



VERIFICATION REPORT INNORES ELEKTRIK URETIM A.S.

VERIFICATION OF THE
GRID CONNECTED ELECTRICITY
GENERATION FROM RENEWABLE
SOURCES: YUNTDAG 57.5 MW WIND
POWER PROJECT, TURKEY

REPORT No. TURKEY-
VER/CER.TR.1372647.12.C45/2013

REVISION No.02

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Report No: TURKEY-VER/CER.TR.1372647.12.C45/2013 rev. 02

VERIFICATION REPORT



Date of first issue: 11/03/2013	Organizational unit: Bureau Veritas Certification Holding SAS
Client: Innores Elektrik Uretim A.S.	Client ref.: MR. Emre Samsun

Summary:

Bureau Veritas Certification has conducted the 5th periodic verification of the "Grid-connected electricity generation from renewable sources: Yunttag 57.5 MW Wind Power Project, Turkey", GS Registration Reference Number GS352, owned by Innores Elektrik Uretim A.S, which is located in Bergama/Izmir, Turkey and applying the methodology ACM0002 Version 06, on the basis of UNFCCC criteria for the GS-VER, Gold Standard Version 01 criteria as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the GS-VER rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

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

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and described in the approved revised project design documents. Installed equipments being essential for generating emission reduction run reliably and are calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reductions are calculated without material misstatements, and the emission reductions verified totalize 144,733 tons of CO₂e for the monitoring period.

Our opinion relates to the projects' GHG emissions and resulting GHG emission reductions reported and related to the valid and registered project baseline, approved monitoring plan and its associated documents.

Reporting period:	01/01/2012 to 31/12/2012
Baseline emissions:	144,733 t CO ₂ equivalents.
Project emissions:	0 t CO ₂ equivalents.
Leakage emissions:	0 t CO ₂ equivalents.
Emission Reductions:	144,733 t CO ₂ equivalents.

Report No.: TURKEY- VER/CER.1372647.12.C45/2013	Subject Group: GS-VER
Project title: Grid-connected electricity generation from renewable sources: Yunttag 57.5 MW Wind Power Project, Turkey	
Work carried out by: Mr. Mehmet Kumru - Team Leader Ms. Yesim Akpinar - Team Member (Trainee)	
Internal Technical Review carried out by: Ms. Burcu Mutman – Internal Technical Reviewer	
Date of this revision: 02/05/2013	Rev. No.: 02
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Indexing terms

Work approved by:

Mr Matthieu Martini

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Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
DRR	Daily Reading Record
ETN	Electricity Transaction Note
FAR	Forward Action Request
GHG	Green House Gas(es)
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
MRR	Monthly Reading Record
PDD	Project Design Document
PLF	Plant Load Factor
PP	Project Participant
PPA	Power Purchase Agreement
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard



Table of Contents	Page
1. INTRODUCTION	4
1.1. Objective	4
1.2. Scope	4
1.3. GHG Project Description	5
1.4. Verification Team	5
2. METHODOLOGY	6
2.1. Review of Documents	6
2.2. Follow-up Interviews	7
2.3. Resolution of Clarification, Corrective and Forward Action Requests	7
2.4. Internal Technical Review	8
3. VERIFICATION CONCLUSIONS.....	8
3.1. Remaining issues from validation or previous verification (213)	9
3.2. Compliance of the project implementation with the registered project design document (228)	9
3.3. Compliance of the monitoring plan with the monitoring methodology including applicable tool(s) (232)	10
3.4. Compliance of monitoring activities with the monitoring plan (235-236)	10
3.5. Compliance with the calibration frequency requirements for measuring instruments (243)	13
3.6. Assessment of data and calculation of emission reductions (246)	14
4. VERIFICATION OPINION.....	17
5. REFERENCES	18
6. CURRICULA VITAE OF THE DOE'S VERIFICATION TEAM MEMBERS	19
APPENDIX A: GS-VER PROJECT VERIFICATION PROTOCOL	20



1. INTRODUCTION

Innores Elektrik Uretim A.S. has commissioned Bureau Veritas Certification to verify the emissions reductions of its GS-VER project “Grid-connected electricity generation from renewable sources: Yuntdag 57.5 MW Wind Power Project, Turkey” (hereafter called “Yuntdag”) at Bergama, Izmir, Turkey..

This report summarizes the findings of the verification of the Project, performed on the basis of UNFCCC CDM Methodology and GS Version 1 criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1. Objective

The objective of GS-VER verification is to conduct a thorough, independent assessment of the registered project activities.

In carrying out its verification work, the DOE shall ensure that the project activity complies with the requirements of paragraph 62 of the CDM modalities and procedures. In particular, this assessment shall:

- (a) Ensure that the project activity has been implemented and operated as per the registered PDD or any approved revised PDD, and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- (b) Ensure that the monitoring report and other supporting documents provided are complete in accordance with latest applicable version of the completeness checklist for requests for issuance of VERs, verifiable, and in accordance with applicable GS-VER requirements;
- (c) Ensure that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan or any revised approved monitoring plan, and the approved methodology including applicable tool(s);
- (d) Evaluate the data recorded and stored as per the monitoring methodology including applicable tool(s).

1.2. Scope

The verification scope is defined as an independent and objective review and ex-post determination of the monitored GHG emission reductions. The verification is based on the validated and registered project design document, the monitoring report, emission reduction calculation spreadsheet, and supporting documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The verification is not meant to provide any consulting service towards the PPs. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.



1.3. GHG Project Description

The Project consists of 23 sets of wind turbines with a unit installed capacity of 2.5 MW, providing a total installed capacity of 57.5 MW. The annual expected electricity supplied to the Grid is 207,558 MWh and the annual estimated emission reductions are 147,076 tCO₂e.

Project title: Grid-connected electricity generation from renewable sources:
Yuntdag 57.5 MW Wind Power Project, Turkey

GS ref number: GS352

Registration Date: 31/07/2008

Crediting Period: 07/03/2008 to 06/03/2015 (renewable)

Monitoring Period: 01/01/2012 to 31/12/2012

Project Participants: Innores Elektrik Uretim A.S

Turkey (Host Country)

Methodologies used: ACM002 Version 06

Location of the Project: Bergama/Izmir, Turkey

[Post Registration Changes]

A request for approval of changes to the project design in the registered GS-VER project activity has been submitted prior to the submission of the request for issuance and approved by the Board on 13/07/2011. The project's installed capacity has been increased from 42.5 MW to 57.5 MW by addition of 6 turbines each having a capacity of 2.5 MW.

1.4. Verification Team

The assessment team and internal technical reviewer team consist of the following personnel:

FUNCTION	NAME	TA 1.2.	TA X.X	TASK PERFORMED*
Team Leader	Mr.Mehmet Kumru	☒	☐	☒ DR ☒ SV ☒ RI ☐ TR
Team Member (Trainee)	Ms.Yesim Akpinar	☐	☐	☒ DR ☐ SV ☒ RI ☐ TR
Technical Specialist	N.A.	☐	☒	☒ DR ☒ SV ☐ RI ☐ TR
Internal Technical Reviewer (ITR)	Ms. Burcu Mutman	☒	☐	☐ DR ☐ SV ☐ RI ☒ TR
Specialist supporting ITR	N.A.	☐	☒	☐ DR ☐ SV ☐ RI ☒ TR

*DR = Document Review; SV = Site Visit; RI = Report issuance; TR = Internal Technical Review



2. METHODOLOGY

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

In order to ensure transparency, a verification protocol was customized for the project, according to the version 02.0 of the Clean Development Mechanism Validation and Verification Standard, issued by CDM Executive Board at its 65th meeting on 25/11/2011 /9/. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from verifying the identified criteria. The verification protocol serves the following purposes:

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

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

2.1. Review of Documents

The assessment of the project documentation provided by the project participant is based upon both quantitative and qualitative information on emission reductions. Quantitative information comprises the reported numbers in the monitoring report (MR) version 5.1 dated 29/01/2013 /6/ and emission reduction calculation spreadsheet version 02 dated 14/02/2013 /7/. Qualitative information comprises information on internal management controls, calculation procedures, procedures for transfer of data, frequency of emissions reports, and review and internal audit of calculations.

