification Manual ^{/1/} of the UNFCCC and The Gold Standard Validation & Verification Manual for voluntary offset Projects ^{/2/}.

This report summarizes the findings and conclusions of the 2nd verification of the above mentioned GS registered project activity.

1.1 Objective

The objective of the verification is the review and ex-post determination by an independent entity of the GHG emission reductions. It includes the verification

- that the project activity has been implemented and operated as per the registered PDD and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- that the monitoring report and other supporting documents provided are complete and verifiable and in accordance with applicable GS requirements;
- that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- that the data is recorded and stored as per the monitoring methodology;
- that the project creates sustainable development and the sustainability development indicators are monitored properly

1.2 Scope

The verification of this registered project is based on the validated project design document ^{/5/}, the monitoring report ^{/8/}, emission reduction calculation spread sheet ^{/9/}, supporting documents made available to the verifier and information collected through performing interviews and during the on-site assessment. Furthermore publicly available information was considered as far as available and required.

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The verification is carried out on the basis of the following requirements, applicable for this project activity:

- GS Requirements for Voluntary Offset Projects ^{/23/},
- Article 12 of the Kyoto Protocol ^{/31/},
- Guidelines for the implementation of Article 12 of the Kyoto Protocol as presented in the Marrakech Accords under decision 3/CMP.1 ^{/32/} and subsequent decisions made by the Executive Board and COP/MOP
- Other relevant rules, including the host country legislation,
- CDM Validation and Verification Manual ^{/1/},
- Monitoring plan as given in the registered PDD ^{/5/},
- Approved CDM Methodology "ACM0002" (version 07), "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" ^{/4/}

1.3 GHG Project Description

The project activity consists of installation and operation of 11 wind turbines with a total installed capacity of 20.8 MW ^{/16/}. The turbines comprise of 10 units of Enercon E-82 with a capacity of 2 MW each and 1 unit of Enercon E-48 model with a capacity of 800 kW. The project is located in Çanakkale Province of Turkey. The project site is close to Üvecik Village, Çamseki Town in Ezine District.

The electricity generated from the project activity is fed to the national electricity grid of Turkey. The project activity results in reduction of GHG emission reductions by displacing equivalent electricity from the grid connected fossil fuel fired power plants (as validated).

The following project participants and Parties to the Kyoto Protocol are involved in this project activity.

Table 1-1: Project Parties and project participants

Project Participant	Party	Characteristic
Alize Enerji Elektrik Üretim A.Ş.	Turkey	Host party
Mavi Consultants – Sustainability Management Ltd.	Turkey	Host party

(Turkey has ratified the Kyoto Protocol but does not have any emission reduction obligations and is eligible as a host country for Gold Standard VER projects)

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The details of the project location are given in table 1-2:

Table 1-2: Project location

No.	Project Location
Host country:	Turkey
Region:	Çanakkale Province
Project location address:	Ezine District, Çamseki Town, Üvecik Village
Project coordinates:	39° 53' N, 26° 13' E

2 VERIFICATION TEAM

A competent team with relevant knowledge and experience GLC appointed by GLC. The appointment of the team takes into account the required sectoral scope, technical area and project activity knowledge requirements for validating the project design and the relevant VERs achieved by the project activity.

Table 2-1: Verification team members, qualification and knowledge

	Name	Function ¹⁾	Sectoral scope specific knowledge	Technical area specific knowledge	Local knowledge	Type of involvement						
						Desk review	On-site visit / interviews	Reporting	Supervision of work	Technical review	Expert input	Approval
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Srikanth Meesa	ATL				X			X			
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Karunakar Avuram	A				X	X	X				

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	Name	Function ¹⁾	Sectoral scope specific knowledge	Technical area specific knowledge	Local knowledge	Type of involvement						
						Desk review	On-site visit / interviews	Reporting	Supervision of work	Technical review	Expert input	Approval
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Manan Shah	E	X	X		X	X				X	
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Beyza Doyduk Attila	E			X	X	X				X	
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Jose-Emilio Moreno	R	X	X						X	X	
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Markus Weber	R/FA	X	X						X		X

1) ATL: Assessment Team Leader; A: Auditor; E: Expert; R: Reviewer; FA: Final Approver

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3 METHODOLOGY

3.1 Verification Process

The project was registered with The Gold Standard under Version 1.0. Therefore, the verification process is based on and The Gold Standard Validation & Verification Manual for Voluntary Offset Projects ^{/2/} and the guidelines described in the UNFCCC's Validation and Verification Manual ^{/1/}. In addition to that, standard auditing techniques have been applied. The verification team performs first a desk review, followed by an on-site visit to review the project realisation. The findings are collected and described in a questionnaire. In case of lack of clarity or inconsistencies related findings are raised. The next step is to close out the findings through direct communication with the PPs and finally prepare the final verification report. This verification report and other supporting documents then undergo a technical review by the "GLC GmbH" prior to the submission of final verification report.

3.2 Desk review

GLC has conducted a desk review of all documents initially provided by the client and publicly available documents relevant for the verification. The desk review was carried out from 2011-11-14 to 2011-11-18. The main reviewed documents are listed below:

- The monitoring report ^{/8/}
- The emission reduction calculation spread sheet ^{/9/}
- The registered PDD ^{/5/}, including the monitoring plan and the corresponding validation report ^{/6/};
- Previous verification report ^{/7/};
- The applied monitoring methodology ^{/4/};
- Other supporting documents referred in the monitoring report;
- Addressing of FARs identified during the previous verification.

3.3 On-site assessment

On 2011-11-23, GLC's verification team carried out an on-site visit. The main tasks covered during the on-site visit include, but are not limited to:

- The on-site assessment included an investigation of whether all relevant equipment is installed and works as anticipated.
- The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.
- The local stakeholders were interviewed in order to check the sustainability parameters

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- Information processes for generating, aggregating and reporting the selected monitored parameters were reviewed.
- The duly calibration of all metering equipment was checked.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data was checked completely.

Representatives of Alize Enerji Elektrik Üretim A.ğ. including the operational staff of Alize Enerji and Enercon were interviewed. The project owner has engaged the service company of the turbine manufacturer i.e. ENERCON Servis Ltd. through a separate contract for maintenance and operation of the wind farm. The main topics of the interviews are summarised in Table 3-1.

Table 3-1: Interviewed persons and interview topics

Name	Organization/Position	Interview Topics
Mr. Engin Topcu	Responsible Engineer, Enercon	<ul style="list-style-type: none"> • General aspects of the project • Technical aspects of project activity • Operation of the project inline with the description provided in the PDD • Monitoring and measurement equipment • Calibration procedures • Quality management system • Involved personnel and responsibilities • Training and practice of the operational personnel • Implementation of the monitoring plan • Monitoring data management • Data uncertainty and residual risks • GHG calculation • Sustainable development indicators
Mr. Engin Toy	Electrical Technician, Alize Enerji	
Mr. Nail Dinckal	Muhtar, Uvecik village	
Mr. Yagmur Karabulut (telephonic interview)	Technical Manager, Mavi Consultants	

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		<ul style="list-style-type: none">• Occupational health and safety of operating personnel• Procedural aspects of the verification• Maintenance aspects• Environmental aspects
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3.4 Resolution of Findings and Reporting

On the basis of the desk review, the on-site visit, follow-up interviews and further background investigation the verification questionnaire is completed. In case any inconsistencies or lack of clarity were identified during the verification the team has raised a

Corrective Action Requests (CARs), if:

- non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- mistakes or inconsistencies are identified in the monitoring report or emission reduction calculation spread sheet

Clarification Request (CL), if:

- information is insufficient or not clear enough to determine whether the applicable GS requirements have been met.

In case the team has identified essential risks for further verifications or the actual status requires a special focus on this item for the next consecutive verification, or an adjustment of the monitoring plan is recommended a Forward Action Request (FAR) was raised.

All CARs, CLs and FARs raised have been sent to the client with the request to address the findings. After the findings have been answered by the client in an appropriate manner, the CARs and CLs have been closed out.

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For a detailed list of all CARs, CLs and FARs raised in the course of the verification please refer to Annex A. The questionnaire together with a general project and procedural description of the verification and a detailed list of the verification findings forms the draft verification report.

