VERIFICATION OF 49.5 MW WIND POWER PROJECT BY FFCEL IN PAKISTAN

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Summary:

Bureau Veritas Certification Holding SAS was appointed by M/s FFC Energy Limited to conduct the verification of the VCS Project ID: 1346 titled "49.5 MW Wind Power Project by FFCEL in Pakistan" located at Jhimpir, District Thatta, Sindh, Pakistan. The verification is conducted on the basis of Verified Carbon Standard Version 3 (VCS Standard Ver 3.4 issued on 08/10/2013), as well as criteria given to provide for consistent project operations, monitoring and reporting. Validation team also referred to VCS Validation and Verification Manual, Ver 3.1 issued on 08/10/2013 as guidance document for the VVBs in conducting validation and verification of GHG projects.

The verification scope is defined as aperiodic independent review and ex-post determination by the Designated Operational Entity of the monitored reductions in GHG emissions during defined verification period. It consisted of the following three phases:

i) Desk review of the project design, baseline and monitoring plan, project technical details;

ii) Follow-up interviews with project stakeholders;

iii) Resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The project activity is to generate power (electrical energy) from renewable energy (wind energy), which displaces power generation from fossil fuel in the grid connected power plants; that would have been the scenario in absence of the project activity, thus achieve GHG emission reduction due to utilization of renewable energy.

The validation is based on the documents like Monitoring Report, Emission Reduction calculations and other supporting documents provided to the verification team. This verification is carried out in accordance with VCS Standard version 3, dated 8th October 2013 v3.4 and VCS Program Guide version 3.5 dated 8th October 2013.

The Clarification, Corrective and Forward Action Requests are stated, where applicable, in the following sections and are further documented in Appendix I. The verification of the Project resulted in total 03 Corrective Action Requests (CAR), 03 Clarification Requests (CL) and 01 Forward Action Request (FAR). The CARs and CLs were closed based on adequate responses from the Project Participant which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

In summary, Bureau Veritas Certification confirms that the project is implemented as planned and monitored as described in VCS Monitoring Report. Verification team confirms that the emissions reductions generated from the project are measured through monitoring system in place which is reliable and calibrated appropriately. The GHG emission reductions are calculated without any material discrepancies and conservativeness is appropriately applied in quantification of ex-post quantification of GHG emission reductions. Hence Bureau Veritas Certification (BVCH) recommends the project activity for issuance of VCUs under Verified Carbon Standard Ver. 3 mechanism.

Table of Contents

Abbreviations:

VCS	VERIFIED CARBON STANDARD
VCU	Verified Carbon Unit
CAR	Corrective Action Request
CL	Clarification Request
FAR	Forward Action Request
FFCEL	FFC Energy Limited
CO_2	Carbon Dioxide
VVB	Validation/Verification Body
PP	Project Participant
DR	Document Review
GHG	Green House Gases
MV	Means of Verification
MP	Monitoring Plan
VCS-PD	Verified Carbon Standard -Project Description
kWh	Kilowatt-hour
MWh	Megawatt-hour
EF	Emission factor
EPA	Energy Purchase Agreement
JMR	Joint Meter Reading
WTG	Wind Turbine Generator

1 INTRODUCTION

1.1 Objective

Verification is the periodic independent review and ex-post determination by the verifier of the monitored reductions in GHG emissions during defined verification period. The objective of the verification is to verify that the project is implemented as planned, to confirm that the monitoring system is in place and fully functional, and to assure that the project has generated verifiable emission reductions. This is the first verification of the project activity under VCS for the vintage from date on which actual emission reduction started i.e. 16-May-2013 (Commercial Operation Date of the project activity) to 30-November-2014. These emission reductions are verified as per the guidance provided by VCS standards version 3 dated 8 October 2013 v3.4.

