

VERIFICATION REPORT FOR 51 MW WIND POWER PROJECT AT CHITRADURGA



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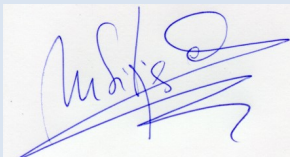
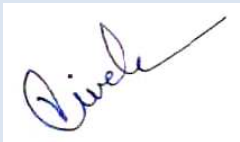
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Summary:

LGAI Technological Center, S.A. (hereafter referred to as Applus+ LGAI) has performed 4th periodic verification of the “51 MW Wind Power Project at Chitradurga” (VCS reference number 706) project of NSL Renewable Power Private Limited located at Bhimasamudra site in Chitradurga district in State of Karnataka, India with regard to the relevant requirements of VCS programme guidelines and standard (VCS standard version 3.5/6/, VCS Validation and Verification Manual version 3.1 & VCS program guide version 3.5)/7/. Relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting has been applied for verification.

The verification includes confirming the implementation of the monitoring plan of the validated VCS PD and MR and the application of the monitoring methodology as per ACM0002 version 11: “Consolidated baseline methodology for grid connected electricity generation from renewable sources”. A site visit was conducted to verify the data submitted in the monitoring report.

The purpose of this project activity is to generate electricity using renewable sources (wind) and export it to Karnataka Power Transmission Corporation Limited (KPTCL) which is connected Southern grid, thereby displacing the grid generated electricity.

The installed capacity of project activity is 50.4 MW, out of which 4 numbers Wind Turbine Generator's (WTG) of capacity 2.1 MW manufacture by Suzlon and remaining 28 numbers of capacity 1.5 MW by ReGen Powertech. WTGs located in Bhimasamudra site in Chikkandavadi and Kallavangathihalli village of Chitradurga district in the state of Karnataka, India. The total capacity of the project activity is 50.4 MW and the entire power generated by the project activity is exported to the Southern region grid with a firm power purchase agreement with BESCOM/KPTCL.

A risk based approach has been followed to perform this verification. In the course of verification, 06 Corrective Action request (CARs) and 01 Clarification request (CLs) were raised and successfully closed.

The review of the project design documentation, monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and stakeholders have provided Applus+ LGAI with sufficient evidence to validate the fulfillment of the stated criteria.

Verification Conclusion:

The conclusions of this report show, that the project, as it was described in the monitoring report, is in line with all criteria applicable for the verification. This verification is based on the information made available to Applus+ LGAI and the engagement conditions are detailed in this report. No restrictions or uncertainties were identified related to the verification.

Applus+ LGAI confirms that the project is implemented in accordance with the validated VCS PD. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the implementation of the project has resulted in **191,361 tCO₂e** during period **01-January-2014 to 29-February-2016**.

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1 INTRODUCTION

1.1 Objective

Applus+ LGAI has been contracted by NSL Renewable Power Private Limited, (project proponent), to undertake the verification of the renewable energy project titled “51 MW Wind Power Project at Chitradurga”. The verifiers have reviewed the GHG data collected to date for the monitoring period from 01-January-2014 to 29-February-2016 (both days included) covered in this verification.

The purpose of this verification is to have an independent third party assessment of whether the project activity conforms to the qualification criteria set out in the VCS Version 3.5 standard to attain real, measurable, additional and permanent emission reductions. The verification statement/opinion is a written assurance that:

- The project complies with all the applicable VCS requirements and has the ability to generate the emission reductions stated over the project’s crediting period.
- The verification followed the requirements of the current version of the VCS Standard Version 3.5/6/ and VCS program guide 3.5/7/ to ensure the quality and consistency of the verification work and the report.
- The project has resulted in emission reductions as declared by the organisation or GHG project’s GHG assertion;
- The data reported is accurate, complete, consistent, transparent and free of material error or omission.

1.2 Scope and Criteria

The scope of the verification was the independent and objective review and ex-post determination of the monitored reductions in GHG emissions from “51 MW Wind Power Project at Chitradurga”. The verification of this project was based on the validated VCS project description & monitoring report and supporting documents submitted by the project proponent to the verification team. The documents were reviewed against the following guidance and protocols:

- VCS Standard: VCS Version 3, 25 March 2015, v3.5 (VCS Standard) /6/
- Approved Clean Development Mechanism (CDM) methodology ACM0002, version 11, “Consolidated baseline methodology for grid connected electricity generation from renewable sources”.
- VCS Project Description /3/
- VCS Program Guide, Version 3, 8 October 2013, v3.5
- ISO 14064-3: Specification with guidance for the validation and verification of greenhouse gas assertions, 2006

The verification is not meant to provide any consulting towards the client. However, stated request for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 Level of Assurance

The verification team was provided with a monitoring report, covering the period from 01-January-2014 to 29-February-2016 (inclusive of both the days). Based on this documentation, a document review, on-site assessment of implementation of the project activity and interview with the project participant was conducted. The Monitoring Report, version 01.0, dated 07-March-2016 covering the period from 01-January-2014 to 29-February-2016 (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 3.5 dated 25-March-2015.

