THIRD VERIFICATION REPORT OF "BIOMASS BASED COGENERATION PROJECT AT NECTAR LIFE SCIENCES LTD."

Document Prepared By Bureau Veritas Certification Holdings SAS

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Summary:

Bureau Veritas Certification has conducted the verification of the 'Biomass Based Cogeneration Project at Nectar Life Sciences Ltd.' by Nectar Life Sciences Ltd on the basis of VCS Standard, v3.3 for the period starting from 01st January 2011 to 31st December 2011. The project activity is a 6 MW biomass based cogeneration power plant located in Punjab, India. The cogeneration system consists of Triveni make 6 MW single extraction cum condensing TG and a Thermax make 40 TPH AFBC boiler. The project activity supplies both electricity and steam to the adjoining manufacturing plants of the project participant in same project activity facility.

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

i) Desk review of the registered project document including the baseline and the monitoring plan;

ii) Physical site inspection and follow-up interviews with project stakeholders;

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

- The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification internal procedures. On the basis of the physical site inspection of the project activity and review of the documents submitted by the project participant, the Bureau Veritas Certification confirms that the project has been implemented as planned and described in the registered Project Document. The necessary equipments, Installed for generating emission reductions in the project activity, runs reliably and the measuring equipments, essential for the measurement of the electricity and thermal energy supplied to the process from the power plant, have been calibrated appropriately. This verification report pertains to the current monitoring period starting from 1st January 2011 to 31st December 2011 (including both days). Two numbers of Corrective Action Request (CAR) and Four numbers of Clarification Request (CL) were raised during this verification activity and all of them were closed successfully after the satisfactory responses from the project participant. The verification team confirms that total GHG reductions achieved during the current monitoring period are 55,762 tCO2e and emission reductions are calculated without material misstatements.

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Abbreviations

VCS:	Verified Carbon Standard
VER:	Verified Emission Reduction
BMS:	Bureau Veritas Certification's Management System
CAR:	Corrective Action Request
FAR:	Forward Action Request
CO2:	Carbon Dioxide
tCO2:	Tonnes of Carbon Dioxide
DOE:	Designated Operational Entity
DR:	Document Review
GHG:	Green House Gases
I:	Interview
IETA:	International Emissions Trading Association
MV:	Means of Verification
MP:	Monitoring Plan
MR:	Monitoring report
PD:	Project Document
PP:	Project participant
UNFCCC:	United Nations Framework Convention for Climate Change
MW:	Megawatt
VR:	Verification report

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. This is the third verification of the project activity 'Biomass Based Cogeneration Project at Nectar Life Sciences Ltd.' The objective of the verification is:

i. To verify that the project activity is implemented as per the description contained in the registered VCS PD,

ii. To confirm that the monitoring system is in place and fully functional,

iii. To assure that the project has generated verifiable emission reductions.

The verification shall consider both qualitative and quantitative information on emission reductions. Quantitative data comprises the monitoring reports submitted by the project entity to the verifier. 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 the VCS Project Document (PD), the project's baseline study and monitoring plan, including the monitored data and other relevant documents. The verification follows VCS Standard Version 3.3 criteria and latest policy announcements, from VSC Board, presently applicable to the verification of project activity.

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

The verification team was provided with a monitoring report, covering the period 1st January 2011 to 31st December 2011. Based on this documentation, a document review and a physical site inspection (from 06/06/2012 to 08/06/2012) was conducted. The revised Monitoring Report – Version 4.0, dated 31/12/2012 covering the period of 1st January 2011 to 31st December 2011 serves the basis for the verification assessment presented herewith.

1.3 Level of assurance

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 3.3 for the current verification period. The verification team considers the assurance level as 'limited' since some of the data used (E.g. Emission factor) are from the publicly available databases such as the IPCC database for emission factor, for which detailed testing of GHG assertion is beyond the domain of project proponent, stake holder and the verification team .