The monitoring report version 5.2 submitted by the project participant on 28/02/2013 .

In addition to the monitoring documentation provided by the project participants, the DOE reviews:

- (a) The registered PDD and the monitoring plan, including any approved revised monitoring plan and/or changes from the registered PDD, and the corresponding validation opinion /1//3/;
- (b) The validation report
- (c) Previous verification reports /23//24//25/;
- (d) The applied monitoring methodology /8/;
- (e) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board /1/

2.2. Follow-up Interviews

On dd/mm/2013, Bureau Veritas Certification performed a site visit and interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of Innores Elektrik Uretim A.S. and FutureCamp Turkiye were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Innores Elektrik Uretim A.S.(Project Owner)	➤ Project Design and implementation ➤ Technical equipment, calibration and operation ➤ Monitoring Plan and management procedures ➤ Monitoring data ➤ Data uncertainty and residual risks (QA/QC) ➤ GHG Calculation ➤ Environmental Impacts ➤ Compliance with National Laws and Regulations
FutureCamp Turkiye (the Consultant)	➤ Monitoring Plan ➤ Monitored data and Monitoring Report ➤ GHG Calculations ➤ Sustainable Development Indicators

2.3. Resolution of Clarification, Corrective and Forward Action Requests

The objective of this phase of the verification is to resolve issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions prior to Bureau Veritas Certification's positive conclusion on the GHG emission reduction calculation.

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

A Corrective Action Request (CAR) is raised, if one of the following situations occurs:

- (a) Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- (b) Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- (c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

A Clarification Request (CL) is raised, if information is insufficient or not clear enough to determine whether the applicable GS requirements have been met.

A Forward Action Request (FAR) is raised, for actions if the monitoring and reporting require attention and/or adjustment for the next verification period.

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

2.4. Internal Technical Review

The verification report underwent an Internal Technical Review (ITR) before requesting issuance of CERs for the project activity.

The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal Bureau Veritas Certification procedures.

The Team Leader provides a copy of the verification report to the reviewer, including any necessary verification documentation. The reviewer reviews the submitted documentation for conformance with the verification scheme. This will be a comprehensive review of all documentation generated during the verification process.

When performing an Internal Technical Review, the reviewer ensures that:

- The verification activity has been performed by the team by exercising utmost diligence and complete adherence to the GS-VER rules and requirements.
- The review encompasses all aspects related to the project which includes project design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the project participant as well as the project activity, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the verification exercise, review of sample documents.

The reviewer may raise Clarification Requests to the verification team and discusses these matters with Team Leader.

After the agreement of the responses on the Clarification Requests from the verification team as well as the PP(s), the finalized verification report is accepted for further processing such as uploading via the UNFCCC interface.

3. VERIFICATION CONCLUSIONS

In the following sections, the conclusions of the verification are stated.

The findings from the desk review of the original monitoring documents and the findings from interviews during the follow up visit are described in the Verification Protocol in Appendix A.

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in the Verification Protocol in Appendix A. The verification of the Project resulted in 5 CAR(s), and 10 CL(s).

The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

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

3.1. Remaining issues from validation or previous verification (213)

2 FARs were raised during previous verification of this project activity. The Far 1 raised in previous verification requested the DOE to check the provisional acceptance documents of the last two turbines commissioned right after the end of the fourth monitoring period. The verification team checked and verified the provisional acceptance documents of the two turbines during this verification and FAR 1 is closed. However, the lighting facility to be provided for night birds, which was recommended in the Pre-EIA report and which is to be checked during this verification. The DOE confirmed that the lighting is not necessary for night birds to realize to avoid turbines. However, the lighting has some negative effects for the night birds. Ecological Consequences of Artificial Night Lighting Article which is written by Catherine Rich, Travis Longcore and IDA Practical Guide about the Effects of Artificial Light at Night on Wildlife are provided by the project owners. Articles are checked by the validation team and accepted that the lighting is not necessary for night birds to realize or avoid turbines and the FAR 2 is closed by the verification team.

3.2. Compliance of the project implementation with the registered project design document (228)

Bureau Veritas Certification has performed a site visit and found that the Project has been put into operation and the electricity generated is supplied to Turkish Grid according to the signed Power Purchase Agreement (PPA) /14/. 23 Nordex N90 wind turbines with a unit capacity of 2.5 MW, providing a total installed capacity of 57.5 MW have been in operation during the monitoring period.

No changes to the project design have been identified during this verification. The implementation and operation of the project activity have been conducted in accordance with the description contained in the approved revised PDD.

[Power System]

As shown in the diagram of the power connection system /12/, the electricity generated by the Project is delivered to the grid substation through 34.5 kV underground cables. Then the voltage is raised to 154 kV and the energy is transferred to the National Electricity System (Alosbi Transformer Station) via a 26 km long transmission line.

[Metering System]

There are two meters installed for the Project.

The main meter was installed at the output of the on-site substation to measure the electricity exported to and imported from the grid by the Project.

The backup meter was installed beside the main meter to measure the electricity exported to and imported from the grid by the Project.

[Management and Operation]

The PP has operated the Project as per the registered PDD. The monitoring organization has been set up and all monitoring staffs have been trained. Meter reading records of all the meters are based on continuously measurement and monthly recorded by the PP. The grid company issues the Electricity Transaction Notes (ETNs) to the PP every month to confirm the electricity exported to and imported from the grid.

Corresponding to the paragraph 228 of VVS version 02.0, Bureau Veritas Certification can confirm that:

- The implementation of the Project is consistent with the approved revised PDD.
- The Project is operated as per the approved revised PDD by the PP.
- No information (data and variables) that is different from that stated in the approved revised PDD, and has caused an increase in estimates of the emission reductions in the current monitoring period or is highly likely to increase the estimates of emission reductions in the future monitoring periods is provided in the monitoring report and/or detected by the verification team.

3.3. Compliance of the monitoring plan with the monitoring methodology including applicable tool(s) (232)

The verification team has verified the monitoring plan, including the data and parameters required to be monitored, measurement procedures, monitoring frequency and QC/QA procedures as described in the approved revised PDD.

Corresponding to the paragraph 232 of VVS version 02.0, Bureau Veritas Certification can confirm that the monitoring plan is in accordance with the approved methodology including applicable tool(s) applied by the Project.

3.4. Compliance of monitoring activities with the monitoring plan (235-236)

Monitoring has been carried out in accordance with the monitoring plan contained in the approved revised PDD.