The data used for the calculation of emission reductions were taken from CEA (Central Electricity Authority), Form B issued by BESCOM and Invoice raised by the Project participant for the net electricity exported to the grid by project activity/10/. As per the VCS PD/3/ and revised VCS MR/2/ the calibration for the meters will be done once in a year by BESCOM/KPTCL.

During the current monitoring period, the calibration frequency was followed and the details of the same are discussed in the following sections of the report. There was one instance when meter was changed during the current verification period. During site visit and subsequent review of meter change document it was confirmed that there was meter change in the project activity. 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 Version 3.5 for the current verification period.

The verification team considers the assurance level as ‘reasonable’. In accordance with the VCS Standard 3 Version 3.5, the materiality threshold applied was one percent. The accrued emission reductions for the current monitoring period from the project activity are 191,361 tCO₂e.

1.4 Summary Description of the Project

The project activity is owned by M/s NSL Renewable Power Private Limited (hereafter referred to as “the Project Participant”). It involves the installation of Suzlon make 04 numbers Wind Turbine Generator’s (WTG) of capacity 2.1 MW each and 28 numbers of ReGen Powertech make 1.5MW WTGs located in Bhimasamudra site in Chikkandavadi and Kallavangathihalli village of Chitradurga district in the state of Karnataka, India. The total capacity of the project activity is 50.4 MW and the entire power generated by the project activity is exported to the Southern region grid with a firm power purchase agreement with BESCOM/KPTCL.

The Project has been registered under VCS standard 2007.1 with project ID 706 under approved CDM methodology ACM 0002, Version 11 “Consolidated methodology for grid-connected electricity generation from renewable sources”. The Project Start Date is 06-June-2008, when the first WTG No HK 3 of the Project activity was commissioned and started electricity generation. The 4th monitoring period for the Project under the VCS is from 01-January-2014 to 29-February-2016.

Project Title	51 MW Wind Power Project at Chitradurga
VCS Project ID	706
Monitoring period	01-January-2014 to 29-February-2016
Project participant	NSL Renewable Power Private Limited
Methodology used	ACM 0002 version 11
Location of the project	Chitradurga District in Karnataka State
Geo Coordinates	As provided in Section 1.5 of VCS PD and section 1.7 of the monitoring report
VCS Link	http://www.vcsprojectdatabase.org/#/project_details/706

The project activity generates electricity using wind energy, which does not result in any greenhouse gas (GHG) emissions. Thus, this project activity leads to a reduction in GHG emissions that would otherwise have occurred when using electricity generated from conventional fossil fuel based sources in the Southern region grid.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The overall verification, beginning from the Contract Review to Verification report & opinion, was conducted using Applus+ LGAI internal procedures. The project is already registered with the VCSA on 15-November-2011 (VCS ref no 706) and can be viewed from the web link in the VCSA website (http://www.vcsprojectdatabase.org/#/project_details/706). The verification criteria followed by the project participant is based on the VCS standards Version 3.5. This is the fourth verification of the project activity under VCS for the vintage from 01-January-2014 to 29-February-2016 (both the days included). 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 validation report, approved VCS PD and previous three verification reports. The current documents include the Monitoring report for the current verification period, emission reduction spreadsheet and other supporting documents (Form B issued by BESCOM/10/, invoices raised by the Project participant, etc.) pertaining to the current verification period/11/. Refer to Annexure 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 Participants and as well as review of documents provided under Annexure II to ensure the implementation and operation of the project activity in line with the registered VCS-PD/3/;
- 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 Applus+ LGAI before conclusion on the GHG emission reduction calculation.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Annexure I. The supplementary validation and verification of the Project resulted in 06 Corrective Action Requests (CARs) and 01 Clarification Requests (CL).

All the CARs and CLs were closed based on adequate responses from the Project Participant(s) which meets the applicable requirements. They have been reassessed before their formal acceptance and closure. The closure of all the CARs and CLs are discussed under Annexure 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:

- VCS-PD/3/, VCS-Validation Report/4/, Emission reduction of the project activity;
- Monitoring report and emission reduction spreadsheet for the current verification period,
- Form B issued by BESCO for each metering location/10, monthly Invoices raised by the Project participant for the current verification period/11/.