The verification shall consider both qualitative and quantitative information on emission reductions. Quantitative data comprises the monitoring report and emission reduction calculations submitted to the verifier by the project participant and qualitative data comprises information on internal management controls, calculation procedures, and procedures for transfer, frequency of emission reports, review and internal audit of calculations/data transfers.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of Monitoring Report. Study of the monitored data and other relevant documents made available to verifier and information collected through performing interviews with the Project Participant. The verification follows VCS Standard version 3 dated 8 October 2013, v3.4. The verification is not meant to provide any consulting toward the client. However, stated request for Forward actions and/or Corrective Actions may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

1.3 Level of Assurance

The verification team was provided with a monitoring report, covering the period 16-May-2013 to 30-November-2014 (inclusive of both the days). Based on this documentation, a document review and interview with the project participant regarding the implementation and emission reduction of the project activity were conducted. The Monitoring Report, version 1.1, dated 13-February-2015 covering the period from 16-May-2013 to 30-November-2014 (inclusive of both the days) serves as the basis for the assessment presented herewith.

The verification report is based on the documents made available to verification team and information provided during interviews. Based on the process and procedures conducted, it can be concluded that the GHG assertion.

1. Is materially correct and is a fair representation of GHG data and information, and

2. Has been prepared in accordance with VCS Standard Version 3 dated 8 October 2013 v3.4.

The data used for the calculation of emission reductions were taken from Joint Monthly Meter Reading Report for monitoring of net electricity exported to the grid by project activity. As per the VCS-PD, Monitoring Report, the calibration for main meters and back-up meters will be done after every two (2) years. The calibration certificates provided by the Project Participant (PP) indicates that the calibration frequencies of the meters. The main meters (Make: ISKRA having serial numbers 41507169 & 41507148) and back-up meters (Make: ISKRA having serial numbers 41510586 & 41510585) were calibrated on 30-July-2012 and then on 13-September-2014. The

results of calibration show that all the meters are working within the permissible limit of error. The scheduled date for meter calibration was 29-July-2014, however meters got calibrated on 13-September-2014 (Ref /8/). Therefore, the project participant has applied 0.2% error (which is the accuracy class of the energy meters) in conservative manner on Export & Import values for the months July, August & September 2014 because of delayed calibration of main and check meters during this period. The verification team considers this approach as conservative and appropriate in line with VCS Validation and Verification Manual Version 3.1 dated 8 October 2013 and also in line with the requirements given under §395(a) of the CDM Validation and Verification Standard, Version 09.0, EB 82 Annex 14. The authority of calibration is with power purchaser (National Transmission & Despatch Company Limited (NTDC)) and Metering Committee Reports (Ref /9/) demonstrate that FFCEL made timely requests to NTDC for calibration of the meters however the delay was on part of the power purchaser.

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions. Based on the process and procedure conducted, it can be concluded that the GHG assertion is materially correct and is a fair representation of GHG data and information which has been prepared in accordance with the VCS Standard 3.4 for the current verification period.

The verification team considers the assurance level as reasonable. The accrued emission reductions for the current monitoring period from the project activity are 141,433 tCO_2.

1.4 Summary Description of the Project

The project activity is renewable power generation from wind and supply of the power to the grid. The total installed capacity of the project activity is 49.5 MW equipped with 33 WTGs of 1.5 MW installed capacity each. The project is located at Jhimpir, District Thatta, Sindh, Pakistan.

The project activity harnesses wind energy to generate and supply electricity to the grid. The conversion process utilizes aerodynamic forces (lift and/or drag) to produce a net positive turning moment on a shaft, resulting in the production of mechanical power which can be converted to electrical power. The employed WTGs can only convert wind energy into electrical energy and do not use any other fuel as input for electricity generation. The operation of WTGs is emission free and no GHG emissions are produced during the lifetime of the project activity.