[Parameters and information flow]

The parameters required by the monitoring plan and how Bureau Veritas Certification has verified the information flow (from data generation, aggregation, to recording, calculation and

reporting) for these parameters including the values in the monitoring report are described below:

Parameters monitored:

(1) EG_y , net electricity supplied to the grid by the Project

The net electricity supplied to the grid by the Project is the electricity exported to the grid minus the electricity imported from the grid by the Project which is measured by the bidirectional main meter. Therefore EG_y can be calculated as below:

$$EG_y = EG_{\text{export}} - EG_{\text{import}}$$

As described above, the meters have been installed in accordance with the registered PDD. The verification team has checked on-site the location of the meters against the diagram of power connection system and found them to be consistent.

The readings of the meters are continuously monitored and monthly recorded by the PP and the grid company. 24.00 o'clock at the last day of each month is the cut-off time to calculate the monthly net electricity supplied to the grid by the Project. The grid company provided the PP with the Electricity Transaction Notes (ETNs) monthly, which contain the electricity exported to and imported from the grid by the Project. After a cross-check with its own Monthly Reading Records (MRR), the project owner provided the sales receipt to the grid company and archived the copy of these receipts.

The verification team has verified the values provided in the monitoring report and ER spreadsheet against the relevant documented evidences i.e. the MRRs /17/ and the ETNs /18/ and found them to be consistent with the evidences. The MRRs and the ETNs can cover this monitoring period from 01/01/2012 to 31/12/2012.

(2) Local Job Creation: The project activity created jobs for the local people and this has been verified through the social insurance records and the settlement certificates. Following list shows the local employees for the project activity.

Employment	Title	Employment; Local or Not ?
Isa Alkan	Operative Manager	Not Local
Ibrahim Artan	Operative and Maintenance Tech.	Not Local
Hasan Soyer	Operative and Maintenance Tech.	Not Local
Hüseyin Vergili	Operative and Maintenance Tech.	Not Local

Nail Öz	Operative and Maintenance Tech.	Not Local
Faruk Yılmaz	Technical Manager	Not Local
M. Zeki Yıldız	Electric Tech.	Not Local
Necmettin Arıcı	Electric Tech.	Not Local
Mehmet Girginler	Electric Tech.	Not Local
O. Adem Gülçiçek	Electric Tech.	Not Local
Ali Köycüoğlu	Security Guard	Local
Alaattin Kanat	Security Guard	Local
Feridun Çelik	Security Guard	Local
Erdal Karakuzu	Security Guard	Local

(3) Bird Collisions: As a result of discussions with stakeholders and Mukhtars. It is clearly states that no bird death has been observed during the monitoring period.

Staff Trainings : Employed staff by Yuntdağ WPP was trained to increase their institutional capacity. Training type is following; Theoretical and practical safety instruction climbing wind turbine (dated 14-15.02.2012), training on safety and security at workplace (dated 11.05.2012), wind turbine training (dated 20-24.03.2012), training on first aid (dated 08.08.2012).

4 training is given for the 4 local employees. Training list can be seen as below;

Ali Köycüoğlu: First Aid Training (08.08.2012), training on safety and security at workplace (11.05.2012)

Alaattin Kanat: First Aid Training (08.08.2012), training on safety and security at workplace (11.05.2012)

Feridun Çelik: First Aid Training (08.08.2012), training on safety and security at workplace (11.05.2012)

Erdal Karakuzu: First Aid Training (08.08.2012)

**Parameters determined ex-ante:****(1) EF_y, emission factor of the grid**

The emission factor of the 1st crediting period of the Project has been determined ex-ante in the registered PDD. The emission factor used in the monitoring report has been verified against the PDD and found them to be consistent.



Corresponding to the paragraph 235 and 236 of VVS version 02.0, Bureau Veritas Certification can confirm that:

- The monitoring has been carried out in accordance with the monitoring plan contained in the approved revised PDD.
- All parameters required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

3.5. Compliance with the calibration frequency requirements for measuring instruments (243)

The registered monitoring plan requires that the accuracy and calibration procedures of measuring equipments adhere the requirements of the Turkish Electricity Market Regulation Agency (EPDK). The EPDK sets rules on the accuracy of electricity meters that are used by power plants feeding into the grid. The rules are part of the EPDK regulation 25056 from 22 March 2003. The table in Article 11 of the regulation specifies the use of electricity meters of the accuracy class 0.5S for power plants between 10 MW and 100 MW and refers to compliance with International Electrotechnical Commission's norm EN 60687. TEIAS, whose employees monthly visit the plant for the meter readings, is in charge of ensuring the adherence to these rules. Calibration and maintenance procedures are to follow the requirements. During this monitoring period, the installed measuring instruments have been operating well and there was no need for calibration of electricity meters.

[Instrument accuracy]

The verification team has verified the calibration records and the accreditation certificates of the calibration entity. The meters meet the rated accuracy level as described in the monitoring plan and are in compliance with the industrial standart/10/.

[Calibration frequency]

The calibration frequency fulfills the requirement as described in the monitoring plan and is in compliance with the national standart/11/.

Corresponding to the paragraph 243 of VVS version 02.0, Bureau Veritas Certification can confirm that the meters run within the rated accuracy limits and no calibration was necessary during this verification period according to the regulation.

3.6. Assessment of data and calculation of emission reductions (246)

A complete set of data for the specified monitoring period is available.

The critical parameter used for the determination of the Emission Reductions is the net electricity supplied to the grid by the Project. The data pertaining to the above parameter are maintained in the identified records. All the data are in compliance with that stated in the Monitoring Report version 5.1.

As per the methodology ACM0002 Version 06 and the approved revised PDD, the emission reductions for the Project are calculated as the baseline emissions minus the project emissions and leakage. Hence the emission reduction is determined by the following formula:

$$ER_y = BE_y - PE_y - L_y$$

Where,

ER_y : Emission reductions

BE_y : Baseline emissions

PE_y : Project emissions

L_y : Emissions due to leakage

[Baseline emissions]

The baseline emissions are the baseline emission factor times the net electricity supplied to the grid. Therefore,

$$BE_y = EF_y * EG_y$$

EF_y : GHG emission factor of the Turkish Grid, calculated ex-ante in the registered PDD as 0.7086 tCO₂e/MWh

EG_y : Net electricity supplied to the grid

The net electricity delivered to the grid (EG_y) can be calculated as:

$$EG_y = EG_{\text{export}} - EG_{\text{import}}$$

The verification team has cross-checked the values from the MRRs /17/ with the ETNs /18/ for the period from 01/01/2012 to 31/12/2012. For November and December, only the ETN's have been taken into account since the project participant did not submit the monthly reading records. Also in January, there is a difference between MRR and ETN. This difference is equal to the electricity produced by two turbines T18 and T20 from 1st of January until their official commissioning date, 18th of January but not fed to the grid. The amount is justified by a protocol that is submitted to DOE as Annex 1 of 5th Verification Protocol.

The verified values are shown in the following Table 3 and 4.