Based on this documentation, a document review and an on-site assessment of implementation and emission reduction was conducted. The Monitoring Report, version 1.0, dated 07-March-2016 covering the period from 01-January-2014 to 29-February-2016 (inclusive of both the days), serves as the basis for the assessment presented herewith.

2.3 Interviews

From 11-March-2016 to 12-March-2016, during site visit, Applus+ LGAI performed interviews with the representative of the project participant and O & M Service provider to confirm selected information and to resolve issues identified in the document review. Representatives of NSL Renewable Power Private Limited and O & M Service providers were interviewed. The main topics of the interviews are summarized in Table below:

Location: Wind Project Site at , Chikkandavadi & Kallavanagathihalli, Chitradurga District Karnataka , India	Date: 11-March-2016 to 12-March-2016
Coverage	Source of Information / Persons Interviewed
• Project implementation and changes; if any • Monitoring Plan	NSL Renewable Power Private Limited (Project Participant)

- Monitored Data - Data recording and archiving - GHG calculation procedures - Resolution of CAR(s) and CL(s) - Change to the registered monitoring plan (if any)	- Mr. Chandra Shekara (Sr. Engineer) - Mr. Girish Gowda (Sr. Accountant) - Mr. T. Ananada Mority (Supervisor) - Mr. M. Venkat (Sr. Manager)
Monitoring and measuring system - Collection of measurements - Observations of established practices - Data Verification of monitoring parameters	Suzlon Energy Limited(SEL) and ReGen Powertech Private Limited (RPPL) (O & M Service providers)
QA/QC procedures, data management, internal audits to maintain data quality & reliability, maintenance Practices Consideration of monitoring period, monitoring methodology, project documentation and emission reduction calculations	Suzlon Energy Limited(SEL) and ReGen Powertech Private Limited (RPPL) (O & M Service providers)

2.4 Site Inspections

This is a fourth verification of the project activity under VCS for the monitoring period starting from 01-January-2014 to 29-February-2016. The physical site visit for the verification period carried out by team member on 11-March-2016 to 12-March-2016.

The verification team reviewed all the records of the sold electricity and the Form B (issued by the BESCOM/10/; state electricity utility which is a government entity) for the current verification period/11/ and confirms that there is no change in the project design with respect to the previous verifications.

2.5 Resolution of Findings

The verification team confirms that there are no remaining issues or any material discrepancy in the registered documents on VCSA website and supporting documents mentioned under Annexure II of this report. However, during current verification period there were 06 Corrective Action Requests and 01 Clarification Requests raised and were subsequently closed by the verification team on the basis of, correct and appropriate response by the Project participant. The closure of CAR(s) and CL are discussed under Annexure I of the verification report.

2.5.1 Forward Action Requests

There was no forward action request raised during the validation stage. During current verification period, there was no outstanding discrepancy observed by the verification team. Hence no Forward Action Request was raised.

2.6 Eligibility for Validation Activities

Not Applicable

3 VALIDATION FINDINGS

This is fourth periodic verification for the registered VCS project activity with project ID 706. There is no gap, no methodology deviation, no project description deviation and no inclusion of new project activity instances into grouped projects. Hence this section is not applicable.

3.1 Participation under Other GHG Programs

This is fourth periodic verification for the registered VCS project activity with project ID 706, And there is no participation of this project under other GHG programs Hence this section is not applicable.

3.2 Methodology Deviations

Not Applicable

3.3 Project Description Deviations

Not Applicable

3.4 Grouped Project

Not Applicable as this is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The verification team during the site visit and interview with the PP and O&M confirmed the consistency of project implementation with the project description. It has been observed by the verification team that the project involves the installation of 28 numbers of 1.5 MW WTGs of ReGen make and 4 numbers of 2.1 MW WTGs of Suzlon make in Chikkandavadi and Kallavangathihalli Village of Chitradurga district in the state of Karnataka, India. All the 32 WTG's are leading to a cumulative capacity of the project as 50.4 MW, which is same as described in the registered VCS PD/3/. The entire power generated by the project activity is exported to the southern regional grid of India with a firm energy purchase agreement with the Karnataka Power Transmission Corporation Limited (KPTCL).