1.4 Summary Description of the Project

Nectar life sciences Ltd., an Indian public listed company, has implemented a biomass based cogeneration system which includes a Triveni make 6 MW single extraction cum condensing turbine generator and a Thermax make 40 TPH capacity AFBC boiler with a pressure rating of 67 kg/cm2 and temperature 490 ℃. The designed controlled extract ion from the turbine is 20 TPH. The project activity supplies the electricity and thermal energy (steam) to adjoining manufacturing facilities of the project participant. The physical unique identification of the project activity as described in the registered PD is Latitude: 30^0 35' 10" (N) (30.58611 degree decimal) and 76^0 52' 51"(E) (76.880833 degree decimal).

The project activity involves the development and operation of Bio mass based electricity and Heat generation for the Production facilities. The project activity uses renewable biomass such as rice husk and saw dust, etc. for the electricity and heat generation which would have been supplied by a coal fired cogeneration system in the absence of the project activity (baseline). The project activity supplies the electricity to Unit I manufacturing complex of the plant and supplies both electricity and heat (steam) to the Unit II manufacturing complex of the Nectar life sciences Limited. The co-generation plant, Unit I manufacturing complex and Unit II manufacturing complex are owned by the same entity i.e. Nectar life sciences Limited.

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

2.1 Validation Process

Not applicable as the project activity has already been validated as per the VCS 2007.1 Standard and the project is registered with VCS registration ID as 251[1].

2.2 Validation Findings

2.2.1 Gap Validation

Not applicable as the project activity has already been validated as per the VCS 2007.1 Standard.

2.2.2 Methodology Deviations

Not applicable as the project activity has already been validated as per the VCS 2007.1 Standard. The validation report of the project activity was also reviewed and it was observed that no methodology deviations have been sought during the validation of the project activity.

2.2.3 Project Description Deviations

Not applicable as the project activity has already been validated as per the VCS 2007.1 Standard. The validation report of the project activity was also reviewed and during verification site visit i.e. from 06/06/2012 to 08/06/2012, it was observed that project activity is operating as stated in registered VCS-PD. No project description deviations were observed during the site visit of the project activity in current verification period.

2.2.4 New Project Activity Instances

[1] https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=251&lat=30%2E585277&lon=76%2E878055&bp=1

The project activity is not a grouped project.

2.3 Validation Conclusion

Not applicable as the project activity has already been validated as per the VCS 2007.1 Standard. This report pertains to the third verification period of the project activity which starts from 1st January 2011 to 31st December 2011.

3 VERIFICATION PROCESS

3.1 Method and Criteria

The overall verification, beginning from the Contract Review to Verification report, certification statement & opinion, was conducted using Bureau Veritas Certification internal procedures. The project is already validated and registered as a VCS project with the registry (Project ID 251). The verification criteria followed by the project participant is based on the VCS Standard 3.3. 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 validation report, registered Project Document (PD), and previously approved monitoring report and the verification report. The current documents include the Monitoring report for the current verification period (1st Jan 2011 to 31st Dec. 2011), emission reduction spreadsheet and other supporting documents (data, log sheets, etc.) pertaining to the current verification period.

ii) Physical site inspection and follow-up interviews with project stakeholders;

The second step involves the physical site visit to ensure that project activity is being implemented and operated as per the project description contained in the registered PD. The activity also includes the follow-up interviews with the various plant personals involved in the operation of the project activity.

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 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 have been met.

3.2 Document Review

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

- Registered PD, Validation Report, previously approved Monitoring Report and the previous Verification Report
- Monitoring report and emission reduction spreadsheet for the current verification period
- Daily log books of electricity generation (from the project activity) and consumption by the Unit I and II complex pertaining to the current verification period
- Daily records of the biomass purchase and consumption pertaining to the current verification period
- Daily records of steam parameters (quantity, pressure, temperature) supplied to the Unit II complex during current verification period
- The calibration certificates of the measuring equipments for the current verification period