Table 2 The verified electricity exported to the grid by the Project (MWh)

Period	MRRs	ETNs	Verified EGexport
01/01/2012-31/12/2012			
January	18,453.82	13,843.968	18,453.82
February	13,381.47	13,381.468	13,381.47
March	15,085.17	15,085.174	15,085.17
April	12,386.12	12,386.123	12,386.12
May	8,294.24	8,294.234	8,294.24
June	21,344.53	21,344.536	21,344.53
July	26,170.68	26,170.678	26,170.68
August	25,971.95	25,971.947	25,971.95
September	16,242.04	16,242.039	16,242.04
October	11,765.93	11,765.931	11,765.93
November	19,385.179	19,385.179	19,385.18
December	15,984.998	15,984.998	15,985.00
Total			204,466.13

Table 3 The verified electricity imported from the grid by the Project (MWh)

Period	MRRs	ETNs	Verified EGimport
01/01/2012-31/12/2012			
January	19.55	19.548	19.55
February	17.46	17.462	17.46
March	24.75	24.751	24.75
April	17.22	17.222	17.22
May	35.72	35.713	35.72
June	19.24	19.244	19.24
July	2.65	2.646	2.65
August	4.10	4.106	4.10
September	19.61	19.605	19.61
October	24.15	24.149	24.15
November	11.63	11.631	11.63
December	20.15	20.153	20.15
Total			216.23

$$EG_y = EG_{\text{export}} - EG_{\text{import}} = 204,466.13 - 216.23 = 204,249.90 \text{ MWh}$$

The baseline emissions of the Project are calculated as:

$$BE_y = EF_y \cdot EG_y = 0,7086 \text{ tCO}_2\text{e/MWh} \cdot 204,249.90 \text{ MWh} = 144,731.48 \text{ tCO}_2\text{e} \sim 144,733 \text{ tCO}_2\text{e}.$$

The little difference in figures occurs because of rounding the decimals in the multiplication formulation of ER spreadsheet.

[Project emissions]

The Project is a newly built wind power plant project, thus according to ACM0002 Version 06 the project emissions are zero.

[Leakage emissions]

No leakage needs to be considered according to ACM0002 Version 06.

[Emission reductions]

The emission reductions during the monitoring period from 01/01/2012 to 31/12/2012 are calculated as:

$$ER_y = BE_y - PE_y - L_y = 144,733 - 0 - 0 = 144,733 \text{ tCO}_2\text{e}$$

[Comparison of ERs]

The annual estimated emission reductions are 147,076 tCO₂e as per the approved revised PDD. The actual operation days of the Project in the monitoring period are 366 days. The corresponding estimate in the monitoring period are 147,076 (=147,076*366/366) tCO₂e. The actual emission reductions are 1.6% less than the estimated value in the monitoring period. The variation is due to climatic conditions and it is deemed to be reasonable.



Corresponding to the paragraph 246 of VVS version 02.0, Bureau Veritas Certification can confirm that:

- Data used for the determination of the emission reductions are available and monitored in accordance with the monitoring plan contained in the approved revised PDD.
- Information and data provided in the monitoring report have been cross-checked with other sources such as plant logbooks, inventories, purchase records, laboratory analysis.
- Appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been followed.
- Assumptions, emission factors and default values that were applied in the calculations have been justified.



4. VERIFICATION OPINION

Bureau Veritas Certification has performed the 5th periodic verification of Grid-connected electricity generation from renewable sources: Yuntdag 57.5 MW Wind Power Project, Turkey, GS Registration Reference Number 352 which is located in Bergama, Izmir, and applying the methodology ACM0002 Version 06. The verification was performed based on the requirements set by GS and relevant guidance provided by CMP and the CDM Executive Board.

The verification consisted of the following three phases: i) desk review of the project design, the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of Innores Elektrik Uretim A.S. is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions of the project on the basis set out within the monitoring plan contained in the approved revised PDD. 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 has verified the project Monitoring Report version 5.1 dated 29/01/2013 for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as described in the approved revised project design documents. Installed equipments being essential for generating emission reductions run reliably and are calibrated appropriately. The monitoring system is in place and the Project is generating GHG emission reductions as a GS-VER project.

Bureau Veritas Certification can confirm that the GHG emission reductions are calculated without material misstatements. Our opinion relates to the projects' GHG emissions and resulting GHG emission reductions reported and related to the validated and registered project baseline, approved revised monitoring plan and its associated documents. Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, Bureau Veritas Certification confirms the following statement:

Reporting period:	01/01/2012 to 31/12/2012	
Baseline emissions:	144,733	t CO ₂ equivalents
Project emissions:	0	t CO ₂ equivalents
Leakage emissions:	0	t CO ₂ equivalents
Emission Reductions:	144,733	t CO ₂ equivalents

Ms. Burcu Mutman
Internal Technical Reviewer
21/04/2013

Mr. Mehmet Kumru
Team Leader
21/04/2013

5. REFERENCES

Documents reviewed:

- /1/ Registered PDD version 03 dated 28/07/2008,
- /2/ Revised PDD Version 04 dated 03/05/2011
- /3/ Validation Report revision 01, dated 06/12/2007
- /4/ Assessment Opinion on the Changes, Report No. XX (N.A.)
- /5/ Monitoring Report version 01,
- /6/ Monitoring Report version 5.1, dated 29/01/2013
- /7/ ER Calculation Spreadsheet version 02, dated 14/02/2013
- /8/ ACM0002 Version 06 dated 12/05/2006
- /9/ Validation and Verification Standard Version 02.0 dated 25/11/2011
- /10/ International Electrotechnical Commission's norm, EN 60687
- /11/ EPDK regulation 25056 dated 22 March 2003
- /12/ Diagram of power connection system of the Project
- /13/ Signed Power Purchase Agreement (PPA)
- /14/ Grid Connection Agreement
- /15/ Monthly Reading Records of the Project
- /16/ Electricity Transaction Notes (ETNs) issued by the Grid Company
- /17/ Calibration Records/Certificates
- /18/ CDM Monitoring & Management Manual
- /19/ Internal Training Records and Qualification Certificate of Operation Staff
- /20/ Verification Report version 04, dated 23/12/2009
- /21/ Verification Report version 04, dated 09/08/2010
- /22/ Verification Report version 03, dated 27/02/2012

+Persons interviewed:

- | | | |
|-----|------------------------------|---------------------------|
| | Innores Elektrik Uretim A.S. | |
| /1/ | {Title and Name} | {Position} |
| /2/ | İsa Alkan | Plant Manager |
| | FutureCamp Turkiye | |
| /3/ | Bengisu Coracki - | Consultant |
| /4/ | Mehmet Altok – | Mayor of İsmailli Village |

6. CURRICULA VITAE OF THE DOE'S VERIFICATION TEAM MEMBERS

Mr. Mehmet Kumru	Bureau Veritas Certification, Turkey	Team Leader, Climate Change Lead Verifier, Mehmet Kumru received his Bachelor's Degree in Environmental Engineering from Uludag University. He was worked as a team member of research and development in renewable energy projects. He is working with Bureau Veritas Turkey as an auditor and carbon verifier. He is also lead verifier in ISO 14064 and PAS 2050.
Ms. Yesim Akpınar	Bureau Veritas Certification, Turkey	Team Member, Climate Change Verifier. Climate Change Verifier Bosphorus University: Licence degree in Civil Engineering (1992) Bosphorus University: MSc. degree in Environmental Engineering (2009)
Ms Burcu Mutman	Bureau Veritas Certification, Turkey	Technical Reviewer, Climate Change Lead Verifier. Bureau Veritas Certification SAS - Internal Technical Reviewer Burcu Mutman is an auditor for environment, safety and quality management systems. She is also lead verifier for GHG Emission Reduction Projects.