The electricity exported and imported from the grid is recorded through metering points installed at grid controller station. There are 4 controller station points viz., NSLC III, NSLC IV, NSLC V and NSLC IV used to measure the net electricity supplied to the grid by all the 32 WTGs. All the WTGs are not provided with metering location and hence each controller points measure electricity supplied by more than one WTG. All meters are of bi-directional tri-vector type with an accuracy class of 0.2. Apart from the readings taken at group controller points, the electricity export readings are also taken at the grid interconnection point or 66 kV substation namely NSLC I and NSLC II. Based on the two readings taken at group controller points and substation, state electricity utility prepares a monthly statement namely Form B of electricity supplied through each

WTG after accounting for the transmission loss and import of electricity. The transmission loss has been calculated by the BESCOM/KPTCL personal based on electricity export readings measured at the group controller points and at the 66 kV substation and the same is provided along with the From B/10/. All the WTGs are owned by NSL Renewable Power Private Limited. Hence, the verification team confirms that the project activity has been implemented as per the description provided in the registered VCS PD /3/. The equipment necessary for GHG emission reductions are in place.

The inadequacies of Monitoring Report were reported in the CAR#01 and CAR#02 in the protocol in Annexure I. The Project Participant responded with the revised monitoring report (Version 01.1, dated 06-April-2016) addressing the findings of the Verification Team along with the relevant supporting documents. The verification team verified the responses and closed CAR#01 and CAR#02. The revised Monitoring Report addresses the issues satisfactorily and is in line with the applicable guidelines.

The verification team confirms that no information about the project activity provided in the final monitoring report is different from that stated in the registered VCS-PD, and which could have caused or is likely to cause any increase in the estimates of emission reductions during the future monitoring periods.

Compliance of Monitoring with the Monitoring Plan

The monitoring plan is in accordance with the UNFCCC approved methodology applied by the registered VCS project activity viz; ACM 0002, version 11. The primary monitoring in the project activity is that of the net electricity supplied to the state electricity grid. The verification team hereby confirms that the registered monitoring plan is in accordance with the UNFCCC approved methodology applied by the registered VCS project activity. No revision in the monitoring plan or deviation request was necessary for the current verification period on this aspect.

Corresponding to the Section 4 of VCS version 3.5, Applus+ LGAI can confirm that the monitoring plan is in accordance with the approved methodology including applicable tool(s) applied by the Project.

Thus the verification team confirms that the actual operation of the project activity is in line with the description in the registered VCS-PD/3/. There was no other data or information provided in the monitoring report that was different from the description stated in the registered VCS-PD and having caused or likely to cause any increase in the estimates of emission reductions in the future monitoring periods.

The Project participant has confirmed that there are no GHG emission reductions or removals generated by the project have been included in any emissions trading program or any other mechanism that includes GHG allowance trading. Also have not claimed any other form of environmental credits nor has participated or was rejected under any other GHG programs. The Project participant has also provided undertaking to support the same.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

Monitoring of the project activity parameters has been carried out in accordance with the monitoring plan, contained in the registered VCS-PD/3/.

The parameters required by the registered monitoring plan and the manner in which the verification team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters) including the values in the monitoring reports are described below:

- (a) **Electricity supplied to the grid by the plant (EG_y)** – The electricity exported and imported by all 32 WTGs of the project activity at each of the 4 metering points (namely NSLC III, NSLC IV, NSLC V, NSLC VI) is recorded monthly by representatives of the BESCOM and Project Participant/10/. Based on the monthly electricity export recorded at group controller station meter and at the substation meter (TEG_y), the BESCOM determines the transmission line loss, in accordance with the conditions stipulated in the PPA signed between them and the Project Participant. Based on this, the BESCOM issues line loss calculation sheets, for the every month. The Joint Meter Reading Statements (known as Form B) is then submitted by the BESCOM to the Project participant which indicates the electricity export, electricity import, transmission line losses and the net electricity exported value at individual grid controller station. The emission reduction calculations are based on the net electricity exported values at group controller stations, as indicated in the Form B. This determination is in line with the provision stated in the registered monitoring plan. Based on this Form B, the Project Participant raises an invoice to the BESCOM, subsequent to which, the payments are released. The electricity generation value in the Form B issued by KPTCL/BESCOM has been compared with the invoices raised by the project participant against KPTCL/BESCOM/11/ and a conservative value (among the value indicated in Form B and in Invoice) is considered for calculation of emission reduction. In this regard, the verification team has raised CAR#03, and successfully closed the same after satisfactory response from the Project participant.
- (b) **Total electricity produced by the project activity, including the electricity supplied to the grid and the electricity supplied to internal loads (TEG_y)** - The verification team noted that all the WTGs in the project activity are connected through two feeders to the sub-station which is dedicated to the project activity. There is a main and check meter of accuracy class 0.2s located in each of the two feeders at the receiving sub-station (NSCL I and NSCL II). At the time of site visit, the verification team noted that the sub-station meter, NSCL I, measure and record the total electricity exported by all the WTGs connected to group controller points, NSLC III and NSCL IV. Similarly, the sub-station meter, NSCL II, measure and record the total electricity exported by all the WTGs connected to group controller points, NSCL V and NSCL VI in the wind farm. The joint meter reading is taken here by representatives of the BESCOM/KPTCL and Project Participant on a monthly basis. The purpose of this recording at substation is to deduce the transmission line losses in the electricity exported by the individual wind turbines in the wind farm. The verification team noted that this determination is, in accordance with the conditions stipulated in the PPA signed between them and the Project Participant. This was further crosschecked with the invoices /11/ raised by the Project participant on BESCOM/KPTCL and was found to be correct.