3.5 Technical Review

Before submission of the final verification report GLC has carried out a technical review of the whole verification procedure and the draft report between 2011-12-29 and 2012-01-12. The appointed technical reviewer team is competent GHG auditors for the sectoral scope and technical area this project falls under. Each involved reviewer is not directly involved in the verification assessment up to the start of the internal technical review phase of this project.

As a result of the internal technical review process, the verification statement and the topic specific assessments as prepared by the assessment team leader may be confirmed or revised. Furthermore, reporting improvements might be achieved.

4 VERIFICATION FINDINGS

This section summarises the findings from the verification of the emission reductions reported for the "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" for the period from 2010-09-01 to 2011-10-31. The findings of the verification are documented in more detail in the verification questionnaire given in Annex A.

In each case where GLC had identified an issue that needed clarification or that represented a risk to the fulfilment of the project objectives, a CL or a CAR have been issued respectively. All raised CARs and CLs are documented in Table-2 of Annex A. The verification of "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" resulted in four (4) CARs and seven (7) CLs. Upon successful closure of the raised CARs and CLs and based on the on-site findings and the reviewed project documentation; the verification team confirms that there are no remaining non-conformities. One (1) FAR has also been raised during the verification which shall be verified during the next verification.

This is the 2nd verification of the project activity. By assessing the validation report of the project activity, the verification team identified that there were 2 FARs raised by Gold Standard during the validation. One of the FARs was closed during the 1st verification and the other FAR was carried forward as a FAR to the 2nd verification. Therefore, there are no pending issues from validation phase.

Two FARs were raised during the 1st verification (one was carried forward from the validation and the other is new FAR) as mentioned below. Additionally, one FAR was raised by GS team during the issuance review period of the first verification. The PPs had already provided their response to the FARs in the initial MR submitted to the verification team. Therefore, CARs were not raised related to these FARs during the verification.

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Table 4-1: Assessment of FARs raised during the 1st verification and issuance

FARs from the 1 st verification	GLC's Assessment
<p><u>FAR-1 raised by the DOE</u></p> <p>During the site visit, project personnel were interviewed about the bird death and the personnel confirm no bird death was observed on the project site during the monitoring period. The village head was interviewed about the bird migration and local birds and he confirmed that he has not observed any bird deaths. It was verified through the records and interviews with the village head that project is not located on bird migration route.</p> <p>On the conservative side, the effect of the project on bird migration and local birds should continue monitoring. Please continue monitoring the effect of the project on local birds.</p>	<p>During the verification site visit, the project's operating team and the Uvecik village head were interviewed about the bird deaths during the monitoring period. They confirmed that they had not observed any bird deaths.</p> <p>Furthermore, the impact of the Project on bird migration during the monitoring period has been assessed with an expert study. The report has been provided to the verification team^{14/}. From the report, it is understood that the Project has no significant impact on bird migration. The site is not located in a sensitive area and the path of the bird migration route is away from the site location. The study suggests that the tip of the wind turbine blades to be painted with bright colours to raise attention to birds.</p> <p>From the onsite visit, it is confirmed that the tip of the turbines blades have been painted with red colour. Therefore, this FAR can be closed.</p>
<p><u>FAR-2 raised by the DOE</u></p> <p>According to news published on internet on 2010-07-27, wind energy plants including Alize Enerji Camseki Wind Farm are under consideration by the Turkish General Staff and the effects of wind turbines to the radar signal has being researched.</p> <p>During the first verification period, the research has not finished. Please, check the results at the second verification period.</p>	<p>The verification team confirms though GLC's local expert that the research on the impact of wind turbines on military radars is still ongoing. It was understood from the interviews with the PPs that if there would be any impact on radar system, all the wind turbines in the host country might be stopped.</p> <p>Therefore, the outcome of the research shall be verified during the 3rd verification. Please refer to FAR 1 in Annex-A.</p>
<p><u>FAR 1 raised by GS during the 1st issuance</u></p> <p>In light of the availability of new information through credible external third parties that indicates that the project site borders an 'Important Nature Site' (Site 305) and that it is also on a bird migration route that is active during the migration of birds from/ to the Bosphorus, a detailed investigation/ study by an independent third party should</p>	<p>The impact of the Project on bird migration during the monitoring period has been assessed with an expert study. The report has been provided to the verification team^{14/}. From the report, it is understood that the Project has no significant impact on bird migration. The site is not located in a sensitive area and the path of the bird migration route is away from the site location. The study suggests that the tip of the wind turbine blades to</p>

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be prepared before the next request for issuance. Such study should discuss what mitigation measures, if any, are needed to ensure that the project activity has no negative impacts on local birds' feeding, breeding or roosting activities due to its proximity to an 'Important Nature Site'. The study should also discuss whether the project site is in fact on a bird migration route or not and if it is, what mitigation measures will be undertaken during the migration season to ensure there is no negative impact on migrating bird.

be painted with bright colours to raise attention to birds.

From the onsite visit, it is confirmed that the tip of the turbines blades have been painted with red colour. Therefore, this FAR can be closed.

The main changes between the first version of the monitoring report made available (version 1.0, dated 2011-11-11) and the final monitoring report (version 1.3, dated 2012-01-10) are summarized below:

- Content page has been added to the revised MR
- Changes in the monitoring period dates – the monitoring period has been extended by one month i.e. the end date of the monitoring period has been changed from 2011-09-30 to 2011-10-31
- The emission reductions have been revised in section A.1 and section E of the MR corresponding to the extension of monitoring period
- Section B.2 has been revised in response to a CL by removing non related information and moving the description of previous FARs to a separate Appendix
- Net electricity fed to the grid has been updated in section D.2 of the MR
- SO₂ and NO_x emissions have been revised in Appendix II under ID 3
- Electricity generation data in Annex II has been updated

5 VERIFICATION REPORTING

5.1 Project implementation in accordance with the registered PDD

The project activity consists of installation and operation of 11 wind turbines with a total installed capacity of 20.8 MW ^{/16/}. The turbines comprise of 10 units of Enercon E-82 with a capacity of 2 MW each and 1 unit of Enercon E-48 model with a capacity of 800 kW. The project site is located near Üvecik Village, Çamseki Town in Ezine District in Çanakkale Province of Turkey.

The project implementation and the technical specifications ^{/22/} of the project are inline with the description in the PDD. The project was already synchronised with the grid before the first verification and was in operation since 2009-07-01 which was the starting date of the 1st verification period ^{/7/}. During the verification an on-site visit was carried out. Through onsite verification it is confirmed that the project is being operated as described in the registered PDD and there are no significant downtimes of equipment during the monitoring period.

Based on the on-site visit and the reviewed project documentation, the verification team confirms that the realized technology, the project equipment, as well as the monitoring and metering equipment have been implemented and operated as described in the registered PDD.

The generated electricity being from a renewable energy source, the project activity displaces equivalent amount of electricity from the grid that would have been fed by the fossil fuel based power plants. Therefore, it results into GHG emission reductions and the achieved emission reductions during the 2nd verification period are 51,924 tCO₂e.

5.2 Compliance of the monitoring plan with the monitoring methodology

As per the applied monitoring methodology, Electricity supplied by the project activity to the grid has to be monitored and Combined Margin CO₂ emission factor for grid has to be calculated using the latest version of the “Tool to calculate the emission factor for an electricity system”.

During the document review and furthermore during the on-site visit the verification team has reviewed the registered monitoring plan and compared it with the monitoring methodology to verify their compliance. The emission factor of the grid was calculated as an ex-ante and presented in the PDD. The annual net electricity fed to the grid is a monitoring parameter according to the monitoring plan. Therefore, the verification team confirms that the monitoring plan of the registered PDD is in compliance with the monitoring methodology.

5.3 Compliance of the monitoring with the monitoring plan

The application of the monitoring plan for the verification period is summarized in this section.

The monitoring plan requires the monitoring of annual net electricity fed to the grid by the project activity. Monitoring related information of the parameter is presented in the below table.