VERIFICATION REPORT

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
1 Compliance of the monitoring report with the guidelines for completing the monitoring report form					
a Brief description of the project activity					
a. Is the description of the project activity to be presented in this section a brief summary of the detailed description given in the section .B.1 Implementation status of the project activity?	EB 54	Ann 34	A brief description in line with the project implementation was included.	OK	
b. Does this description include:	EB 54	Ann 34			
i. Purpose of the project activity and the measures taken to reduce greenhouse gas emissions?	EB 54	Ann 34	Purpose of the project has been indicated as "to generate electricity and to feed it into the public grid". Project is a renewable energy project with no project emissions to be considered	OK	
ii. Brief description of the installed technology and equipments;	EB 54	Ann 34	23 wind turbines Nordex N90, each having 2.5 MW output will be connected to the wind farm substation through 34.5 kV underground cables. The voltage is raised to 154 kV and is transferred to the National Electricity System (Alosbi Transformer Station) via a 26 km long transmission line.	OK	
iii. Relevant dates for the project activity (e.g. construction, commissioning, continued operation periods, etc.)?	EB 54	Ann 34	A timeline for major events is given in a table presented under section B.1 of the Monitoring Report (MR) v.02.0	OK	
iv. Total emission reductions achieved in this monitoring period?	EB 54	Ann 34	Total emission reduction is equal to baseline emissions for this project. However, baseline emissions are not indicated for November and December of 2012. Please indicate baseline emissions for 11/12 and	CAR01	

VERIFICATION REPORT



Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION			12/12.		

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
b Project participants					
a. Are the project participants listed?	EB 54	Ann 34	Project participant is given in section A.3. of MR: Innores Elektrik Üretim A.Ş.	OK	
c Location of project activity					
a. Is complete information of the location of the project activity: town, city, country and GPS coordinates provided?	EB 54	Ann 34	The Project is located near Koyuneli village of Bergama district in İzmir, Turkey. The project comprises of 23 turbines. However, GPS coordinates are given only for 13 turbines in section A.2. of MR. Please give coordinates for all turbines.	CAR02	
d Technical description of the project					
a. Are a description of the technology applied in the project activity and detailed technical process, including diagrams provided?	EB 54	Ann 34	No technology description and detailed technical process for the project activity is given in MR, except the brief technical description stated in comments of checklist question 1.a.b.i. Please give some information regarding technical description of the project activity.	CAR03	
e Title, reference and version of the baseline and monitoring methodology applied to the project activity					
a. Are the complete reference of the methodology applied and tools whenever is applicable included?	EB 54	Ann 34	Applied methodology is listed under A.4. of MR as ACM0002, version 6. Project is registered under Gold Standart as GS352. However, the applicable GS version and applicable tools are not stated. Please indicate the applicable tools and versions of the methodologies.	CL01	
f Registration date of the project activity					

Appendix A: GS-VER PROJECT Verification Protocol		Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION						
a	Is the registration date of the project activity provided?	EB 54	Ann 34	Registration date of the project activity is given as 31.08.2008 in the summary table at the beginning of MR but it is stated as "31.07.2008: Gold Standard Registration" in the table under section B.1. of MR. Please clarify the difference in dates.	CL02	
g Crediting period of the project activity and related information (start date and choice of crediting period)						
a	Does the description also include changes to the start date of the crediting period post-registration that have been accepted by the Board, when applicable?	EB 54	Ann 34	Crediting period of the project activity is stated as 7 years, twice renewable in section A.5. of MR. However; 1) the given time interval (07/03/2008 - 06/03/2016) is 8 years 2) It is said in section C. "as the crediting period is to start in July 2009..." Please clarify these issues No changes to the crediting period were indicated.	CL03	
h Name of responsible person(s)/entity(ies)						
a	Is the contact information of the person(s)/entity(ies) responsible for completing the monitoring report form (CDM-MR) provided?	EB 54	Ann 34	Any name and/or contact info is provided in MR. Please provide the necessary information.	CL04	
i Implementation status of the project activity						
a	Does this section include a description of the implementation and operational status of the project as of this monitoring period in accordance with the latest version of the CDM Validation and Verification Manual (CDM-VVM)?	EB 54	Ann 34	It is stated as "The project installation is completed according to the description in the PDD and completely operational." In section B.1. of MR. Important milestones are provided.	OK	

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
b Does the description include inter alia:	EB 54	Ann 34			
i The starting date of operation of the project activity? For project activities that consist of more than one site, the report shall clearly describe the status of implementation and starting date of operation for each site. For CDM project activities with phased implementation, the report shall indicate the progress of the proposed CDM project activity achieved in each phase.	EB 54	Ann 34	The commissioning dates of the first 17 turbines and additional 6 turbines are provided in the table presenting the milestones in section B. of the MR. However, starting dates of operation of the last two additional turbines are not presented and/or supported with documents. Please provide necessary documents (provisional acceptance. etc.) Provisional acceptance documents are also needed for closing FAR1 raised at fourth verification!	FAR1 from fourth verification	
ii The information regarding the actual operation of the project activity during this monitoring period, including information on special events, for example overhaul times, downtimes of equipment, exchange of equipment, etc?	EB 54	Ann 34	Commissioning of 2 new turbines form 15 MW capacity extension took place on 19 th of January 2012. Apart from extension of the capacity, no special events or emergencies like overhaul times, downtimes of equipment and exchange of equipment are reported.	OK	
iii A brief description of: (i) events or situations that occurred during the monitoring period, which may impact the applicability of the methodology, and (ii) how the issues resulting from these events or situations are being addressed?	EB 54	Ann 34	No events or situations that occurred during the monitoring period, which may impact the applicability of the methodology are reported in MR.	OK	
j Revision of the monitoring plan					
a Is it indicated if the monitoring plan has been revised?.	EB 54	Ann 34	No revisions were made as stated in section B.2.1. of MR	OK	
b Is the date of approval, if revised, included?	EB 54	Ann 34	N/A	OK	
k Request for deviation applied to this					



VERIFICATION REPORT

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
monitoring period					
a Is any deviation applied to this monitoring period indicated?	EB 54	Ann 34	No applied deviation reported in section B.2.2. of MR.	OK	
b Is the reference number, if any deviation applied, included?	EB 54	Ann 34	N/A	OK	
l Notification or request of approval of changes					
a Is any notification or request of approval of changes from the project activity as described in the registered CDM-PDD indicated?	EB 54	Ann 34	Yes. Project capacity was extended to 57.5 MW with 6 additional turbines. Please provide the revised and registered PDD including the capacity increase.	CL05	
b Is the date of approval, if applicable, included?	EB 54	Ann 34	'Registration of capacity extension under Gold Standard' is stated as 13/07/2011 in MR5. However this date is given as 13/06/2011 in MR4 and Verification Report no:4. Please indicate the correct date and provide necessary documents for evidence.	CL06	
m Description of the monitoring system					
a Is a description of the monitoring system provided?	EB 54	Ann 34	A description of the monitoring system is provided in section C. of the MR.	OK	
b Does this section include data collection procedures (information flow including data generation, aggregation, recording, calculation and reporting), organizational structure, roles and responsibilities of personnel, and emergency procedures for the monitoring system?	EB 54	Ann 34	This section includes data collection procedures (information flow including data generation, aggregation, recording, calculation and reporting), organizational structure, roles and responsibilities of personnel, and emergency procedures for the monitoring system.	OK	
c Does this include line diagrams showing all relevant monitoring points?	EB 54	Ann 34	A line diagrams showing all relevant monitoring points is included in Figure 1. in section C.1.2. of MR	OK	