CAR#04 was raised requesting the PP to include any relevant information regarding the accuracy of the measurements (e.g., accuracy associated with meter equipment or laboratory tests) in section 3.2 of MR for monitoring parameters. In response, the PP informed that the relevant information regarding the accuracy of measurement is included in Appendix I of the MR. The assessment team confirms the same and hence CAR#04 is closed satisfactorily. Also, CAR#05 was raised as according to the instruction for completing the monitoring report Monitoring report version 3, the tables of data and parameter monitored should include "Purpose of the data". The PP is requested to clarify why "purpose of the data" section is missing from the table of TEG_y parameter. In response, the PP included the "purpose of data" section in the respective table. Hence, CAR#05 was closed satisfactorily.

Parameters determined ex-ante:

EF_{grid,CM,y}, emission factor for southern region grid - The emission factor for the entire crediting period of the Project activity has been determined ex-ante in the registered VCS-PD /3/. The emission factor value of 0.9451 tCO₂e/MWh used in the monitoring report has been

verified against the VCS registered PD and found to be consistent. The value is referred from CEA database. CEA is the sole authority for the publication of such data in India. It is a part of the Ministry of Power of the Government of India and therefore, is a source of authentic and credible data for the purpose of the determination of the grid emission factor.

CL#01 was raised as requesting the PP to clarify why the parameter ID (of EF_{OM} , EF_{BM} and $EF_{CO_2, grid, y}$) and its descriptions are not consistent with the Project Description. In response, the PP corrected the parameter ID consistent with PD. The same was found appropriate; hence, CL 1 is closed satisfactorily.

All records like monthly Form B /10/, Invoice raised by the Project participant /11/, commissioning certificates, Calibration certificates /13/, etc. related to the project activity operations are also well maintained by the Project Participant. The data was found to be recorded diligently.

As per the methodology ACM0002 Version 11 and the registered VCS-PD, 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:

$$ER_y = BE_y - PE_y - LE_y$$

Where,

ER_y = Emission reductions
 BE_y = Baseline emissions
 PE_y = Project emissions
 LE_y = Leakage Emissions

Baseline Emissions

It is calculated as the product of Net electricity supplied to the grid multiplied with Grid Emission Factor and is determined using the following formula:

$$\begin{aligned} BE_y &= EG_y * EF_{grid, CM, y} \\ &= 202478 * 0.9451 \\ &= 191,361 \text{ tCO}_2\text{e (Rounddown)} \end{aligned}$$

Where,

$EF_{grid, CM, y}$ = CO2 Baseline emission factor of the grid, calculated ex-ante in the registered PD as
0.9451 tCO₂e/MWh

EG_y = Net electricity supplied to the grid (MWh)

Project Emissions

Project emission is considered to be nil which is in line with the applied methodology ACM 0002 version 11.

Leakage Emissions

No leakage needs to be considered according to ACM0002 Version 11

Emission reductions

The emission reductions during the monitoring period from 01-January-2014 to 29-February-2016 are calculated as:

$$\begin{aligned}ER_y &= BE_y - PE_y - LE_y \\&= 191,361 - 0 - 0 \\&= 191,361 \text{ tCO}_2\text{e}\end{aligned}$$

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The verification team confirms that all parameters stated in the registered monitoring plan were monitored throughout the current verification period and data on the same was available.

CAR#06 was raised requesting the PP to include the procedures used for handling any internal auditing performed and any non-conformity identified. And the implementation of sampling approaches, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures. Where applicable, demonstrate whether the required confidence level or precision has been met. In response the PP mentioned that he information are included in subsequent sections of the MR/2/. Same information are validated during site inspection and interview with the O&M personnel. Hence CAR#06 is closed satisfactorily.