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		Assessment		
Data / Parameter: (as per monitoring plan (PDD)):	EG _y	(Annual net electricity amount fed to the grid by the project activity, MWh)		
Measuring frequency:	Continuously	Electricity exported to the grid and Electricity imported from the grid are monitored on a continuous basis using online energy meter. The net electricity exported to the grid is derived from the difference of the two.		
Reporting frequency:	Monthly	<p>There are two measuring devices continuously measuring and recording electricity generation and consumption of the project activity. The primary measurement device (or main meter) is used for invoicing, and the secondary measurement device (or back-up meter) is used for quality control i.e. for crosschecking the readings.</p> <p>Plant's technicians record the data in log sheets on hourly basis from main meter and back-up meter readings are recorded once in a day (at midnight, 00:00 hours) for comparison purpose.</p> <p>TEIAS representatives visit the site every month (on the first day of the month) and record the values of exported and imported electricity until 24:00 on the last day of the previous month in presence of the plant's operating team. Based on that a report is prepared by TEIAS at onsite and signed by both the representatives of TEIAS and the project owner after crosschecking with log sheet values.</p>		
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency are inline with the monitoring plan.			
Type of monitoring equipment:	Type of meter	Main meter	Back-up meter	
	Serial No.	95834743	95834742	
	Accuracy	0.2 s /20/	0.2 s /20/	

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	Model	ZMD402CT	ZMD402CT
	Make	Landis+Gyr Ltd.	Landis+Gyr Ltd.
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, does the monitoring equipment represent good monitoring practise?	The PDD does not specify the accuracy. However, the accuracy of the measuring devices is inline with the national regulations of Turkey ("Communiqué for Measurement Devices used in the Electricity Market", Article 11) ^{/18/}		
Calibration frequency /interval:	<p>The measuring devices (both main meter and back up meter) were calibrated on 2009-06-25 which was the initial calibration and they were again calibrated on 2010-07-02 ^{/15/} which is the latest calibration.</p> <p>According to the Article 9 of the "Measurement and Measuring Tools Inspection Regulation", Date: 24/07/1994, Official Gazette Number: 22000, the recommended calibration frequency is 10 years ^{/17/}. Moreover, the metering devices are under the control of grid operator (i.e. TEIAS). Maintenance and calibration of the devices is carried out by TEIAS.</p>		
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, does the selected frequency represent good monitoring practise?	The monitoring plan of the PDD does not specify the calibration frequency. As mentioned above, the calibration frequency is inline with the national regulations.		
Company performing the calibration:	The calibration was carried out by the device manufacturer, Landis+Gyr Ltd. ^{/15/} .		
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Based on the calibration certificate and the readings of both main meter and back-up meter, it is confirmed that measuring devices are functioning properly.		
Is (are) calibration(s) valid for the whole reporting period?	Yes, the calibration is valid for the whole verification period.		
If applicable, has the reported data been cross-checked with other available data?	Yes, the reported data was based on the PMUM monthly reports. The data was crosschecked by the verification team during the onsite verification with the online reports of PMUM ^{/10/} and the monthly reports of TEIAS ^{/11/} . Plant team's log sheets were also checked on sample basis during the site visit. The data was		

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	found to be correct.
How were the values in the monitoring report verified?	The values in the MR were verified with the PMUM reports ^{/10/} . The reported values were found to be correct.
Does the data management (from monitoring equipment to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	<p>Yes, the data management ensures correct transfer of data and reporting of emission reductions and necessary QA/QC procedures are in place. The electricity export and import values are recorded by TEIAS representatives. As mentioned above, reports of monthly export and monthly import are generated. The monthly measurement device readings are transferred and stored in the web server of PMUM (the financial settlement agency of TEIAS). The PMUM reports ^{/10/} are accessible to project owner through a unique user ID and password.</p> <p>It was learnt from the onsite interviews that the TEIAS installed an additional device connecting to the main meter in the meter panel which facilitates monitoring of data remotely. TEIAS started monitoring electricity export and import remotely since September 2011.</p> <p>In order to crosscheck, the plant's team also records the data on a daily basis both from main meter and backup meter. Daily readings of electricity export and import values are also recorded by the plant's team. Daily reports of electricity export and import prepared by the plant's operating team are sent to the project owner's head office in Istanbul.</p> <p>Both the meters possess good level of accuracy.</p>

In addition to the above parameter, the following parameters are monitored inline with the GS Sustainable Development monitoring plan.

Sustainable Development Indicator: ID 2	Local Employment (Quality and Quantity of local employment)
Chosen Parameter:	<p>1. <u>Quality</u>:</p> <ul style="list-style-type: none"> • Relevant health and safety precautions • Health and safety training given to personnel <p>2. <u>Quantity</u>: Number of local people permanently</p>

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	employed by the Project.
Monitoring approach as per the monitoring plan:	<p><u>Quality:</u> Application of all necessary health and safety regulations</p> <p><u>Quantity:</u> Number of new jobs which the Project Activity has created in the region</p>
Monitoring procedure followed as per the monitoring report:	<p><u>Quality:</u></p> <p>All safety equipment is available and used by personnel. No work accident has happened during the monitoring period.</p> <p><u>Quantity:</u></p> <ul style="list-style-type: none"> • No. of full-time employees: 8 • No. of part-time employees: 5 <p>The Project employs 13 people in total, all of them being local. HV technicians and security guards (8 out of the 13 employees) are responsible for the Project only. The remaining 5 employees (Responsible Engineer and technicians) are also involved in two other closely located wind farms belonging to the same Project owner (Alize Elektrik). Therefore these 5 employees have been considered as part-time.</p>
How was the information in the monitoring report verified?	<p><u>Quality:</u></p> <p>GLC's assessment team interviewed the Responsible engineer from Enercon and the technicians involved in the maintenance and operation during the site visit. It is confirmed from the onsite interviews that no accident took place during the monitoring period and the required safety equipment are made available to the technicians. All the safety and personal protective equipments were shown to the verification team.</p> <p>Furthermore, health and safety training was also provided to the technicians ^{27/}.</p> <p><u>Quantity:</u></p> <p>From the onsite interview with the Responsible engineer, it is confirmed that the information presented in the MR is correct. Total of 13 employees are working for the project activity; five of them (responsible engineer and service technicians of Enercon) are also</p>

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	<p>responsible for other two sites. Therefore, four electrical technicians and four security guards employed by Alize Enerji are treated as permanent employees.</p> <p>Further, the information was also crosschecked with social security documents^{/24/} and residence certificates of the employees ^{/25/}.</p> <p>Therefore, it can be concluded that the project activity has contributed positively for the sustainable development.</p>
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Sustainable Development Indicator: ID 3	Air Quality (Number)
Chosen Parameter:	<p>1. SO₂ reductions</p> <p>2. NO_x reductions</p>
Monitoring approach as per the monitoring plan:	The reductions of SO ₂ and NO _x emissions will be calculated by multiplying net electricity generation of the Project activity with the SO ₂ and NO _x intensities.
Monitoring procedure followed as per the monitoring report:	The reductions of SO ₂ and NO _x emissions were calculated by multiplying net electricity export by the Project activity with the SO ₂ and NO _x intensities.
How was the information in the monitoring report verified?	<p>The SO₂ and NO_x emission intensities presented in the PDD refer to the 2007 data. The emission intensities were revised during the 1st verification ^{/7/} based on 2008 data.</p> <p>SO₂ emission intensity: 5.31 kg/MWh ^{/7/29/30}</p> <p>NO_x emission intensity: 1.65 kg/MWh ^{/7/29/30}</p> <p>The SO₂ and NO_x emission reductions during the verification period have been calculated as product of net electricity export during the verification period and the emission intensity. The calculation has been transparently provided in the MR and ER sheet.</p> <p>Therefore, it can be concluded that the project activity has contributed positively for the sustainable development.</p>

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Thus GLC confirms that

- the monitoring complies with the monitoring plan of the registered PDD.
- all parameters (that are related to emission reduction and sustainable development) are monitored as described in the registered monitoring plan.
- the frequency of monitoring, the accuracy of measuring equipments and the calibration frequency are in line with the registered monitoring plan.

During the on-site visit GLC was able to verify that the monitoring equipment is implemented as described in the validated registered PDD. Based on the document review and on-site visit interviews, GLC verifies that the registered monitoring plan is implemented as planned and confirms that the operational and management system is implemented as per the registered monitoring plan.