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
n Data and parameters					
a Does this section include parameters used to calculate baseline, project, and leakage emissions as well as other relevant parameters required by the approved methodology and the monitoring plan; and specific information on how data and parameters have been monitored during the monitoring period?	EB 54	Ann 34	Parameters used are provided in this section. They are in line with the registered PDD.	OK	
b Are data that is determined only once for the crediting period but are used after registration of the project activity included here under section D.1.?	EB 54	Ann 34	Data that is determined only once for the crediting period are provided in section D.1. of MR. They are in line with the registered PDD.	OK	
c For each parameter the following information, using the tables provided, is provided:					
i Value of monitored parameter in the period for the purpose of calculating emission reductions? To report multiple values, a table may be used and included in this monitoring report or include references to spreadsheet. For default value (such as an IPCC value), where it is ex-post confirmed, the most recent value shall be applied.	EB 54	Ann 34	Purchase records (PMUMs) by TEİAŞ are not provided for November and December 2012. Please provide reading statements for missing two months and tabulate the values.	CL07	
ii Description of the equipment used to monitor each parameter, including details on accuracy class, and calibration information (frequency, date of calibration and validity), if applicable as per monitoring plan?	EB 54	Ann 34	Required data are provided. They are in line with the registered PDD.	OK	
iii Measuring and recording method: how the parameters are measured/calculated, specifying the measurement and recording frequency?	EB 54	Ann 34	Required data are provided. They are in line with the registered PDD.	OK	

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
iv Source of data: logbooks, daily records, surveys, etc?	EB 54	Ann 34	Source of data is the electricity meter readings for electricity supplied to the grid.	OK	
v Where relevant, the calculation method of the parameter?	EB 54	Ann 34	N/A		
vi The QA/QC procedures applied (if applicable per monitoring plan)?	EB 54	Ann 34	Required data are provided. They are in line with the registered PDD.	OK	
vii Include information about appropriate emission factors, IPCC default values and any other reference values that have been used in the calculation of emission reductions?	EB 54	Ann 34	Required data are provided. They are in line with the registered PDD	OK	
o Baseline emissions calculation					
a Does this section include all formulae used and description to calculate the baseline emissions applying actual values?	EB 54	Ann 34	Formulae are presented in a manner in compliance with the PDD and related methodology ACM0002.	OK	
b Was a table used and included in this monitoring report or include references to spreadsheet?	EB 54	Ann 34	Baseline emissions are presented in Table 3. In MR. However, data are missing for November and December of 2012. Please complete the table with the necessary information.	CAR04	
p Project emissions calculation					
a Does this section include all formulae used and description to calculate the project emissions applying actual values?	EB 54	Ann 34	There are no project emissions in this kind of project. There was a diesel generator in Yuntdag 42.5 MW WPP project for emergency cases; however while this generator was not used so often, it was transferred from the plant on 14.10.2009. A battery system was installed in the plant to supply electricity when there is a need.	OK	
b Was a table used and included in this monitoring report or include references to spreadsheet?	EB 54	Ann 34	N/A	OK	

Appendix A: GS-VER PROJECT Verification Protocol		Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION						
q Leakage calculation						
a	Does this section include all formulae used and description to calculate the leakage applying actual values?	EB 54	Ann 34	No leakage emissions are considered according to the applied methodology.	OK	
b	Was a table used and included in this monitoring report or include references to spreadsheet?	EB 54	Ann 34	N/A	OK	
r Emission reductions calculation/table						
a	Does this section include the formulae used to calculate the emission reductions and the total of the emission reductions achieved during the monitoring period?	EB 54	Ann 34	The formulae used to calculate the emission reductions are presented properly in this section. However, since baseline emissions are not given for last two months of 2012, the total emission reductions could not be calculated. Please complete the necessary information in section E.5. of MR.	CAR04	
i	Total baseline emissions:	EB 54	Ann 34	Incomplete table (see comment supporting CAR04 above)	CAR04	
ii	Total project emissions:	EB 54	Ann 34	No project emissions	OK	
iii	Total leakage:	EB 54	Ann 34	No leakage	OK	
iv	Total emission reductions:	EB 54	Ann 34	Incomplete table (see comment supporting CAR04 above)	CAR04	
s Comparison of actual emission reductions with estimates in the CDM-PDD						
a	Does this section include a comparison of actual values of the emission reductions achieved during the monitoring period with the estimations in the registered CDM-PDD?	EB 54	Ann 34	No comparison exists in this section since presentation of actual values is not completed. Moreover, the value given for estimated emissions in section E.5. of the MR is different from the one given in registered PDD. (See comments related to	CAR04 CAR05	

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION			CAR04) Please revise ex-ante estimation value for consistency with registered PDD and provide missing measurements (CAR05).		

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
t Remarks on difference from estimated value in the PDD					
a Is an explanation of the cause of any increase in the actual emission reductions achieved during the current monitoring period (e.g. higher water availability, higher load plant factor, etc), including all information (i.e. data and/or parameters) that is different from that stated in the registered CDM-PDD provided?	EB 54	Ann 34	Monitored emission reduction calculation is incomplete.(Reference to CAR04)	CAR04	
2 Project implementation in accordance with the registered project design document					
a Are all physical features of the proposed CDM project activity proposed in the registered PDD in place?	VVM	196	The 6 turbines for added capacity are operating on site. However, necessary revisions and/or documents for approval and registered PDD with capacity increase are missing. See CL06 and CL07	CL05 CL06	
b Have the project participants operated the proposed CDM project activity as per the registered PDD?	VVM	196	No registered PDD including the capacity increase of 15 MW is provided. See CL06.	CL05	
c Was an on-site visit conducted?	VVM	196	An on-site visit was conducted on 17/12/2012	OK	
d If not, justify the rationale of the decision.	VVM	196	N/A	OK	
e Does the implementation or operation of CDM project activity conform with the description contained in the registered PDD?	VVM	197	The implementation of CDM project activity conforms with the description contained in the registered PDD in general terms. However, No registered PDD including the capacity increase is presented.See CL06.	CL05	
f If not, which are the potential impacts due to these changes, according to the relevant guidelines established by the Executive Board (EB48-§73)?	VVM	197	No change that would have potential impacts to the operation of project activity, except the capacity increase.	N/A	

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
g Was any change identified close to the boundary of the project activity but outside it?	VVM	197	No change identified	OK	
h If yes, which are the potential impacts due to these changes?	VVM	197		N/A	
i Was a notification or a request for approval of changes from the project activity as described in the registered PDD submitted prior to the conclusion of the verification/certification for the corresponding?	VVM	197		N/A	
3 Compliance of the monitoring plan with the monitoring methodology					
a Is the validated monitoring plan in accordance with the approved methodology applied by the proposed CDM project activity?	VVM	200	Monitoring plan is in line with the requirements of ACM0002 v.06	OK	
b If no, was a request for revision of the monitoring plan was done? (The DOE may request for revision of the monitoring plan covering the monitoring period under verification, for approval by the CDM Executive Board)	VVM	201	N/A	OK	
c Are there any monitoring aspects of the project activity that are not specified in the methodology, particularly in the case of small-scale methodologies (e.g. additional monitoring parameters, monitoring frequency and calibration frequency)?	VVM	202	N/A	OK	
4 Compliance of monitoring with the monitoring plan					
a Have the monitoring plan and the applied methodology been properly implemented and	VVM	205	Yes. The monitoring plan and the applied methodology, ACM002 ver.6., have been properly	OK	