The following actions were taken to ensure that the most conservative assumption theoretically possible has been made:

1. Ensured that the data that directly affect emission reductions are from official sources.
2. The values of net electricity exported to the grid as indicated in the Form B /10/ were also cross-checked with the invoices raised by the Project participant on BESCOM/KPTCL /11/. The verification team noted that there is minor difference in the net electricity values mentioned in Form B statements and the invoices. This difference is due to the fact that for invoicing the Project participant considers 115% of import, which is in accordance with the provisions of PPA.
3. The registered monitoring plan indicates the frequency of accuracy testing/ calibration of the main and check meters as once in a year. The energy meters of project activity are calibrated and sealed by testing division of BESCOM and Project participant has no role to play in the same. Following are the detail of the calibration of meters that took place during the current monitoring period.

For Financial Year 01- April 2014 to 31-March 2015:

Metering Points	Meter Details					Test Result
	Serial no	Make	Type	Accuracy class	Date of Calibration	
NSLC I	Main meter – 11071857 Check meter – 11071859	L & T	3P4W	0.2S	22-May-2014	Satisfactory
					06-August-2014	Satisfactory
					18-October-2014	Satisfactory
					12-January-2015	Satisfactory
NSLC II	Main meter – 11071861 Check meter – 11071863	L & T	3P4W	0.2S	22-May-2014	Satisfactory
					06-August-2014	Satisfactory
					18-October-2014	Satisfactory
					12-January-2015	Satisfactory
NSLC III	Main meter – 07022896 Check meter – 07022921	L & T	3P4W	0.2S	2-May-2014	Satisfactory
					31-July-2014	Satisfactory
					18-October-2014	Satisfactory
					12-January-2015	Satisfactory
NSLC IV	Main meter – 07022985 Check meter – 07022986	L & T	3P4W	0.2S	22-May-2014	Satisfactory
					31-July-2014	Satisfactory
					18-October-2014	Satisfactory
					12-January-2015	Satisfactory
NSLC V	Main meter – 09142342 Check meter - 09141853	L & T	3P4W	0.2S	22-May-2014	Satisfactory
					31-July-2014	Satisfactory
					23-October-2014	Satisfactory
					12-January-2015	Satisfactory

NSLC VI	Main meter – 11071865 Check meter – 13191363	L & T	3P4W	0.2 S	22-May-2014	Satisfactory
					31-July2014	Satisfactory
					18-October-2014	Satisfactory
					12-January-2015	Satisfactory

For Financial Year 01- April 2015 to 31-March 2016:

Metering Points	Meter Details					Test Result
	Serial no	Make	Type	Accuracy class	Date of Calibration	
NSLC I	Main meter – 11071857 Check meter – 11071859	L & T	3P4W	0.2S	20-April-2015	Satisfactory
					15-July-2015	Satisfactory
					13-October-2015	Satisfactory
					02-January-2016	Satisfactory
NSLC II	Main meter – 11071861 Check meter – 11071863	L & T	3P4W	0.2S	20-April-2015	Satisfactory
					15-July-2015	Satisfactory
					13-October-2015	Satisfactory
					02-January-2016	Satisfactory
NSLC III	Main meter – 07022896 Check meter – 07022921	L & T	3P4W	0.2S	10-April-2015	Satisfactory
					08-July-2015	Satisfactory
					13-October-2015	Satisfactory
					02-January-2016	Satisfactory
NSLC IV	Main meter – 07022985 Check meter – 07022986	L & T	3P4W	0.2S	10-April-2015	Satisfactory
					08-July-2015	Satisfactory
					13-October-2015	Satisfactory
					02-January-2016	Satisfactory
NSLC V	Main meter –	L & T	3P4W	0.2S	10-April-2015	Satisfactory

	09142342 Check meter - 09141853				08-July-2015	Satisfactory
					13-October-2015	Satisfactory
					02-January-2016	Satisfactory
NSLC VI	Main meter – 11071865 Check meter - 13191363	L & T	3P4W	0.2 S	10-April-2015	Satisfactory
					08-July-2015	Satisfactory
					13-October-2015	Satisfactory
					02-January-2016	Satisfactory

4.4 Non-Permanence Risk Analysis

Not Applicable

5 VERIFICATION CONCLUSION

The verification scope is an independent and objective review of the VCS Project description, the project's baseline study and monitoring plan and other relevant documents. The review is to verify the implementation of monitoring plan as defined in registered VCS PD/3/. The period for verification is from 01-January-2014 to 29-February-2016 (inclusive of both the days).

The calculations of emission reductions are found to be correct. The baseline for the Southern regional grid has been taken for arriving at baseline emissions. The grid emission factor of 0.9451 tCO₂e/MWh for Southern regional 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 programmes to which they subscribe, and in accordance with legal and professional requirements of record retention have been established.

Therefore, Applus+ LGAI is able to confirm 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 annexure-II. The installed equipment being essential for generating the emission reductions run reliably and the measuring equipment/instruments are well within the frequency of calibration.