The power generated by wind power plant station is evacuated by two 132 kV transmission lines to National Transmission & Despatch Company (NTDC) Limited as per the Power Purchase Agreement (PPA) signed between the PP & NTDC. One main meter and one back-up meter is installed on each transmission line. The accuracy class of the meters is 0.2.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The overall verification, beginning from the Contract Review to Verification report & opinion, was conducted using Bureau Veritas Certification internal procedures. The verification criteria followed by the project participant is based on the VCS standards Version 3 dated 8 October 2013 v3.4. This is the first verification of the project activity under VCS for the vintage from date on which actual emission reduction started 16-May-2013 (Commercial Operation Date of the project activity) to 30-November-2014. These emission reductions are verified as per the guidance provided by VCS Standard Version 3. The verification process consists of following activities:

i) Desk review of the registered project document including the baseline and the monitoring plan: This process consists of the review of the current and previously approved documents related to the project activity including registered VCS-PD. The current documents include the Monitoring Report for the current verification period, emission reduction spreadsheet and

other supporting documents (Joint Monthly Meter Reading Reports, calibration certificates, invoices, etc.) pertaining to the current verification period. Refer to Appendix II for the list of documents.

ii) Interviews with project stakeholders and Document Review;

The second step involves the Interviews and discussion with the Project Participant and as well as review of documents mentioned under Appendix II to ensure the implementation and operation of the project activity in line with the registered VCS-PD:

iii) Resolution of outstanding issues and the issuance of the final verification report including verification opinion

The third step involves the resolution of the CAR/CL raised. Verification process also includes raising the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification before conclusion on the GHG emission reduction calculation.

Findings established during the initial verification could either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified. Corrective Action Requests (CAR) is issued, where:

- 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, which will impair the estimate of emission reductions;
- Issues identified in a FAR during validation to be verified during subsequent verification have not been resolved by the project participants;
- The verification team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable VCS requirements is met.

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

The verification of the Project alone resulted in 03 Corrective Action Request, and 03 Clarification Request and 01 Forward Action Request. 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 closure of CARs and CLs are discussed under Appendix I of the Verification Report.

The project activity involves 100% monitoring of data related to emission reduction calculation. No sampling plan has been envisaged.

2.2 Document Review

The verification team has assessed the accuracy of the project description including monitoring plan through a combination of steps consisting of site visit inspection, review of contract related to the project activity, Scrutiny of technical specification and interview of the project participant and their representatives. Following supporting documents were reviewed for the current verification period:

- Registered VCS-PD, Monitoring Report, Emission reduction spreadsheet of the project activity.

- Joint monthly meter reading reports, monthly Invoices and calibration certificates of the energy meters pertaining to the current verification period.

2.3 Interviews

On 28-January-2015, during site visit, Bureau Veritas Certification team performed interviews with the representative of the project participant to confirm selected information and to resolve issues identified in the document review.

The main topics of the interviews are summarized below:

- Project operation and changes, if any.
- Monitoring, calibration, and personnel competence
- Data uncertainty, Data recording and archiving
- QA / QC procedures
- Emission reduction calculation
- Resolution of CARs, CLs and FARs

2.4 Site Inspections

The physical site visit was carried out on 28-January-2015 by competent team of Bureau Veritas Certification. All monitoring points, meters, and WTG locations were physically inspected and verified by the verification team.

2.5 Resolution of Findings

The objective of this phase of the verification is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification conclusion on the project design. To guarantee the transparency of the verification process, the verification team raised Corrective Action Request (CAR) and Clarification request (CL). The supplementary validation of the Project resulted in 03 CARs, 03 CLs and 01 FAR. The CAR and CL were closed based on adequate responses from the Project Participant which meet the applicable requirements. They have been reassessed before their formal acceptance and closure. The closure of CAR and CL are discussed under Appendix I of this report.