3.3 Interviews

The verification team from Bureau Veritas Certification performed site visit on 06/06/2012 to 08/06/2012 and conducted interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of M/s Nectar life sciences Ltd were interviewed. The main topics of the interviews are summarized in Table below:

Interviewed organization	Interview topics
M/s. Nectar Life sciences Ltd	- Project description - Operational aspects - Monitoring plans and Data recording procedures - QA/ QC Procedures - Internal review / verification mechanism - Emission reduction calculation procedures
M/s. Gensol consultants	- Baseline and monitoring methodology - Emission reduction calculation procedures

3.4 Site Inspections

The physical site inspection was carried out by three member verification team from 06/08/2012 to 08/06/2012 to cover following objectives:

- To ensure that project activity has been implemented and operated as per the description contained in the registered PD
- To ensure that the monitoring and data recording has been carried out in accordance with the approved mentoring methodology AMS-I.C. version 15 (applied by the project participant) and the registered monitoring plan contained in the registered PD

The methods adopted to meet the above-mentioned objectives are interaction with the plant personnel, visit to the major equipments (Boiler, Turbine and Generator) and measuring points of steam parameters

(temperature, quantity, and electricity), electricity, etc. In addition, the plant records maintained at the project site were reviewed by the verification team followed by discussions with the personnel's involved in the management and operation of the power plant.

3.5 Resolution of Any Material Discrepancy

The project activity is already registered as a VCS project with the VCS registry under the project ID no. 251 and title 'Biomass Based Cogeneration Project at Nectar Life Sciences Ltd'. The verification team confirms that there are no remaining issues or any material discrepancy in the project activity as the project is already registered under VCS (Project ID 251)[2].

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

- Implementation status of the project activity(s), including any material discrepancies between the project and project description

The project activity has been implemented as per the description contained in the registered PD. The rated capacity of the extraction cum condensing turbine is 6 MW and 40 TPH boiler capacity with rated pressure and temperature parameter of 67kg/cm^2 and 490 ^{0}C. The rated steam extraction parameters from the turbine are 20 TPH at 256 ^{0}C. The steam extracted through the turbine passes through a de-superheating system where the temperature of the extracted steam is brought down by addition of water which increases the quantity of the steam to be supplied to the process. The project activity supplies the electricity to Unit I and Unit II manufacturing complex. However, the thermal energy (steam) is supplied to the Unit II complex only. The verification team verified the equipment details during the site visit and confirms that the project description is correct.

- Any remaining issues from previous validation or verification.

The verification team reviewed the previously issued validation and verification reports to the project activity. It was observed that there is no remaining issue from the previous validation or verification of the project activity.

- Implementation status of the monitoring plan and the completeness of monitoring, including any material discrepancies between the project and the project description.

The project activity has applied the CDM approved methodology AMS-I.C., Version 15 and the monitoring plan is in accordance with the approved methodology AMS-I.C., version 15. As required under the methodology the monitoring includes the net electricity supplied to the Unit 1 and 2 manufacturing complex of the project participant and the Net heat (TJ) supplied to the various process load in Unit -2 Complex. The reporting procedures reflect the content of the monitoring plan. The monitoring mechanism is effective and reliable as the readings are monitored by the highly reliable DCS based system for the heat flow and gross electricity measured by the tri vector meter of Class 0.5 Accuracy.

[2] https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=251&lat=30%2E585277&lon=76%2E878055&bp=1

Net electricity is calculated by deducting the auxiliary consumption from the recorded gross electricity reading. The Verifiers hereby confirm that monitoring plan of the project activity is in accordance with the relevant approved methodology and as per the registered VCS-PD.

The monitoring plan of the registered VCS-PD specifies daily monitoring of NCV of the biomass. It was observed by the verification team that instead NCV, the project participant monitors the GCV and moisture content of biomass on daily basis using standard equipments (Bomb calorimeter and dry oven weight basis respectively).