Verification period: From 01-January- 2014 to 29-February- 2016

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2014	99,097	0	0	99,097
2015	81,274	0	0	81,274
2016	10,990	0	0	10,990
Total	191,361	0	0	191,361

Signed on behalf of the Verification Body by Authorized Signatory LGAI Technological Center, S.A. (Applus)

Date: 04-May-2016

Vivek Kumar
Ahirwar

Lead Auditor

Signature:



Date: 04-May-2016

Miquel Sitjes
Cabanas

Technical
reviewer

Date: 04-May-2016

Signature:



Date: 04-May-2016

Natalia Rodrigo
Vega

CDM Project
Activity
Manager

Signature:



ANEXTURE I: DETAILS OF CORRECTIVE ACTIONS AND CLARIFICATION REQUESTED

Draft report clarifications and corrective action requests by verification team	Reference/ Section	Summary of project owner response	Verification team conclusion
CL#01: The PP is requested to clarify why the parameter ID (of EF_{OM}, EF_{BM} and $EF_{CO2, grid, y}$) and its descriptions are not consistent with the Project Description.	3.1 of VCS-MR	The parameters ID of respective parameters are now corrected in revised MR.	In the revised MR the parameter ID used to represent 'Data and Parameters Available at Validation' viz. $EF_{grid,OM,y}$, $EF_{grid,BM,y}$, $EF_{grid,CM,y}$; are found consistent with the Project Document. Hence CL#01 is closed satisfactorily.
CAR#01: - Font in title page is inconsistent with the instructions for completing the monitoring report Monitoring report version 3. - Date format is inconsistent with the instructions for completing the monitoring report.	Title page of VCS-MR	- Font size for title is applied as Arial 24pt black, regular font and for name & address is applied as Arial 11pt, black, regular font which meeting template requirement. - Date format corrected now	In the title page of the revised MR, all the fonts are appropriately applied s per the instruction for completing the monitoring report version 03 hence point 1 of CAR 1 is closed. Also, the date format is found consistent with the monitoring report form version 03, hence point 2 is closed satisfactorily. Based on the satisfactory response from the PP and review of the revised MR, CAR1 is closed

CAR#02: 1. The total capacity of project is inconsistent with the actual value in section 1.1 of the MR. 2. As per instruction for filling out monitoring report form version 03, it is recommended to limit "Summary Description of the Implementation Status of the Project" in only one page.	Section 1.1 of VCS-MR	1. Explanation about capacity is already provide in next paragraph in section 1.1 of the MR. 2. Project Description is corrected now, limited to one page.	1. The total project capacity is 50.4 MW. Initially the project was envisaged to be of 51 MW but because of delay in supply of WTGs the PP decided to change the capacity of project. Same is mentioned in section 1.1 of the MR and found consistent with the previous verification report/Ref14/ available in VCS website. Hence, point 1 is closed satisfactorily. 2. As per instruction for filling out monitoring report form version 03, the "Summary description of the implementation status of projects is confined to one page only in the revised MR. Hence, point 2 is closed satisfactorily. Based on the satisfactory response and documents provided by the Project participant, CAR#02 is closed.
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CAR#03: The PP is requested to include Qualification and Training provided to personnel and share supporting document for the same.	Section 3.3 of VCS-MR	Qualification Training document is provided to DOE.	The responsibility of qualification and training provided to personnel included in the project activity is with the O & M provider. During interview with the O&M it was confirmed that appropriate qualification and trainings are provided. Same is verified with the document shared by the PP. Hence, CAR#03 is satisfactorily closed.
CAR#04: As per instructions for completing the monitoring report Monitoring report version 3, the pp is requested to Include any relevant information regarding the accuracy of the measurements (e.g., accuracy associated with meter equipment or laboratory tests) in section 3.2 of MR for monitoring parameters.	Section 3.2 of VCS-MR	The description about accuracy of the measurements is already provided in Appendix I and now reference of the same is also included revised MR.	The description about accuracy of the measurements is provided in Appendix I of the VCS-MR. All requisite information like make, type, accuracy class etc of the measuring instrument are provided in Appendix I of the MR. and in revised MR, the reference for same is provided in subsequent tables, which is verified during site visit. Hence, CAR#04 is closed appropriately
CAR#05 As per the instruction for completing the monitoring report Monitoring report version 3, the tables of data and parameter monitored should include "Purpose of the data". The PP is requested to clarify why "purpose of the data" section is missing from the table of TEGy parameter.	Section 3.2 of VCS-MR	The purpose of data section included in revised MR and information is also provided.	In the revised VCS-MR the purpose of data for parameter TEG_y is appropriately mentioned in the relevant table as 'Calculation of baseline emission'. The verification team found it to be appropriate. Hence CAR#05 is closed satisfactorily.