2.5.1 Forward Action Requests

It was also noted that no evidence was available for checking whether QA/QC procedure of cross-checking data with invoices was implemented or not. A clarification request (CL 2) was raised by VVB on the same point for which the project participant provided response that The QA/QC procedure in line with monitoring plan for cross-checking generation data with invoices was implemented, however, it was not documented. The PP prepared a QA/QC format which is submitted with the response and assured that this document will be maintained from now onwards as a proof of implementation of QA/QC procedure. The verification body cross-checked data of joint meter reading reports with the invoices raised and found that both were consistent. Hence CL 2 is carried as Forward Action Request to be checked at subsequent verification.

2.6 Eligibility for Validation Activities

The Project comes under sectoral scope 1, Energy Industries (renewable - /non-renewable sources). According to the eligibility requirements for validation and verification activities set out in

VCS Program Guide, Validation/Verification Bodies (VVBs) are accredited by sectoral scope and may only perform services for projects within their approved scope. Bureau Veritas Certification holds accreditation for validation and verification for sectoral scope 1, Energy (renewable/non-renewable), which is available on the VCS website http://www.v-c-s.org/vvb/bureau-veritas-certification-holding-sas

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity is a registered VCS project and is not registered and/or seeking registration under any other GHG program. The project participant has also provided undertaking (Ref /11/) to confirm the same.

3.2 Methodology Deviations

VVB confirms that there is no methodology deviation observed from the registered VCS-PD.

3.3 Project Description Deviations

VVB confirms that there is no project description deviation observed from the registered VCS-PD.

3.4 Grouped Project

The project activity is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is renewable power generation from wind and supply of the power to the grid. The total installed capacity of the project activity is 49.5 MW equipped with 33 WTGs of 1.5 MW installed capacity each. The project is located at Jhimpir, District Thatta, Sindh, Pakistan.

The project activity harnesses wind energy to generate and supply electricity to the grid. The operation of WTGs is emission free and no GHG emissions are produced during the lifetime of the project activity. The power generated by wind power plant station is evacuated by two 132 kV transmission lines to National Transmission & Despatch Company (NTDC) Limited as per the Power Purchase Agreement (PPA) signed between the PP & NTDC. The project activity got commissioned on 16-May-2013.

The data used for the calculation of emission reductions were taken from Joint Monthly Meter Reading Report for monitoring of net electricity exported to the grid by project activity. As per the VCS-PD, Monitoring Report, the calibration for main meters and back-up meters will be done after every two (2) years. The calibration certificates provided by the Project Participant (PP) indicates that the calibration frequencies of the meters. The main meters (Make: ISKRA having serial numbers 41507169 & 41507148) and back-up meters (Make: ISKRA having serial numbers 41510586 & 41510585) were calibrated on 30-July-2012 and then on 13-September-2014. The results of calibration show that all the meters are working within the permissible limit of error. The scheduled date for meter calibration was 29-July-2014, however meters got calibrated on 13-September-2014 (Ref /8/). Therefore, the project participant has applied 0.2% error (which is the accuracy class of the energy meters) in conservative manner on Export & Import values for the months July, August & September 2014 because of delayed calibration of main and check meters

during this period. The verification team considers this approach as conservative and appropriate in line with VCS Validation and Verification Manual Version 3.1 dated 8 October 2013 and also in line with the requirements given under §395(a) of the CDM Validation and Verification Standard, Version 09.0, EB 82 Annex 14. The authority of calibration is with power purchaser (National Transmission & Despatch Company Limited (NTDC)) and Metering Committee Reports (Ref /9/) demonstrate that FFCEL made timely requests to NTDC for calibration of the meters however the delay was on part of the power purchaser.

The verification team considers the assurance level as reasonable. The accrued emission reductions for the current monitoring period from the project activity are 141,433 tCO_2.

The project activity is a registered VCS project and is not registered and/or seeking registration or rejected under any other GHG program. The project participant has also provided undertaking (Ref /11/) to confirm the same.