5.4 Assessment of data and calculation of GHG Emission Reductions

The document review and the site visit revealed that a complete set of data for the specified monitoring period is available. The correctness of information provided in the monitoring report has been verified by crosschecks with the PMUM online reports ^{/10/}. Monthly reports of TEIAS ^{/11/}, electricity invoices and log sheet readings recorded by the plant's team were also used to crosscheck during the onsite verification. As the data is recorded by the grid operator (TEIAS) and the reports are generated in presence of the plant's team, the data is more authentic and accurate. Furthermore, the monthly reports of TEIAS are signed after crosschecking with the plant team's log sheet values.

Electricity export to the grid and electricity import from the grid is recorded by online energy meters. For the calculation of baseline emissions, the net electricity export to the grid (i.e. the difference of exported electricity and imported electricity) is considered which is appropriate and is inline with the approach described in the PDD. The project emissions and the leakage emissions are considered to be zero as suggested by the applied baseline methodology. It is also confirmed from the onsite verification that there are no other emission sources to be accounted.

Therefore, the emission reductions achieved by the project activity are equal to the baseline emissions during the verification period. The baseline emissions are calculated as the product of the net electricity exported to the grid and the grid emission factor. The emission factor was estimated as ex-ante. It is therefore confirmed that the emission reduction calculation approach is inline with the description provided in the registered PDD and the values of emission reduction achieved during the 2nd verification period are correct.

The achieved emission reductions during the 2nd verification period (2010-09-01 – 2011-10-31) are as follows:

Achieved emission reductions as per MR	51,924 tCO ₂ e
Estimated annual emission reductions as per PDD	51,955 tCO ₂ e
% Deviation (+/-)	- 14.3 % *

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** The emission reductions in the MR correspond to the achieved emission reductions for 14 months. Therefore, the deviation is calculated based on the equivalent annual emission reductions.*

From the above table it is clear that the achieved emission reductions during the 2nd verification period are 14.3% less compared to the estimated value. The reason as understood from the onsite discussions is that the project underperformed due to poor wind conditions during the monitoring period.

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6 VERIFICATION STATEMENT

Germanischer Lloyd Certification GmbH (GLC) has performed the 2nd verification of the project: "Alize Çamseki 20.8 MW Wind Farm Project, Turkey", with regard to the relevant requirements for GS project activities. The project reduces GHG emissions from generating renewable electricity through wind turbines and feeding it to the national electricity grid of Turkey. The project consists of 11 wind turbines with a total installed capacity of 20.8 MW^{/16/}. This verification covers the period from 2010-09-01 to 2011-10-31 (including both days).

It is GLC's responsibility to express an independent verification statement on the reported GHG emission reductions from the project. GLC does not express any opinion on the selected baseline scenario or on the validated and registered PDD. GLC conducted the verification on the basis of the monitoring methodology "Consolidated baseline methodology for grid-connected electricity generation from renewable sources", (version 07) ^{/4/}, the monitoring plan included in the PDD ^{/5/} of the project and the monitoring report of dated 2012-01-10 (version 1.3) ^{/8/}. The verification included:

- i) checking whether the project is implemented as planned and described in the registered project design document;
- ii) checking whether the provisions of the monitoring methodology and the monitoring plan in the PDD were consistently and appropriately applied;
- iii) the collection of evidence supporting the reported data;
- iv) checking whether the installed equipment essential for measuring parameters required for calculating emission reductions are calibrated appropriately;
- v) Assessment of all the sustainability monitoring parameters as per the registered PDD ^{/5/}.

GLC's verification approach draws on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. GLC planned and performed the verification by obtaining evidence and other information and explanations that GLC considers necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In GLC's opinion, the GHG emission reductions for the "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" as reported in the final Monitoring Report are calculated in a conservative and appropriate manner. The GHG emission reductions were correctly calculated on the basis of the approved monitoring methodology mentioned above and the monitoring plan contained in the gold standard registered Project Design Document of the project.

Germanischer Lloyd Certification GmbH herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Emission reductions in 2010:	14,971	t CO ₂ e
Emission reductions in 2011:	36,953	t CO ₂ e
Total Emission reductions:	51,924	t CO ₂ e

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<Mumbai>, 2012-01-12

<Srikanth Meesa>

Verification Team Leader

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7 REFERENCES

Reference	Author: Title, version, date of issue
/1/	CDM-EB: Clean Development Mechanism Validation and Verification Manual (Version 01.2; EB 55 Annex 1)
/2/	Gold Standard: The Gold Standard Validation & Verification Manual for Voluntary Offset Projects (December 2006)
/3/	Gold Standard: The Gold Standard VERs Manual for Project Developers (version 05; May 2006)
/4/	CDM-EB: Approved consolidated baseline and monitoring methodology ACM0002, version 07: "Consolidated baseline methodology for grid-connected electricity generation from renewable sources"
/5/	Alize Enerji Elektrik Üretim A.ğ.: Project Design Document for GS project: "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" (Version 3.1, dated 2010-05-31)
/6/	TUV Rheinland: Validation Report for GS project: "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" (Report no. 2008-9217 , dated 2010-06-29) https://gs1.apx.com/mymodule/ProjectDoc/EditProjectDoc.asp?id1=399
/7/	Bureau Veritas Certification: Verification report of the first verification of the GS project activity: "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" (Report no. TURKEY/CER.986.10.C45/2010)
/8/	Alize Enerji Elektrik Üretim A.ğ.: Draft Monitoring Report of the 2 nd monitoring period for "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" (Version 1.0, dated 2011-11-11) Alize Enerji Elektrik Üretim A.ğ.: Final Monitoring Report of the 2 nd monitoring period for "Alize Çamseki 20.8 MW Wind Farm Project, Turkey" (Version 1.3, dated 2012-01-

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	10)
/9/	Alize Enerji Elektrik Üretim A.ğ.: Draft emission reduction calculation spreadsheet for the 2 nd monitoring period (File name: “ ER-Calculations-Uvecik-MR02-20111017.xls ”) Alize Enerji Elektrik Üretim A.ğ.: Final emission reduction calculation spreadsheet for the 2 nd monitoring period (File name: “ ER-Calculations-Uvecik-MR02-20111205.xls ”)
/10/	PMUM: Online reports of electricity import and electricity export of the project activity for the period from 2010-09-01 to 2011-10-31
/11/	TEIAS: Monthly reports of electricity export and import for the months from September 2010 to October 2011
/12/	EKO Laboratory for Environmental Analysis and Health Services Limited Company: Noise Measurement Report, dated 2009-06-12
/13/	Ministry of Energy and Natural Resources – General Staff – EMRA - The Scientific and Technological Research Council of Turkey: Protocol on generation of getting permission processes for Wind energy power plants, on their interactions to telecommunication, navigation/traffic, and radar systems, dated 2010-12-27.
/14/	Research Assistant, Bekir Demiroz: Bird immigration routes report, September 2011.
/15/	<u>Calibration reports of electricity meters</u> TEIAS: Measurement device first installation protocol dated 2009-06-25. Landis+Gyr Ltd: Test Certificate for High-Precision Combimeter (Sl. no. 95834743), dated 2010-07-02 Landis+Gyr Ltd: Test Certificate for High-Precision Combimeter (Sl. no. 95834742), dated 2010-07-02
/16/	Energy Market Regulatory Authority (EMRA): Generation Licence dated 2007-04-18.
/17/	Ministry of Industry and Trade: Measurement and Measuring Tools Inspection

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	Regulation, Official Gazette Date: 1994-07-24, Official Gazette Number: 22000.
/18/	EMRA: Communiqué Regarding the Meters to be used in the Electricity Market, dated 2011-04-22 (http://www.epdk.gov.tr/web/elektrik-piyasasi-dairesi/44)
/19/	Demirer Enerji and Alize Enerji: Alize - Demirer Service Contract, 2010-10-11
/20/	Landis+Gyr Ltd : Technical data of electricity meter (ZMD402CT,ZFD402CT model)
/21/	ENERCON: Technical specifications of wind turbines (E-82 model and E-48 model) http://www.enercon.de/en-en/492.htm
/22/	Alize Enerji: Electrical single line diagram of the project, 2009-01-30
/23/	ENERCON: Task descriptions of service technician, high-voltage power operator and responsible engineer, dated 2007-11-28
/24/	Ministry of Labour and Social Security: Social Security (SGK) documents of employees
/25/	Canakkale Governorship - Civil Registry: Residence certificates of employees
/26/	ENERCON: Alize Camseki organization structure
/27/	<u>Training related documents</u> ENERCON: List of trainings conducted <ul style="list-style-type: none">• Occupational Health and Safety training; from 2011-07-06 to 2011-08-16• Fire safety training, 2011-02-07• Technical training on High-Voltage for electrical technicians ENERCON: Training certificates of technicians