Verification team referred to last i.e. second verification report and confirm that this issue was raised in previous verification. As per the response provided by the project participant in previous second verification, a moisture correction factor is applied to the GCV monitored on daily basis and the net calorific value is obtained after the moisture correction in the GCV (this was also confirmed by the verification team during site visit). Based on the fact that AMS-I.C., version 15, does not specify monitoring of calorific value of the biomass, the project activity is not a co-fired power plant and calorific value of biomass does not reflect into emission reduction calculations (as default boiler efficiency of 100% has been fixed ex ante by the project participant); the verification team had accepted the response of the project participant. Hence from second verification onwards, the monitoring report now specifies the monitoring of GCV on daily basis instead of NCV.

In order to calculate the leakage from the transportation of the biomass, the monitoring plan of the registered VCS-PD specifies that distance travelled by each truck will be monitored. However, it was observed by the verification team during the site visit that instead of monitoring the distance travel by each truck, an undertaking is obtained from the biomass suppliers for the current monitoring period (1st Jan 2011 to 31st Dec. 2011). The Verification team raised a Clarification Request on the same (CL-4 point 1, in Appendix A to the report).

The project participant, against CL-4, point-1, clarified the verification team that “daily requirement of biomass at Neclife is near about 200 tonnes that is equivalent to 20 to 25 trucks per day. The monitoring of distance travelled by each truck is not practically possible in this case. An undertaking from each biomass supplier would be taken about the distance travelled between project site and their collection point. The maximum distance specified by a biomass supplier in their undertaking is 60 KM, which means 120 KM roundtrip distance. For the calculation of leakage emission, a fixed value of 150 KM travelled by each truck is chosen, which is conservative”.

The verification team accepted the response of the project participant based on the fact that (a) the project activity is located in a biomass abundant belt of India where it is rare that biomass is transported to the power plant from more than 60km distance; (b) The project participant has already applied leakage taking 150km biomass transportation distance into account (which is more conservative). Hence, undertakings provided by the biomass suppliers for the current monitoring period were considered appropriate by the verification team and the clarification request was closed.

The first version of monitoring report provided by PP for current verification period stated that each type of biomass residue is monitored and quantity is calculated by spring balance system which is in place for all three conveyor belts. However verification team observed that same practise is not followed at site.

Therefore CL-1 was raised to clarify actual monitoring of biomass residue consumption and to see whether it is in line with registered monitoring plan.

In response to CL, PP clarified that the two biomass residues consumed in current monitoring period i.e. rice husk as well as saw dust are not possible to monitor by spring balance method since these biomass residues are used in large quantities. Therefore the hopper volume is used to monitor the biomass consumption on daily basis. Project proponent monitors the biomass consumption in a day by counting the number of times a hopper in boiler house is filled with biomass and multiply it by the quantity of biomass that can be filled in hopper in single time.

Verification team during site visit observed the fuel feeding practice implemented by project proponent and confirms that the biomass consumption in the project activity on a daily basis can be estimated by above method. The quantity of biomass that can be hold by hopper in single time is evaluated based on volume of hopper and density of biomass residue. The daily biomass consumption is estimated based on above method and informed to plant manager for preparation of daily generation report. Validation team has verified daily generation report which confirms the biomass consumption on daily basis by project activity. As per the registered VCS PD, section 3.3, the quantities of biomass residues consumed in the plant is required to be monitored at the site and the source of data is to be taken from factory records. Therefore verification team confirms the monitoring method adopted by PP so that biomass consumption is monitored on daily basis. However, in case of leakage emission calculation, conservatively the biomass purchase quantity is considered from actual factory purchase records so that emission reductions are calculated on conservative basis. Verification team has reviewed the day wise biomass purchase record from purchase department which is provided by PP in soft form for verification. Therefore in line with above assessment of documents, verification team confirms the approach selected by PP and closed the clarification request.