Hence the verification body confirms that the project gas been implemented as described in the project description.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

Project participant provided the spreadsheet used for calculating the emission reductions including the algorithms used in the calculations. The calculations of above parameters were checked in the spreadsheets and found to be correct. The spreadsheet of emission reduction calculation contains information on i.e. net electricity exported to the grid. This information is taken from joint monthly meter reading reports based on the monthly joint meter readings taken jointly by the representatives of NTDC and FFCEL.

To calculate emission reduction as per algorithm given in methodology, baseline emission is calculated by multiplying combined margin emission factor with total value of net electricity exported to grid. The project emissions and Leakage is considered zero which is in line with registered VCS-PD.

The verification team based on the review of calibration certificates of all the Energy Meters and observation during site visit confirms that there is no meter change that had happened during the current verification period and that all the meters are working within the permissible limit of error. As per the VCS-PD, Monitoring Report, the calibration for main meters and back-up meters will be done after every two (2) years. The calibration certificates provided by the Project Participant (PP) indicates that the calibration frequencies of the meters. The main meters (Make: ISKRA having serial numbers 41507169 & 41507148) and back-up meters (Make: ISKRA having serial numbers 41510586 & 41510585) were calibrated on 30-July-2012 and then on 13-September-2014. The results of calibration show that all the meters are working within the permissible limit of error. The scheduled date for meter calibration was 29-July-2014, however meters got calibrated on 13-September-2014 (Ref /8/). Therefore, the project participant has applied 0.2% error (which is the accuracy class of the energy meters) in conservative manner on Export & Import values for the months July, August & September 2014 because of delayed calibration of main and check meters during this period. The verification team considers this approach as conservative and appropriate in line with VCS Validation and Verification Manual Version 3.1 dated 8 October 2013 and also in line with the requirements given under §395(a) of the CDM Validation and Verification Standard, Version 09.0, EB 82 Annex 14. The authority of calibration is with power purchaser (National Transmission & Despatch Company Limited (NTDC)) and Metering Committee Reports (Ref /9/) demonstrate that FFCEL made timely requests to NTDC for calibration of the meters however the delay was on part of the power purchaser.

All the data in the emission reduction spreadsheet was found to be correct and accurate.

There is no possible transposition errors between data sets since the monitoring of the net electricity generated is through calibrated electronic meters with high accuracy and also the value of parameter net electricity exported to the grid is taken from joint monthly meter reading reports and cross-checked by Verification team with the monthly invoice raised by the project participants to NTDC. Also all the recorded data is verified by the verification team. The verification team found that the monitoring plan provided in the monitoring report is same as that described in the VCS-PD and it is in line with actual monitoring taking place on the site of the project activity.

Emission Reductions:

The emission reduction calculations have been carried out from the following algorithm as per applied CDM methodology ACM0002 / Version 15.0:

Baseline emissions are calculated using following formula.

$BE_y = EG_{PJ,,y} \times EF_{grid,CMy}$

Where

BE_y	Baseline emissions in year *y* (tCO_2)
$EG_{PJ,y}$	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr); equal to $EG_{facility,y}$ - Quantity of net electricity generation supplied by the project to the grid in year *y* (MWh)
$EF_{grid,CM,y}$	Combined margin CO_2 emissions factor in year *y* (tCO_2/MWh)

The verification team confirms that project participant has computed the baseline emissions in accordance with the guidance provided in the methodology. The net electricity supplied by the project activity to the grid has been multiplied with the grid electricity emission factor.

There are no project emissions associated with the power generation from wind power project. Hence, $PE_y = 0$ (where, PE_y is Project Emissions)

No leakage emissions are considered for the proposed project activity since no energy generating equipment is transferred from another activity and/or the existing equipment is transferred to another activity. **Thus**, $L_y = 0$ (where, L_y is Leakage)

$ER_y = BE_y – PE_y – L_y$

BE_y = Baseline Emissions as calculated in Section 4.1
PE_y = Project émissions = 0
L_y = Leakages = 0

So $ER_y = BE_y$

$ER_y = 141{,}433\ tCO_2e$

The verification team confirms through the review of the monitoring arrangements and the joint meter reading reports that for the entire current periodic verification, the electricity exported to the grid and imported from the grid was monitored through high accuracy class energy meters (0.2s accuracy class) capable of continuous monitoring. The recording of the data was carried out on monthly basis. This is in accordance with the applied methodology and registered VCS-PD. The net electricity supplied to the grid was also cross-checked by the verification team through the invoices raised by the project participant for the sold electricity.