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	<p>Demirer Enerji: Training certificates and participants list in training.</p> <p>TEIAS: High Voltage Card for Mr. Engin Topçu, Mr. İbrahim Karaman, Mr. Serkan Yaşar and Mr. Fatih Dilmaç (An approval to work on High Voltage lines obtained after training from grid operator) (Card nos. 2799, 6159, 6519 and 6404)</p>
/28/	Ministry of Labour and Social Security: Occupational Health and Safety Regulation, Official Gazette: 2003-09-12, Issue: 25311
/29/	TURKiYE ELEKTRİK ENERJİSİ ÜRETİM (TEIAS): Annual Development of Electricity Generation – Consumption and Losses in Turkey (1984 – 2008)
/30/	National GHG inventory of Turkey (1990-2008): Workbook TUR-2010-2008-v1.2, Worksheet: Table1s1 http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/tur-2010-crf-15april.zip
/31/	UNFCCC: Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998)
/32/	UNFCCC: Decision 3/CMP. 1 (Marrakesh – Accords)
/33/	Germanischer Lloyd Certification GmbH CDM GHG Services Manual (incl. procedures and forms)

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Persons interviewed:

List of persons interviewed as part of the verification, or persons contributed with other information that are not included in the documents listed above are listed in Section 3.3

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ANNEX A: VERIFICATION QUESTIONNAIRE AND RESOLUTION OF CORRECTIVE ACTION AND CLARIFICATION REQUESTS

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Table 1: Verification Questionnaire

QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
1. PROJECT REALISATION AS REGISTERED				
1.1 How many sites the project consists of (please indicate all locations)?	VVM 189	The project consists of only one site. The project is located in the vicinity of Uvecik Village, Ezine District in Canakkale Province, Turkey. The project activity consists of 11 wind turbines and the coordinates of the project location are approximately 39° 53" N, 26° 13" E.	OK	OK
1.2 Does the crediting period of the project correspond to that described in the registered PDD and registered at the validation stage? If there is a deviation is then the data collection coordinated with the changes?		The chosen crediting period as per the validated and registered PDD is renewable crediting period and the length of the first crediting period is 7 years. As per the Registered PDD, the starting date of the first crediting period is from 2009-06-24. However, from the verification report of the first verification, it is learnt that the starting date of the first crediting period was considered as 2009-07-01 after a closing a CL raised by the DOE during the first verification. GLC has been contracted for carrying out the 2 nd verification of the project for the period from 2010-09-01 to 2011-10-31. The monitoring period falls within the first crediting period.	OK	OK
1.3 State the starting date of operation of each site and provide a brief description of the implementation status.	VVM 198	The project consists of only one site as mentioned above and the operation of the project started in June 2009. As the electricity fed to the grid during June 2009 was not invoiced, the starting date of the first crediting period was considered as 2009-07-01.	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
		The project activity consists of installation and operation of 11 wind turbines amounting to the total installed capacity of 20.8 MW. The generated electricity is fed to the grid.		
1.4 Are all physical features of the CDM project activity in accordance with the registered PDD in place (please specify and provide a description)?	VVM 196/ 198	Yes, all the physical features and the technical specifications of the turbines are in accordance with the registered PDD. As mentioned above, the project activity consists of installation of 11 turbines with a total capacity of 20.8 MW. This is confirmed from the generation licence as well as from onsite inspection.	OK	OK
1.5 Is the CDM project activity operated as per the registered PDD? Are there any deviation? Please provide a brief description.	VVM 196	Yes, the project activity is operated as per the registered PDD. All the 11 turbines have been installed and found to be in operation. There is no deviation of the project activity from the registered PDD.	OK	OK
1.6 Are the project boundaries still in accordance with the registered PDD?		Yes, from the site visit and the document review, the verification team confirms that the project boundaries are in accordance with the registered PDD.	OK	OK
1.7 Are there any information (data and variables) provided in the current monitoring report different from the	VVM 198	No, there is no information provided in the MR that differs from the registered PDD.	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
registered PDD?				
1.8 Will the different data and variables result in an increased estimation of emission reduction for the current monitoring period or in future periods?	VVM 198	NA	NA	NA
1.9 Are there any open issues from the validation? Were any FARs raised during the validation and were they addressed (please specify the FAR and the resulting action)?		There are no pending or open issues from the validation to be addressed during the 2 nd verification.	OK	OK
1.10 Are there any open issues from 1st periodic/ previous verification? Were any FARs raised during previous verification and were they addressed (please specify the FAR and the resulting action)?		There are two FARs raised by the DOE during the 1 st verification and one FAR raised by the GS team during the issuance of 1 st verification. The assessment of the FARs is provided in section 4. Two of the FARs are closed during the verification and the other is raised as a FAR. FAR 1 in Table 2 may please be referred.	FAR 1	
2. COMPLIANCE OF THE MONITORING PLAN WITH THE MONITORING METHODOLOGY				
2.1 Is the monitoring plan of the CDM project activity in compliance with the applied methodology (e.g. parameters, data determination approach, recording frequency, etc.)? Please provide a brief description	VVM 199	Yes, the monitoring plan of the project activity is in compliance with the applied methodology. As per the methodology, the electricity supplied by the project activity to the grid has to be monitored. From the onsite verification and document review, the verification team confirms that the electricity supplied by the project activity	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
		to the grid is measured on a continuous basis.		
2.2 Are there any changes in the registered monitoring plan? If yes, please provide revisions or deviations to the monitoring plan approved by the EB?		There are no changes in the registered monitoring plan. Therefore, it does not require either revision or deviation of the monitoring plan.	OK	OK
2.3 Are the procedures as required by the methodology in place? Check whether they are implemented or not.		Yes, all the monitoring procedures as required by the methodology are in place.	OK	OK
3. COMPLIANCE OF MONITORING WITH THE MONITORING PLAN				
3.1 Please list each parameter that shall be monitored according to the monitoring plan (project-, baseline- and leakage parameters).	VVM 206	<p>There is only one parameter (related to emission reduction) to be monitored as per the registered monitoring plan.</p> <ul style="list-style-type: none"> Net electricity fed to the grid by the project activity <p>As per GS sustainability monitoring plan, two additional parameters have to be monitored.</p> <ul style="list-style-type: none"> Local employment (quality and quantity) Air quality (SO₂ and NO_x emission reduction) <p>Corrective action has been requested to address the inconsistencies in the names of the parameters between MR and the monitoring plan.</p>	CAR 2	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
3.2 Were all parameters monitored in accordance with the latest version of the monitoring plan (determination method such as calculation, measurement, estimation, monitoring interval and frequency, units, etc.)?	VVM 205	Yes, from the document review and onsite interviews the verification confirms that all the parameters were monitored according to the registered monitoring plan.	OK	OK
3.3 Please indicate for each parameter how the values in the monitoring reports have been verified.		<p><u>EG_v (Net electricity fed to the grid by the project)</u></p> <p>The parameter is measured on a continuous basis using energy meters. There are two meters; one is main meter and the other is back up meter. These meters are under the purview of grid operator, TEIAS. The parameters (energy exported to the grid and energy imported from the grid) for the previous month are recorded by the TEIAS personnel at the beginning of every month and the reports are generated. The reports are signed by representatives of both TEIAS and the project owner. These reports are stored by the project owner. The data is also captured online by PMUM, the financial settlement centre of TEIAS and stored in their website. The PMUM online reports contain daily values of electricity export, electricity import and net electricity export. The PMUM reports are used as basis for emission reduction calculation.</p>	CAR 4	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
		<p>during the first verification. Therefore, the amount of SO₂ and NO_x emission reductions achieved during the 2nd monitoring period has been verified from the respective supporting documents of the emission intensity and the net electricity exported to the grid.</p>		
<p>3.4 Were all measurement and monitoring equipment, as described in the latest version of the monitoring plan, installed and operated accordingly (e.g. correct location, etc.)? Please provide the identification number of all monitoring equipment.</p>		<p>Yes, the meters were installed as described in the registered monitoring plan. Two meters were installed (main meter and back up meter) at high voltage side and the meters are located at switchgear station. The meters record the energy exported to the grid and the energy imported from the grid. This is confirmed from onsite inspection and single line diagram electrical network.</p> <p>Serial number of main meter: 95834743</p> <p>Serial number of back-up meter: 95834742</p>	OK	OK
<p>3.5 Is the monitoring equipment controlled and calibrated according to the latest version of the monitoring plan and applicable standards? Please review all applicable calibration and maintenance standards for the metering equipment and confirm that the calibration and maintenance was conducted</p>	VVM 205	<p>According to the Article 9 of the "Measurement and Measuring Tools Inspection Regulation", the recommended calibration frequency for electrical meters is 10 years. Both the meters (main meter and back-up meter) were calibrated initially on 2009-06-25 and again on 2010-09-04. It shows that the calibration frequency is well within the required frequency. Therefore, the calibration frequency is inline with the requirement. Furthermore, the project owner has no control to access</p>	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
accordingly.		or perform maintenance on energy meters. As the meters are under the purview of TEIAS, the calibration would be carried out by TEIAS.		
3.6 Please list contractors/agency (ies) and contact details for monitoring equipment and/or for the calibration.		Please refer to 3.5 above	OK	OK
3.7 Are monitoring results consistently recorded as per approved frequency (please indicate the frequency and confirm the correct recording)?	VVM 205	<p>The parameter is measured on a continuous basis using energy meters. The readings of energy export and import from the energy meter are recorded manually in operator log sheets. The cumulative readings are also recorded by the TEIAS representatives at the end of every month. Monthly reports are generated based on TEIAS readings. The reports are signed after crosschecking with the daily log sheet values and stored. Apart from this, the values of energy export and import are also monitored online and stored in PMUM website.</p> <p>The verification team is of the opinion that the monitoring procedures are sound and ensure quality of data.</p>	OK	OK
3.8 Were the quality assurance and quality control procedures applied in accordance with the monitoring plan (Please specify the procedures and	VVM 205	As described above, a reliable monitoring system is in place. The accuracy class of energy meters is 0.2s which is in accordance with the requirements of "Communiqué for Measurement Devices used in the Electricity Market",	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
confirm their adherence)?		Article 11.		
3.9 Were the monitoring plan and the applied methodology properly implemented and followed by the project participants?	VVM 205	Yes, the registered monitoring plan and the applied methodology were properly implemented and followed by the project participants. This is confirmed from document review and onsite inspection.	OK	OK
3.10 Is a request for deviation or a revision necessary? If so, please specify		No deviation or revision of monitoring plan is required.	OK	OK
4. ASSESSMENT OF DATA AND CALCULATION OF GREENHOUSE GAS EMISSION REDUCTIONS				
4.1 How is the emission data collected? e.g. continuous direct measurements, use of models, calculation from raw materials, etc.		The emission reductions are calculated based on the continuous measurement of net electricity exported to the grid.	OK	OK
4.2 Assess the accuracy / level of inaccuracy for each emission data collection approach		From the validated and registered PDD it is clear that the emission reductions are equal to baseline emissions as project emissions and leakage emissions are not associated with the project activity. The baseline emissions are calculated as the product of electricity exported to the grid and the grid emission factor. The grid emission factor was estimated as an ex-ante. Therefore, the only monitored parameter is electricity fed to the grid. It was observed from the document review and onsite verification that electricity exported to the grid	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
		<p>is considered on a conservative approach. In case of any shut down of the turbines, the electricity is from the grid. Therefore, in order to calculate the baseline emissions, net electricity exported to the grid is considered. The energy meters are located on high voltage side at main switchgear station and the meters record electricity exported to the grid and also the electricity imported from the grid. The net electricity exported is the difference of total exported electricity and imported electricity. The verification team is of the opinion that it is a very conservative approach.</p> <p>The meters possess a good accuracy class of 0.2s accuracy class and are inline with the requirements of “Communiqué for Measurement Devices used in the Electricity Market”. The readings are recorded by both the plant’s operating team and TEIAS personnel, cross checked and reports are generated and signed by both the project owner and TEIAS.</p> <p>Therefore, the verification confirms that the data collection approach high accuracy and emission reductions are calculated on a conservative approach.</p>		
4.3 Is any external data applied to determine the emission reduction (if so)		No external data is applied to determine the emission reductions.	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
please specify)?				
4.4 How is external data acquired and how is the reproducibility be ensured?		NA	NA	NA
4.5 Does external data underlie any quality assurance routines (if so please specify and assess the appropriateness)?		NA	NA	NA
4.6 Is a complete set of data for the specified monitoring period available?	VVM 208	Yes, complete set of data for the specified monitoring period is available.	OK	OK
4.7 Is a spreadsheet with GHG emission reduction calculation in a reproducible format provided (i.e. indicating the formulae applied and not only the final values) and indicating the sources for every single input.		Yes, the spreadsheet contains all the data, formula and values in an understandable format.	OK	OK
4.8 If only partial data are available please provide the reason.	VVM 208	NA	NA	NA
4.9 If only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, was a most conservative assumption		NA	NA	NA