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
followed by the project participants?			implemented.		
b Have the previous monitoring reports been reviewed?	VVM	205	Yes. MR4 has been reviewed.	OK	
c Where applicable, has the impact of revision in the monitoring plan on the current verification been reviewed ?	VVM	205	No revision in the monitoring plan	N/A	
d Does the registered/approved monitoring plan have any description of an illustration to calculate net electricity supplied to the grid by the project activity ?	VVM	205	At the end of each monitoring period, which is planned to generally last one year, the data from the monthly meter reading records will be added up to the yearly net electricity generation and multiplied with the combined margin emission factor with the help of an excel spreadsheet that also contains the combined margin calculation. Please provide the subject excel sheet (CL08). Also complete reading records for November and December (see CAR 04)	CAR 04 CL 08	
e If yes to (d) above, has the verification team verified /confirmed the validity of such illustration with supporting documents ?	VVM	205	There is no deviation from the above procedure.	OK	
f Have all parameters stated in the monitoring plan, the applied methodology and relevant CDM Executive Board decisions been sufficiently monitored and updated as applicable, including:	VVM	205	All parameters in the MP are included in the MR.		
i Project emission parameters?	VVM	205	• No project emissions to be monitored	OK	
ii Baseline emission parameters?	VVM	205	• Baseline emissions data are missing for last two months of the monitoring period.(Reference to CAR04)	CAR04	
iii Leakage parameters?	VVM	205	Leakage is not considered for the project in line with the requirements of the applied methodology	OK	



VERIFICATION REPORT

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
iv Validation of entire procedure of apportioning, if applicable	VVM	205	N/A	OK	
v Management and operational system: the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan?	VVM	205	Yes	OK	
g Is the accuracy of equipment used for monitoring in accordance with the relevant guidance provided by the CDM Executive Board and are equipment controlled and calibrated in accordance with the monitoring plan?	VVM	205	Accuracy class is stated as 0.5S in the MR. However, the accuracy of the equipment is observed as 0.2S on site. Please clarify the difference.	CL09	
i Are monitoring results consistently recorded as per approved frequency?	VVM	205	Yes. The electricity flow is continuously measured and monthly recorded.	OK	
ii Have quality assurance and quality control procedures been applied in accordance with the monitoring plan?	VVM	205	Yes. No calibration is needed according to regulations since the equipment is not older than 10 years.	OK	
iii Has the verification team confirmed whether the applicability and correct implementation of any procedure that replaces direct calibration of meters, and any procedure that leads to calculation of parameters used in the ER determination ?	VVM	205	N/A	OK	
5 Assessment of data and calculation of greenhouse gas emission reductions					
a Is a complete set of data for the specified monitoring period is available? (If no, i.e., only partial data are available because activity levels or non-activity parameters have not been monitored in accordance	VVM	208	No. (Meter reading data are missing for November and December of 2012). Please provide records of electricity generated for these two months	CAR04	

VERIFICATION REPORT

Appendix A: GS-VER PROJECT Verification Protocol	Ref.	§	COMMENTS	Draft Concl	Final Concl
CHECKLIST QUESTION					
with the registered monitoring plan, the DOE shall opt to either make the most conservative assumption theoretically possible in finalizing the verification report, or raise a request for deviation prior to submitting request for issuance, if appropriate).					
b Has information provided in the monitoring report been cross-checked with other sources such as plant log books, inventories, purchase records, laboratory analysis?	VVM	208	The information provided in the MR has been cross-checked with meter readings and purchase records for 10 months and has been found to be consistent. (Missing data for November and December is to be provided. (CAR04)) However, the values for months May, June and August in Table 3 of the MR have some differences in decimal places from meter reading reports. Please eliminate these differences.	CAR04 CL10	
c Have calculations of baseline emissions, proposed CDM project activity emissions and leakage, as appropriate, been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document?	VVM	208	All formulae and calculations are in line with the applied methodology.	OK	
d Have any assumptions used in emission calculations been justified?	VVM	208	No assumptions used	OK	
e Have appropriate emission factors, IPCC default values and other reference values been correctly applied?	VVM	208	The baseline emission factor is taken as 0.7086 tCO ₂ /MWh as stated in the registered PDD.	OK	

RESOLUTION OF CORRECTIVE ACTION / FORWARD ACTION / CLARIFICATION REQUESTS

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
CAR01 Please indicate baseline emissions for 11/12 and 12/12.	Table 1. 1.a.b.iv.	Response 1: Baseline emissions are indicated for 11/12 and 12/12 in Table 3.	Review 1: PMUM's are provided and baseline emissions are recorded. <u>CAR01 is closed.</u>
CAR02 Please give coordinates for all 23 turbines	Table 1. 1.c.a.	Response 1: Missing coordinates are added.	Review 1: Missing turbine coordinates are provided. <u>CAR02 is closed.</u>
CAR03 Please give some information regarding technical description of the project activity.	Table 1. 1.d.a.	Response 1: Schematic description of electricity generation from wind turbines is shown in Scheme 1.	Review 1: The schematic description is explanatory. <u>CAR03 is closed.</u>
CAR04 Baseline emissions data are missing for November and December of 2012 in Table 3 of the monitoring report. Please complete the table with the necessary information.	Table 1. 1.o.b. 1.r.a.i. 1.r.a.iv. 1.s.a. 1.t.a. 4.d. 4.d.f.ii. 5.a. 5.b.	Response 1: Requested information has been completed.	Review 1: Baseline emissions are recorded into the Table 3. <u>CAR04 is closed.</u>

VERIFICATION REPORT

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
CAR05 Please revise ex-ante estimation value for consistency with registered PDD and provide missing measurements.	1.s.a.	<u>Response 1:</u> ex-ante estimation value is 147,458. <u>Response 2:</u> There is a miswritten value in Response 1. It should have been 147.076. Necessary corrections are done in terms of ex-ante emission. The emission reduction value is recalculated and found as 141.733. The reason for this is explained at the end of this document.	Review 1: Ex-ante estimation value for emission reductions is stated as 147,076 tCO₂e in the <u>revised</u> PDD. The calculated value for the monitoring period is 141,458 in the 5th MR. The figure given in Response 1 which is 147,458 tCO₂e, is unclear. Please revise the necessary values as one to be consistent with each other. <u>CAR05 is still open.</u> Review 2: The argument stated was found reasonable. The amount of electricity produced before provisional acceptance is justified with a protocol signed between parties. <u>CAR05 is closed.</u>
CL01 Please indicate the applicable tools and versions of the methodologies in the MR.	Table 1. 1.e.a.	Response 1: The choice of methodology ACM0002, Version 6. Tool for the demonstration and assessment of additionality ver.03.	Review 1: Necessary corrections are made in the MR. <u>CL01 is closed.</u>
CL02 Please clarify the difference in dates given for	Table 1. 1.f.a.	Response 1: Relevant correction has been made.	Review 1: Necessary corrections are made in the

VERIFICATION REPORT



Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
project registration in the summary table and in the table under section B.1. of the MR.			MR. <u>CL02 is closed.</u>
CL03 Crediting period of the project activity is stated as 7 years, twice renewable in section A.5. of MR. However; 1) the given time interval (07/03/2008 - 06/03/2016) is 8 years 2) It is said in section C. "as the crediting period is to start in July 2009..." Please clarify these issues	Table 1. 1.g.a.	<u>Response 1:</u> In Section C "July 2009" has been changed to "March 2008". <u>Response 2:</u> 1) Crediting period of the project is 07.03.2008 - 06.03.2015. MR is corrected accordingly. 2) The inconsistency on dates is corrected.	Review 1: 1) In section A.5. of the MR, the end date of the crediting period is corrected as 30/04/2015. However, the start date is stated as 01/05/2008. 2) Start of the crediting period hasn't been changed to 'March 2008' but has been changed to 'May 2008' instead! The dates' inconsistency issue still needs to be clarified. <u>CL03 is still open.</u> Review:2 Necessary corrections are made. <u>CL03 is closed.</u>
CL04 Any name and/or contact info of the person(s)/entity(ies) responsible for completing the monitoring report form (CDM-MR) is provided in MR. Please provide the necessary information.	Table 1. 1.h.a.	Response 1: Contact information of carbon consultant is added to after the last section.	Review 1: Required information is provided in the MR. <u>CL04 is closed.</u>
CL05 Please provide the revised and registered PDD including the capacity increase of the project.	Table 1. 1.l.a. 2.a.	<u>Response 1:</u> Revised PDD is in the attachments named as Annex 4.	Review 1: Revised PDD is submitted to DOE as Annex 4. However, it does not appear