The grid emission factor, calculated on the basis of the combined margin is 0.6343 tCO_2/MWh and is fixed ex-ante at the time of the validation of the project activity.

Hence, the verification team confirms that the baseline emissions computed for the current verification are appropriate and conservative and the calculation provided under emission reduction spreadsheet is correct. The total baseline emissions for the current verification period from 16-May-2013 to 30-November-2014 (Including both days) are 141,433 CO_2.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

NTDC and FFCEL take joint meter readings on monthly basis and issue reports. On the basis of this data, project participant raises invoice. The verification team has reviewed the calibration certificates of all the meters and confirm that all the meters are working within the permissible limit of error thus ensuring error free measurements. The data pertaining to the above parameters are maintained in identified records for the entire monitoring period. All the data is in compliance with the figures stated in the monitoring report.

The Verification team interacted with Nordex-DESCON JV, who is the WTG supplier and O&M service provider. The agency is experienced in the monitoring system and is managing O&M of numerous other wind farm CDM projects across the host country (Pakistan). The Verification team therefore is of the opinion that the project participant through its competent O&M agency has implemented the monitoring plan in line with the registered VCS-PD in the context of the project activity.

4.4 Non-Permanence Risk Analysis

The data used for the calculation of emission reductions are emission factor of national grid of Pakistan and Net electricity supplied to the grid. Emission factor is taken from Pakistan Energy Year Books. On monthly basis, joint meter reading reports are issued by NTDC and FFCEL. The joint meter reading report contains the Export & Import data month wise by which Net electricity supplied to the grid is calculated. The net electricity supplied to the grid was also cross-checked by the verification team through the invoices raised by the project participant for the sold electricity to NTDC. The verification team has reviewed the calibration certificates issued by NTDC of all the meters and confirm that all the meters are working within the permissible limit of error thus ensuring error free measurements. All the data related to the emission reduction calculation for the monitoring period is taken from Government bodies in Pakistan and therefore, considered authentic. Therefore, the Verification team concludes that there is no risk involved in the project activity.

5 VERIFICATION CONCLUSION

The verification scope is an independent and objective review of the VCS Project description, the baseline study of project activity and monitoring plan and other relevant documents. The review is to verify the implementation of monitoring plan as defined in validated VCS-PD. The period for verification is from 16-May-2013 to 30-November-2014 (inclusive of both the days).The verification of the monitored data indicates the emission reductions and the amount for emission reductions for the monitoring period are 141,433 CO_2.

The calculations of emission reductions are found to be correct. The baseline for the national grid has been taken for arriving at baseline emissions. The grid emission factor of 0.6343 tCO_2e/MWh for NTDC grid was found to be correct.

Appropriate procedures for maintaining the confidentiality and safe custody of the validation or verification documentation and for retaining them for a period sufficient to meet the needs of the client, the responsible parties, the GHG programs to which they subscribe, and in accordance with legal and professional requirements of record retention have been established.

The verification team confirms that the project is implemented as planned and described in the registered VCS-PD. The monitoring mechanism is effective and reliable. The reported data are accurate and correct based on all the records provided to the verification team during the verification as provided in Appendix II. The installed equipment being essential for generating the emission reductions run reliably and the measuring instruments are calibrated.

Verification period: From 16-May-2013 to 30-November-2014.