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
theoretically possible applied? Please specify				
4.10 Does the system contain procedures which provide emergency concepts in case of unexpected problems with data access and/or data quality?		Yes, the emergency concepts are well described in the MR. The verification team from the site visit confirms that there are two meters; one is main meter and the other is back up meter. In case of any problem with the main meter, the back up meter readings can be used. The recorded data is stored by the project owner in hard format and the data is also available in the PMUM website. The project owner can access the online reports from PMUM website through a unique ID and password.	OK	OK
4.11 Please cross-check the information provided in the monitoring report with other sources such as plant log books, inventories, purchase records, laboratory analysis (please specify the sources and the results)	VVM 208	The information provided in the MR was crosschecked with the PMUM web records and also with TEIAS reports signed by both project owner and TEIAS.	OK	OK
4.12 Were the calculations of baseline emissions, project emissions and leakage, as appropriate, carried out in accordance with the formulae and methods described in the monitoring	VVM 208	The project activity does not lead to any project emissions and leakage emissions and, therefore, are not calculated as described in the registered PDD. The baseline emissions are calculated as per the formulae and methods described in the registered	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
plan and the applied methodology?		monitoring plan and applied monitoring methodology. The emission reductions are equal to baseline emissions.		
4.13 Are the assumptions used in emission calculations justified (please specify the assumption and the justification)?	VVM 208	The emission reductions were calculated in accordance with the applied methodology and the registered PDD. No additional assumptions are used in the calculation.	OK	OK
4.14 Were emission factors, IPCC default values and other reference values correctly applied and justified (please specify all values and factors and confirm the correct application)?	VVM 208	Only, grid emission factor which was determined as ex-ante during the validation is used in the emission reduction calculation.	OK	OK
5 MONITORING MANAGEMENT				
5.1 Are the responsibilities and authorities for monitoring and reporting clearly defined (from raw data generation to submission of the final data)? Please review the organisation and provide an organisation chart or a written description. In addition please list the names and contact details of responsible persons	VVM 181/205	<p>Yes, the responsibilities and authorities for monitoring were clearly defined and reported in the MR.</p> <p>The project owner has a contract with the service company of the turbine manufacturer i.e. Enercon Service Ltd. for the operation and maintenance of turbines. An exclusive team from Enercon lead by Responsible Engineer works for the project activity. The Managing Director of Demirer Enerji (Alize Enerji) is responsible for the information flow and monitoring procedures in the name of the Project owner. The responsible engineer is responsible for all monitoring</p>	OK	OK