CAR#06: As per the instruction for completing the monitoring report Monitoring report version 3, the PP is requested to include following information in 'monitoring plan' of the MR:- 1. The procedures used for handling any internal auditing performed and any non-conformities identified. 2. The implementation of sampling approaches, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures. Where applicable, demonstrate whether the required confidence level or precision has been met	Section 3.3 of VCS-MR	1. The information is already covered under "QA/QC procedures & Data collection and archiving". 2. The sampling plan is not applicable for this project as 100% data monitoring are covered under monitoring plan.	1. The procedure used for internal auditing performed is mentioned in the QA/QC procedure of the MR. Apart from that, the responsibility of internal auditing is with the O&M provider. During site visit and interview with the O&M provider, it was confirmed that the internal auditing procedure is appropriately done. Same is verified with the document shared by the pp. Hence point 1 is closed satisfactorily. 2. The PP responded that the 100% of data monitoring is done. Hence there is no need for the implementation of sampling approaches, including target precision level, sampling sizes etc. Hence point 2 of CAR 6 is satisfactorily closed. Based on the satisfactory response and documents provided by the Project participant, CAR#06 is closed.
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**ANEXTURE II: DOCUMENTS REFERRED DURING VERIFICATION OF THE PROJECT
ACTIVITY**

- /1/ VCS Monitoring Report, version 01.0, dated 07/03/2016
- /2/ Final VCS MR version 1.1 dated 06/04/2016
- /3/ Final registered VCS PD version 05 dated 31/05/2010
- /4/ Validation report vide ref V-3-I-01-L-0108 (revision 01) dated 01/06/2010 issued by Perry Johnson Registrars CDM Inc.
- /5/ VCS Monitoring report template Current Version: v3.3 dated on 8 October 2013
- /6/ Verified Carbon Standard Version 3, v3.5 dated 25 March 2013 v.3.5
- /7/ VCS Program Guide Version 3 v3.5 dated 8 October 2013
- /8/ Emission Reduction Calculation Sheet, version 01.0, dated 07/03/2016
- /9/ Commissioning certificate for all the WTGs of the project activity
- /10/ Monthly Form B issued by BESCOM/KPTCL for the current verification period
- /11/ Copy of all invoices raised to BESCOM by Project participant for net electricity exported to the grid for the current verification period
- /12/ Declaration from NSL Renewable Power Private Limited that the project shall not claim credits for the same period under any other GHG program.
- /13/ Calibration certificate for year 2014 and 2015 issued by BESCOM
- /14/ Previous 2 verification documents
- /15/ Power Purchase Agreement with BESCOM

ANNEXURE III: CURRICULA VITAE OF THE VERIFICATION TEAM MEMBERS

The Audit Team consisted of the following individuals who were selected based on their verification experience, as well as familiarity with renewable energy operations:

Sr. No	Auditor Name	Role
1	Vivek Kumar Ahirwar	Team Leader
2	Vivek Kumar Ahirwar	Technical expert (TA 1.2)
3	Miquel Sitjes Cabanas	Technical Reviewer
4	Ms. Natalia Rodrigo	Technical Reviewer in Training

BACKGROUND INFORMATION OF THE WORK TEAM (Audit team and Review Team):

Vivek Kumar Ahirwar is a BEE-Certified Energy Auditor by Govt of India with over seven years of relevant experience in energy efficiency, energy audit and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects in different states across the India. He has done Mater in Technology (Energy Management) from a premier institute, School of Energy & Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from Govt. Engineering college, Rewa, RGPV, India.

Miquel SITJES CABANAS (B. Sc. degree in Chemistry 1975, Universidad de Barcelona – Spain). He has 15 years of experience in a Spanish chemical group company specialized in the manufacturing of raw chemical products, where he worked as the Manager of Quality Control, Production Manager and Environmental Manager. He also worked in the Spanish pharmaceutical industry for 7 years as Quality, Manufacturing and Environmental Manager. He has been working in the Applus+ LGAI Technological Centre since 1999: he started working there as an auditor (quality, environment, CDM, VCS, greenhouse gas verification and others) and since 2006 he has been the Systems Certification Technical Manager.

Ms. Natalia Rodrigo Vega has a Bachelor's Degree on Environmental Engineering and Master's Degree on Environmental and Quality Management System (under ISO 9001 and 14001). She Works in Applus Environmental and Quality Management Systems Department since March 2012, being specially involved on technical support tasks related to CDM-VCS and GS Standards, among others (i.e GHG verification and Proyecto Clima)