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
Year 2013 (16-05-2013 to 31-12-2013)	56,798	0	0	56,798
Year 2014 (01-01-2014 to 30-11-2014)	84,635	0	0	84,635
Total	**141,433**	**0**	**0**	**141,433**

APPENDIX I: VERIFICATION FINDINGS (Resolution of Corrective / Forward Action / Clarification Requests)

Draft report clarifications and corrective action requests by verification team	Summary of project owner response	Verification team conclusion
CAR 1 Font of “Table of Contents” is not Arial. Please correct.	Font of “Table of Contents” has been changed to Arial in the revised MR.	The font has been made consistent with VCS Monitoring Report temaplare. **Hence CAR 1 is closed.**
CAR 2 Please update VCS stadard version number in §1.1 of Monitoring Report (MR).	VCS standard version number has been updated in revised MR	VCS standard version number has been updated from 2007.1 to latest 3.4 in the monitoring report. **Hence CAR 2 is closed.**
CAR 3 All the abbreviations used in Monitoring Report (e.g. WTGs) should be explained at least once in the MR.	All the abbreviations used in Monitoring Report (e.g. WTGs) have been explained at least once in the revised MR.	All the abbreviations in the monitoring report have been expained at least once. **Hence CAR 3 is closed.**
CL 1 VCS Issuance Representation is not provided, please provide.	VCS Issuance Representation is being provided with thishis DVR reply.	VCS Issuance Representation has been provided. **Hence CL 1 is closed.**

CL 2 It was also noted that no evidence was available for checking whether QA/QC procedure of cross-checking data with invoices was implemented or not. Please clarify whether QA/QC procedure was implemented as per procedure set in the monitoring plan.	The QA/QC procedure in line with monitoring plan for cross-checking generation data with invoices was implemented, however, it was not documented. Now we have prepared a QA/QC format which is submitted with this DVR reply. This document will be maintained from now onwards as a proof of implementation of QA/QC procedure.	The verification body cross-checked data of joint meter reading reports with the invoices raised and found that both were consistent. Energy Export Quality Form Template is provided by project participant for maintainingg the evidence of QA / QC procedures performed as per registered VCS-PD and assured that same shall maintained. **Hence CL 2 is carried as Forward Action Request to be checked at subsequent verification.**
CL 3 From authorized personnel of FFCEL, please provide a declaration that project activity has not been registered or is seeking any registration or issuance of GHG credits any GHG program other than VCS.	A letter of declaration that project activity has not been registered or is seeking any registration or issuance of GHG credits any GHG program other than VCS has been attached with this DVR reply.	The required undertaking has been provided. **Hence CL 3 is closed.**

FAR 1 §3.2 of the MR describes QA/QC procedure to be implemented for all monitored parameters that it shall be cross-checked with invoices. The VVB cross-checked data with the invoices and found that data was consistent. However, VVB couldn't find any documented evidence that QA/QC procedure was implemented. The PP must maintain evidence for implementation of QA/QC procedure.	The QA/QC procedure in line with monitoring plan for cross-checking generation data with invoices was implemented, however, it was not documented. Now we have prepared a QA/QC format which is submitted with this DVR reply. This document will be maintained from now onwards as a proof of implementation of QA/QC procedure.	Since PP has informed it shall maintain QA/QC implementation evidence, therefore, FAR 1 shall be verified by VVB in subsequent verifications.