As per section 3.3 of the registered VCS-PD, it was require to monitor the diesel consumption and data to be sourced from the plant log book records. A CL-2 was raised since the plant log book copy for diesel consumption was not provided to verification team. In response to CL, PP provided the plant note book copy which monitors the diesel consumption. Verification team cross verified the diesel consumption quantity from the diesel purchase slips maintained by purchase department for the period Jan-11 to Dec-11 and same was found to be matching with the internal plant note book records maintained by PP for diesel consumption. Hence verification team confirms the quantity of diesel consumed during monitoring period. However, for calculation of project emissions the actual diesel purchase data from the purchase slips are used which is conservative. Therefore verification team closed the CL raised.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

The methodology (equations and formula) applied by the project participant for the calculation of emission reductions is in accordance with the applied methodology AMS-I.C. version 15. The Emission reductions have been arrived by the following algorithm

ER_{2011} (tCO2e) = BE_{2011} (tCO_2e) – PE_{2011} (tCO_2e) – L_{2011} (tCO_2e) ----------(1)

where;

ER_{2011}	=	Emission Reductions accrued for the year 2011 by the project activity (tCO2e)
BE_{2011}	=	Baseline emissions for the year 2011 (tCO2e)

PE_{2011} = Project activity emissions for the year 2011 (tCO2e)
LE_{2011} = Leakage for the year 2011 (tCO2e)

The project participant has calculated the monthly baseline emissions for the year 2011 in accordance with the equation (3) of the methodology AMS-I.C. version 15 as reproduced below:

$$BE_{cogen,CO2,y} = [(EG_{PJ,thermal,y} + EG_{PJ,electrical,y} * 3.6)/ \eta_{BL,cogen}] * EF_{FF,CO2} \text{----------(2)}$$

where;
$BE_{cogen,CO2,y}$ = The Baseline Emissions from the electricity displaced by the project activity during the year y: tCO2
$EG_{PJ,thermal,y}$ = The net quantity of thermal energy supplied by the project activity during the year y: in TJ
$EG_{PJ,electrical,y}$ = The amount of electricity supplied by the project activity during the year Y; in TJ
$EF_{FF,CO2}$ = The CO2 emission factor of the fossil fuel that would have been used in the baseline cogeneration plant
$\eta_{BL,cogen}$ = The total efficiency (including both thermal and electrical) of the cogeneration plant using fossil fuel that would have been used in the absence of the project activity

In above equation, the project participant has taken default efficiency of the cogeneration plant as 100% which is fixed ex ante at the time of validation of the project. Similarly, the emission factor of coal is also fixed ex ante which is IPCC default emission factor for coal (96.1 tCO2/TJ). The verification team considered both the values appropriate as default efficiency of the boiler is taken under the provisions of the Para 18 of the methodology AMS-I.C. version 15 itself and the value of emission factor has been taken from IPCC which was considered appropriate and conservative.

As described in the registered VCS-PD, the project participant has also considered the project emissions accrued during the current monitoring period from diesel consumption which is used in the tractors (on site) for levelling of the biomass. The algorithm used by the project participant for the calculation of the project emissions from diesel consumption is also reproduced below:

$$P.E. = (Q_D * D / 1000) * NCV_{Diesel} * EF_D$$

where;
Q_D ---------- Quantity of diesel;
D ---------- Density of diesel;
EF_D ---------- Diesel is emission factor of diesel and
NCV_{Diesel} ---------- Net calorific value of diesel

In the calculations of the project emissions from diesel consumption, the project participant has taken three default values i.e. density of diesel (0.87 kg/ltr), NCV of diesel (0.04303 TJ/ton) and emission factor of diesel (74.1). All the three default values have been fixed ex ante at the time of project validation and it is published data from competent authorities considered appropriate for such publication. The values of $EG_{PJ,thermal,y}$ and $EG_{PJ,electrical,y}$ for the current monitoring period are based on metered data and hence, reliable. Similarly, the calculation approach adopted by the project participant for leakage is also in accordance with the registered VCS-PD and the approved methodology AMS-I.C. version 15.