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
		<p>issues onsite.</p> <p>The organisation chart was provided to the verification team and the verification team reviewed the organisation structure and interviewed the Responsible Engineer and the operating team of Elize Enerji and Enercon. The verification team confirms that the organisation structure presented in the MR is appropriate.</p>		
<p>5.2 Is the management structure in line with the monitoring plan? Are there any changes compared to the monitoring plan or to previous verifications?</p>		<p>The monitoring plan of the registered PDD does not contain the management structure. However, from the onsite verification the verification team confirms that the organisation structure and the monitoring practice are good and inline with the overall monitoring plan of the registered PDD.</p>	OK	OK
<p>5.3 Are there any written monitoring procedures and instructions? If so please review them and list the titles and revision status.</p>		<p>The monitoring procedure as understood from the onsite interviews is described below:</p> <p>The electricity generation and consumption by the project activity are monitored on a continuous basis through online energy meters. There are two meters; one of them is treated as main meter and the other is back-up meter. The parameters are recorded from the main meter panel hourly basis the by technicians into the daily log sheets. The daily reports are sent to the plant's head office in Istanbul. Back-up meter readings are also recorded once</p>	OK	OK

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		<p>a day at midnight and compared with the main meter readings.</p> <p>The parameters of electricity export and import are recorded on a monthly basis by TEIAS (grid operator) representatives. Reports are generated and signed after crosschecking with the plant reports. It was further understood that the grip operator (TEIAS) started monitoring the electricity export and import data remotely for the last 3 months (from the site visit). PMUM reports are prepared based on daily readings and stored in the website. The online reports are accessible for project owner.</p> <p>There is no documented procedure for monitoring. However, the plant's operating team has developed a template for monitoring parameters. Therefore, GLC's verification team is of the opinion that the monitoring procedure represents a good practice.</p>		
5.4 Has the personnel performing tasks with sensitivity for the monitoring of emission reductions access and knowledge of documented procedures and instructions?		Please refer to 5.3	OK	OK
5.5 Does the system describe the		Training records and certificates have been provided to	OK	OK

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requirements on qualification and the need of training programs for all persons working on the emission reduction project (performed training programs and certificates should be archived by the system)?		the verification team. The verification team confirms that required and sufficient training was provided to the technicians of both Enercon and Elize Enerji.		
5.6 Has the personnel performing tasks with sensitivity for the monitoring of emission reductions the appropriate competencies, capabilities and qualifications to ensure the required data quality?		Refer to 5.3 and 5.5 above	OK	OK
5.7 Please describe the calculation procedure and review whether the procedure is in-line with the monitoring plan. Check, whether formulas are according to the methodology, completeness of calculations, parameter consistency and traceability of the calculations.	VVM 181	<p>The calculation procedure and all the formulae were reviewed. It was found that all the formulae are in line with the applied methodology and the calculation procedure is as per the registered PDD.</p> <p>Energy export and energy import are monitored by online energy meters. The net electricity exported to the grid is calculated as the difference of the two. The emission reductions are calculated based on the net energy exported to the grid and the grid emission factor.</p>	OK	OK
5.8 Please describe the data transfer procedure. Is the procedure in-line with	VVM 181	As described above, TEIAS personnel visit the project site on the first day of every month. The reading involves obtaining the recorded values that were measured until	OK	OK

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<p>the monitoring plan?</p> <p><i>(Assess the information/ process diagram, describing the entire process from raw data to reported total is developed.</i></p> <p><i>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.)</i></p>		<p>24:00 of the last day of the preceding month. Based on this reading, a report is generated by TEIAS on site and then signed by both the representatives of TEIAS and Project owner. These reports are stored by the project owner. The monthly recorded values of electricity are also transferred and stored in the website of PMUM (the financial settlement agency of TEIAS). The PMUM web reports are also accessible to project owner.</p>		
<p>5.9 Please describe the data recording, archiving and protection system. Is the procedure in-line with the monitoring plan?</p> <p><i>(Data protection measures for databases/spreadsheets should be in place (access restrictions & editor rights).IT systems used for GHG monitoring and reporting should be tested and documented.)</i></p>		<p>Please refer to 5.3 and 5.8 above</p>	<p>OK</p>	<p>OK</p>
<p>5.10 Please describe the review procedure. Is the procedure in-line with the monitoring plan?</p>	<p>VVM 181</p>	<p>Refer to 5.3 and 5.8</p>	<p>OK</p>	<p>OK</p>

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QUESTION / VVM REQUIREMENT	Source	MEANS AND FINDING OF VALIDATION	Draft Concl.	Final Concl.
5.11 Please describe the internal audit procedure. Is the procedure in-line with the monitoring plan?	VVM 181	The monitoring plan does not describe about the internal audits. However, the monitoring procedures represent a good monitoring practice.	OK	OK
5.12 Please specify the frequency of emission reports. Is the procedure in-line with the monitoring plan?	VVM 181	Emission reductions are calculated based on monthly reports. The frequency is inline with the monitoring plan.	OK	OK
5.13 Does the monitoring management reflect good practice?		From the document review and onsite verification, GLC's verification team confirms that the monitoring management represents a good practice as described above.	OK	OK

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Table-2: Corrective Action Requests (CAR), Clarification Requests (CL) and Forward Action Requests (FAR)

Description of Finding (CAR, CL, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what required and why; address the context (e.g. section)</i>	Date <i>(yyyy-mm-dd)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	Date <i>(yyyy-mm-dd)</i>	GLC Assessment <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Date <i>(yyyy-mm-dd)</i>
CAR 1 The project participants (PPs) have used UNFCCC template for preparing monitoring report (MR). However, the content page of the MR is missing.	2011-12-01	Contents page is added.	2011-12-05	OK. The content page has been added to the revised MR. Therefore, the CAR is closed.	2011-12-12
CAR 2 The Data / Parameter name mentioned section D.2 of the MR is not inline with the Data / Parameter name provided in the monitoring plan of the registered PDD.	2011-12-01	D.2 parameter name is revised accordingly.	2011-12-05	Not OK. PPs to use the same representation for data/ parameter as used in section B.7.1 of the PDD	2011-12-12
CAR 2 continued...		The name of ID.1 in D.2 of MR is revised to EG _y according to section B.7.1 of PDD	2011-12-12	OK. The parameter name in section D.2 of the MR has been revised and is inline with the parameter name in the monitoring plan. Therefore, the CAR is closed.	2011-12-13

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Description of Finding (CAR, CL, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what required and why; address the context (e.g. section)</i>	Date <i>(yyyy-mm-dd)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	Date <i>(yyyy-mm-dd)</i>	GLC Assessment <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Date <i>(yyyy-mm-dd)</i>
CAR 3 The emission reduction has been calculated to be 46,956.66 tCO ₂ . It has been rounded off to the next higher number i.e. 46,957 tCO ₂ in the MR. It is required to round off the amount to the lower value by applying the conservative principle.	2011-12-01	The spreadsheet and the MR are revised accordingly.	2011-12-05	Not OK. The emission reductions in the revised monitoring report has been observed to be 51,924 tCO ₂ , which is different from the draft (webhosted) MR. It is understood from the revised MR and revised ER sheet that the monitoring period has been extended to 2011-10-31. The response from the PPs does not address these changes. Therefore, PPs are required to provide the reason for changes in the MR and ER sheet.	2011-12-12
CAR 3 continues...		The spreadsheet has been updated so that the emission reductions are rounded off to the next lower number for conservativeness. The first submitted Monitoring Report covered a period until 2011-09-30. The site visit has been organized in November 2011. Between both dates the Project has generated electrical	2011-12-12	OK. The site visit was conducted on 2011-11-23. It is understood that since the monitored data was generated till 2011-10-31 by the time of site visit, the monitoring period was extended. The revised MR and ER sheet reflect the monitoring data till 2011-10-31.	2011-12-13