APPENDIX II: LIST OF DOCUMENTS REVIEWED

Sr. No.	Documents
/1/	Registered VCS Project Description (VCS-PD), Version 1.2, dated 28/10/2014
/2/	Emission Reduction Calculation Sheet
/3/	Emission Factor Calculation Sheet
/4/	VCS Monitoring Report, Version 1.1 dated 13/02/2015
/5/	Energy Purchase Agreement between FFC Energy Limited and National Transmission and Despatch Company (NTDC), dated 05/04/2011
/6/	Notification of Commercial Operation Date (COD) by National Transmission and Despatch Company (NTDC), dated 12/06/2013
/7/	Technical Description of Energy Meters
/8/	Calibration results of energy meters performed on 29/07/2012 communicated vide SE GSO NTDC Letter No. 5506-18 dated 08/08/2012 and calibration performed on 13/09/2014
/9/	Metering committee reports dated 02/07/2014 and 13/09/2014
/10/	Joint monthly metering reports for the period 06/05/2013 to 30/11/2014
/11/	Undertaking from FFC Energy Limited, dated 29/01/2015, for registration only under VCS.
/12/	VCS Issuance Representation dated 19/02/2015
/13/	Energy Export Quality Format for QA/QC procedure recording

APPENDIX III: PERSONS INTERVIEWED

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

/1/	Mr. Syed Tanveer Hasan, Manager, FFC Energy Limited.
/2/	Mr. Asif Aziz, Senior Executive, FFC Energy Limited.
/3/	Mr. Danish Ayub, DE Maintenance Mechanical, FFC Energy Limited.
/4/	Mr. Kashif Hussain, Electrical Engineer, FFC Energy Limited.

APPENDIX IV: CURRICULUM VITAE OF VERIFICATION TEAM MEMBERS OF VVB

Mr. Anurag Juyal – Team Leader

Bureau Veritas Certification (India), Lead Verifier – Climate Change

Post-graduate in Energy Systems with around 7 years of experience in the field of climate change services. He is working in Bureau Veritas Certification (India) Pvt. Ltd. as Lead Verifier-Climate Change. Prior to joining Bureau Veritas, he worked on GS/CDM/VCS projects as a consultant. He has received extensive training in CDM validation and verification processes, Assurance of GHG Footprinting/CSR reporting and participated in assessment of CDM and sustainability projects. He is working in Bureau Veritas Certification (India) Pvt. Ltd. for more than 4 years and is currently involved in validation and verification of more than 50 CDM/ VCS projects. He has also successfully completed intensive Lead Verifier training on ISO 14064:2006 and ISO 9001:2008.

Mr. Imran Altaf Bhatti – Team Member

Bureau Veritas Certification (Pakistan), Verifier - Climate Change

Graduate in the field of Mechanical Engineering and post graduate diploma in Business Administration. Has more than 5 years of Industrial work experience and 14 years experience in the field of auditing quality, environmental and occupational health and safety management systems. Lead Auditor and Lead Trainer in Bureau Veritas Certification for Environment Management System, Quality Management System, Occupational Health and Safety Management System. Lead Auditor and Lead Trainer for Social Accountability Management System and Auditor for Energy Management System and supply Chain Security Management System. He has undergone training on Clean Development Mechanism. He is involved in the Validation of CDM projects in Pakistan.

Mr. Feroz Baig – Team Member

Bureau Veritas Certification, Verifier - Climate Change

Graduate in the field of Electrical (Power) Engineering and Masters in Industrial Management. Has more than 6 years of experience in CDM as Consultant. Participated as an observer and trainee verifier in validation & audit of technical, financial, and legal aspects of projects involving energy efficiency in heat/power generation projects, renewable energy, and fuel switch measures. Study and review of all technical, financial, and legal compliance of wind energy projects, cogeneration and fuel switch projects in Pakistan.

Mr. Sanjay Patankar

Internal Technical Reviewer

Product Manager – Climate Change and Sustainability Services (India)

He holds a Masters and Bachelors degree in Mechanical Engineering. He has over 20 years of experience in engineering manufacturing industry covering various functions like enterprise management, product design, engineering, tool & die design, improvements in the production shop, quality assurance & control and systems planning and implementation, including ISO 9001 based quality management systems. He is working with Bureau Veritas Certification (India) Pvt. Ltd. as Lead Auditor for the last 2 years on ISO 9001, 14001 and OHSAS 18001

standards/specifications. Has undergone training related to Clean Development Mechanism and is currently involved in validation and verification of CDM project activities.