VERIFICATION REPORT



Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
	2.b. 2.e.	<u>Response 2:</u> Last submission status of revised PDD to GS can be found in Annex 1.	in the registry of Gold Standard yet. Please inform the last submission status of the revised PDD to Gold Standard. <u>CL05 is still open.</u> Review 2: The information about last submission status of revised PDD is provided with Annex 6 (not Annex 1!) <u>CL05 is closed.</u>
CL06 Registration of capacity extension under Gold Standard' is stated as 13/07/2011 in MR5. However this date is given as 13/06/2011 in MR4 and Verification Report no:4. Please indicate the correct date and provide necessary documents for evidence.	Table 1. 1.l.b. 2.a.	<u>Response 1:</u> There is not any conflict between MR 4 and MR 5 on the registration date of capacity extension. It is indicated as 13.06.2011 in both documents. <u>Response 2:</u> Registration of capacity extension is completed on 13.07.2011. Please find the proof of this date on Annex 6.	Review 1: Registration of capacity extension is stated as 13/07/2011 in section B.1. of the MR. Please indicate the correct date and provide necessary documents for evidence. <u>CL06 is still open.</u> Review 2: The date of registration of capacity extension is justified with Annex 6 as 13.07.2011. <u>CL06 is closed</u>
CL07 Please provide the missing purchase records (PMUMs) by TEİAŞ for November and	Table 1. 1.n.c.i.	Response 1: PMUM records are provided as Annex 2.	Review 1: Missing PMUM records are provided. <u>CL07 is closed.</u>

VERIFICATION REPORT



Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
December 2012 and tabulate the values.			
CL08 Please provide the excel sheet that contains the combined margin calculation and the yearly net electricity generation multiplied by the combined margin emission factor.	Table 1. 4.d.	Response 1: Workbook is provided as Annex 3.	The excel sheet is provided as Annex 3. <u>CL08 is closed.</u>
CL09 • Accuracy class is stated as 0.5S in the MR. However, the accuracy of the equipment is observed as 0.2S on site. Please clarify the difference.	Table 1. 4.g.	Response 1: Relevant correction has been made.	Review 1: Necessary corrections are made in the Monitoring report. <u>CL09 is closed.</u>
CL10 The values for months May, June and August in Table 3 of the MR have some differences in decimal places from meter reading reports. Please eliminate these differences.	Table 1. 5.b.	<u>Response 1:</u> Relevant corrections have been made. <u>Response 2:</u> June is also corrected.	Review 1: Corrections are made for May and August but differences still exist for month June. <u>CL10 is still open.</u> Review 2: Necessary corrections are made. <u>CL10 is closed.</u>
<i>Regarding the FARs from fourth verification:</i>			
FAR1 from fourth verification Please provide the provisional acceptance documents of the last two commissioned turbines.	Table 1. 1.i.b.i.	Response 1: It can be found as Annex 1 in the attachments. <u>Response 2:</u> In Annex 8, two	Review 1: The document provided as Annex 1 is not the provisional acceptance document for subject turbines.

VERIFICATION REPORT



Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
		pages of provisional acceptance can be found. (turbine coordinates and signatures)	<u>FAR1 is still open.</u> Review 2: The two pages dated 24.06.2010 that were submitted in Annex 8 seem to be part of the licence but not the provisional acceptance document! However, since provisional acceptance documents are seen during site visit, the issue is considered as resolved. <u>FAR1 is closed.</u>
FAR2 from fourth verification The Pre-EIA report recommended that the lighting facility has to be provided for night birds. Some literature study retrieved the results that extra lighting attracts night birds. References are provided to DOE but as the lighting requirement is not realized, FAR is not closed. Lighting should be checked in next verification.		<u>Response 1:</u> The lighting is not necessary for night birds to realize or avoid turbines. There is not any example application on this manner neither in Turkey nor in the world. Besides, wind turbines have red blinking light on the top of control box. Turbines in Yuntdag also have that type of lighting. That can be seen in the recorded video, Annex 5. <u>Response 2:</u> FAR 2 is suggested to transfer to 6 th verification.	Review 1: The lighting equipment has not been seen during the site visit. <u>FAR2 is still open.</u> Review 2: FAR2 is transferred to 6 th verification. DOE will check the lighting equipment during next verification. <u>FAR2 is still open.</u> Review 3: The DOE confirmed that the lighting is not necessary for night birds to realize to avoid turbines. However, the lighting has some negative effects for the night birds. Ecological Consequences of

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
			Artificial Night Lighting Article which is written by Catherine Rich, Travis Longcore and IDA Practical Guide about the Effects of Artificial Light at Night on Wildlife are provided by the project owners. Articles are checked by the validation team and accepted that the lighting is not necessary for night birds to realize or avoid turbines. <u>The forward action request is closed.</u>
		NOTE TO DOE: During verification, there was a conflict at the PMUM and monthly reading report of January 2012. Monthly reading report value: 18453,82. PMUM value: 13843,97. (which indicated the value project owner was able to sell to the market.) During the site visit DOE has requested to take PMUM value	

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
		into account. This approach should be reconsidered since carbon credit is based on the electricity generation value not the sold electricity amount. Please find the revision of MR according to the second approach. Revised workbook is provided as Annex 7.	

VERIFICATION REPORT

Bookmark

Contract No.	CER.TR.1372647.12.C45
Project title	Grid-connected electricity generation from renewable sources: Yuntdag 57.5 MW Wind Power Project, Turkey
Ref number	GS 352
Period number	5 th
Monitoring period	01/01/2012 to 31/12/2012
MR final version	5.2
MR final date	29/01/2013
ER spreadsheet final version	02
ER spreadsheet final date	14/02/2013
PDD version	03
PDD date	28/07/2008
Revised PDD version	04
Revised PDD date	03/05/2011
Revised PDD approval date	13/07/2011
Methodology A and version	ACM0002 Version 06
Methodology B and version	ACM0002 Version06
Registration date	31/07/2008
Crediting period	07/03/2008 to 06/03/2015 (renewable)

VERIFICATION REPORT



MR Publication date	
Site visit date	17.12.2012
VR Sign-off date	
BE	144,733
PE	0
LE	0
ER	144,733
Project owner	Innores Elektrik Uretim A.S.
Project buyer	
Consultant	FutureCamp Turkiye
Client	Innores Elektrik Uretim A.S.
Project location	Bergama, Izmir, Turkey
Grid	Turkish Grid
EG	204,250 MWh
EF_grid	0.7086 tCO ₂ e/MWh
Calibration entity A	N.A.
Calibration entity B	N.A.
Team Leader	Mr. Mehmet Kumru
Team Member	Ms. Yeşim Akpınar



Technical Reviewer	Ms. Burcu Mutman
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