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Description of Finding (CAR, CL, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what required and why; address the context (e.g. section)</i>	Date <i>(yyyy-mm-dd)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	Date <i>(yyyy-mm-dd)</i>	GLC Assessment <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Date <i>(yyyy-mm-dd)</i>
		<p>power in October 2011. The evidences (PMUM records) for the power generation in October have been acquired from the PMUM and the same is provided to the DOE. Therefore the emission reductions between 2011-09-30 and 2011-10-31 have been added to the revised Monitoring Period.</p> <p>This extension of monitoring period is reflected in the revised spreadsheet file and the Monitoring Report (both submitted to DOE).</p>		<p>The verification team crosschecked the provided information with TEIAS monthly report and PMUM online report. The data was found to be correct. Therefore, the CAR is closed.</p>	
<p>CAR 4</p> <p>The terminology used for monitored energy generation by the project activity is misleading. In practice, energy export to the grid, energy import from the grid and net energy export to the grid are monitored. The emission reductions are calculated based on the net energy exported to the</p>	<p>2011-12-01</p>	<p>The spreadsheet and MR are revised accordingly.</p>	<p>2011-12-05</p>	<p>OK. The terminology in the MR and ER sheet has been corrected from Gross energy generation, Self consumption and Net electricity generation to Energy export to the grid, Energy import from the grid and Net energy export to the grid respectively. Therefore, the CAR is closed.</p>	<p>2011-12-12</p>

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grid. However, in the MR and ER sheet it is termed as Gross energy generation, Self consumption and Net electricity generation respectively. For the sake of improved understanding, PPs are requested to correct the terminology.					
CL 1 Footnote no.1 & 2 are mentioned in page-3 and footnote no. 4 is mentioned in page-8 of the MR. However, footnote no.3 could not be found in the MR. Therefore, PPs are requested to clarify the same.	2011-12-01	MR is corrected.	2011-12-05	Not OK. The response is insufficient for assessment. Therefore, PPs are requested to provide transparent response.	2011-12-12
CL 1 Continued...		The previous error was due to the Word processor software which has now corrected the error automatically in the revised file. "Footnote 3" appears on page 10 in the revised Monitoring		OK. The revised MR contains all the footnotes. All the footnotes in the revised MR are found to be appropriate. Therefore, the CL is closed.	2011-12-13

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Description of Finding (CAR, CL, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what required and why; address the context (e.g. section)</i>	Date <i>(yyyy-mm-dd)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	Date <i>(yyyy-mm-dd)</i>	GLC Assessment <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Date <i>(yyyy-mm-dd)</i>
		<p>Report.</p> <p>The content of this missing footnote is added to the revised MR as "Footnote 14" (saying that some of the personnel are also responsible for the operation of another nearby wind farm of the same Project owner and are therefore treated as part-time personnel in the MR.)</p>			
<p>CL 2</p> <p>In section B.2 i.e. under 'Revision of the monitoring plan', PPs have provided a clarification related to change in PMUM reporting format. As the change took place in December 2009 and is not related to the revision of monitoring plan, the statement leads to confusion. Therefore, PPs are requested to clarify appropriateness of such clarification in the section.</p> <p>Furthermore, it is not appropriate to describe the previous FARs in</p>	<p>2011-12-01</p>	<p>Clarification part is deleted in the MR. FARs are moved to Appendix I.</p>	<p>2011-12-05</p>	<p>OK. The clarification in section B.2 under 'Revision of the monitoring plan' has been removed in the revised MR as it is not related to the revision of the monitoring plan.</p> <p>Further, the previous FARs have been enclosed in Appendix I of the MR. The revised improves the clarity. Therefore, the CL is closed.</p>	<p>2011-12-12</p>

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Description of Finding (CAR, CL, FAR) <i>Describe the finding in a transparent manner i.e. state clearly what required and why; address the context (e.g. section)</i>	Date <i>(yyyy-mm-dd)</i>	Project Participants Response <i>This section shall be filled by the PP. The finding shall be addressed with suitable arguments and evidence</i>	Date <i>(yyyy-mm-dd)</i>	GLC Assessment <i>The assessment shall include how the finding is closed i.e. how it is found that the response is assessed to be appropriate and meeting the specific requirement of the finding. In case the response is not satisfactory, additional response and DOE assessments (#2, #3, etc.) shall be sought.</i>	Date <i>(yyyy-mm-dd)</i>
the same section. Section B.2 is meant to state if there is any revision of monitoring plan during the monitoring period.					
CL 3 Page-7 of the MR contains N/A and the rest of the page is observed to be blank. Please clarify if it is intentionally left blank or provide if any text is missing.	2011-12-01	The MR is revised.	2011-12-05	OK. The revised MR is found to be appropriate and there is no blank page. Therefore, the CL is closed.	2011-12-12
CL 4 In section C of the MR, it is stated that the Managing Director of Demirer Enerji is responsible for the information flow and monitoring procedures in the name of the Project owner. It is further stated that the plant manager is responsible for monitoring issues on site and all responsible engineers report to	2011-12-01	The term plant manager, which was used interchangeably with the term Responsible Engineer, is corrected to Responsible Engineer in the MR for consistency and the sentence referring to operational manager is deleted.	2011-12-05	OK. It is understood that the Responsible Engineer is the Plant Manager and there is no separate plant manager or operational manager. The term 'Responsible Engineer' is consistently used in the revised MR. Therefore, the CL is closed.	2011-12-12

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<p>the Operational Manager.</p> <p>However, from the onsite interviews it is learnt that there is only one responsible engineer employed by Enercon and there is neither plant manager nor operational manager at site. Therefore, please clarify and justify the statements provided in the MR.</p>					
<p>CL 5</p> <p>In section C under the sub-title 'Data recording and aggregation', it is mentioned that the block diagram of the electricity circuit system is provided to the DOE separately. Provide the diagram indicating the metering points clearly on the diagram.</p>	2011-12-01	The document that was provided to the DOE is line diagram (not block diagram). The MR is revised accordingly.	2011-12-05	OK. The line diagram has been provided to the verification team. The MR has been corrected accordingly. Therefore, the CL is closed.	2011-12-12
<p>CL 6</p>	2011-12-01	The MR is corrected.	2011-12-05	Not OK. It is still observed in Table 12 of the revised MR. Please	2011-12-12

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<p>In SD Indicator ID.2 table of the MR, a phrase, “Error! Reference source not found” and in Table 12, “Error! Bookmark not defined” have been observed. Please clarify about the same.</p>				<p>clarify</p>	
<p>CL 6 continues...</p>		<p>Table 12 is revised such that this cross-reference error due to the Word processor software is corrected.</p>	<p>2011-12-12</p>	<p>OK. It has been corrected in the MR. Therefore, the CL is closed.</p>	<p>2011-12-13</p>
<p>CL 7</p> <p>In Table 12 of the MR, it is mentioned that four service technicians were employed by Enercon Service Ltd. and one of them is a local person. However, from the interview with the operating staff during the site visit, it was understood that all four are from a nearby city, Canakkali. Please clarify the numbers</p>	<p>2011-12-01</p>	<p>The MR is corrected.</p>	<p>2011-12-05</p>	<p>Not OK. The clarification provided is insufficient. PPs are requested to clarify how the technicians employed from the city (Canakkali) can be treated as local persons. Please justify how it is inline with the GS requirements of sustainability.</p>	<p>2011-12-12</p>

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provided in the table.					
CL 7 continues...		The Project owner prefers employing local people, as much as possible based on availability of people with sufficient skills, certificates and training. Based on this, the Project owner prioritizes people from the nearest villages (i.e. Uvecik village), then close-by towns (i.e. Ezine town), and then the closest province (i.e. Canakkale city). If there are no appropriate personnel matching the profile needed, the Project owner may employ people from other provinces. Canakkale is the closest city to the Project (40 km), and the Project lies within Canakkale province. Therefore these employees are regarded as local people.	2011-12-12	OK. It is understood that the skilled technicians are not available in the nearby village or town and therefore the service technicians are employed from near by city, Canakkale. As the project location is within the Canakkale province, the employees from Canakkale can be considered as local employees. Therefore, the CL is closed.	2011-12-13
FAR 1: With reference to FAR 2 from the 1 st verification, the verification team confirms though GLC's local expert that the research on the impact of wind	2011-12-01		2011-12-05	Not OK. The response is not yet to be provided in the respective cell.	2011-12-12

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turbines on military radars is still ongoing. It was understood from the interviews with the PPs that if there would be any impact on radar system, all the wind turbines in the host country might be stopped. This shall be verified during the 3 rd verification.					
FAR 1 continued		The research on the impact of wind turbines on military radars is still ongoing. This issue will be monitored again during the 3 rd verification period.	2011-12-12	It shall be verified by the DOE during the 3 rd verification.	2011-12-13