The yearly values of emission reductions computed ex ante in the registered VCS-PD are 54003 tCO2. However, during the current monitoring period the accrued emission reductions are 55762 tCO2 which is higher than the emission reductions estimated in the registered VCS-PD. The verification team raised a Corrective Action Request (CAR-2 in Appendix A) on the same as the reason for this increase in the emission reductions was not clear from the monitoring report submitted by the project participant for the current verification period.

In response to CAR-2, the project participant revised the monitoring report and specified that the increase in emission reductions is due to increased plant operational days (339 days) as compared to 330 days considered at the time of ex ante determination of emission reductions in the registered VCS-PD. In order to verify the 339 plant operational days claimed by the project participant for the current monitoring period, the verification team reviewed the plant shut down records and the hourly records of the steam supplied to the process from the power plant. After reviewing the shut down records and the hourly records of steam supplied to the process, the verification team concluded that the 339 plant operational days, considered for the current monitoring period (1st Jan 2011 to 31st Dec. 2011 including both days), are appropriate.

In addition, the impact of the 339 plant working days on project additionality which is based on Levelized cost analysis was also checked by the verification team by changing the value in assumptions spreadsheet by 339 days instead of 330 days (considered at the time of validation). It was observed by the verification team that even at 339 plant operational days, the project activity is still additional as compared to the baseline alterative. The project participant revised the monitoring report and version 4.0 of the monitoring report clearly specifies the reason for the increase in the accrued emission reductions during the current monitoring period as compared to the registered VCS-PD. Hence, CAR-2 was closed by the verification team. Herewith, the verification team confirms that the baseline emissions, project emissions, leakage and emission reduction calculations adopted by the project participant during the monitoring period (1st Jan. 2011 to 31st Dec. 2011) are consistent with the registered VCS-PD and in accordance with the approved methodology AMS-I.C. version 15.

Verification team raised CL-3 and CAR-1, as the emission reduction calculation data was not matching with that of the plant log book records for various months. Also the calculation error was identified in submitted emission reduction calculation sheet. In response to CL raised, PP modified the ER calculation sheet and values were corrected in emission reduction sheet in line with actual monitored data in plant log book records. Verification team verified actual data monitored in plant log book records and the values used in revised emission reduction sheet and same is found to be correct. Therefore CL-3 and CAR-1 raised was closed.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

The critical parameter used for the determination of the Emission Reductions is the net electricity supplied to the plant (Unit I and Unit II manufacturing complex) and the net steam supplied to the Unit 2 complex. The Gross Electricity generated by the co-generation system is recorded by the tri vector Energy meter of +/- 0.5 accuracy class (Make L&T) and the Net energy supplied (steam heat content) to unit 2 complex is recorded by highly reliable DCS system. In addition, steam parameters (pressure, temperature and instantaneous as well as totalized steam flow) are measured by Yokagawa and ABB transducers which act as a primary input to the DCS system. The data pertaining to the above parameters are maintained in the identified Plant records. All the pressure transmitters and temperature transducers are calibrated on annual basis by NABL (National Accreditation Board for Laboratories of

India) certified laboratory. The results of calibration indicate that all the measuring equipments are within in accuracy range specified by the respective manufacturer or the acceptability criteria specified by the user. All the data are in compliance with the figures stated in the revised monitoring report (version 4.0). There were no instances of any meter change or failure noticed within this monitoring period and hence there is no uncertainty involved. The table presented below provides details of the source of the data and the reliability of the evidence for critical parameters directly affecting the GHG emission reductions.

Parameter description	Source	Reliability of the evidence
The net quantity of thermal energy supplied by the project activity during the current monitoring period	Hourly log sheets recorded from DCS of the power plant	Reliable as the evidence is based on metered data which is calibrated on regular intervals as per the frequency specified in the monitoring plan of the registered VCS-PD.
The net quantity of electricity supplied by the project activity during the current monitoring period	Shift log sheets recorded from the electronic tri-vector meters installed at the power plant	Reliable as the evidence is based on metered data which is calibrated on regular intervals as per the frequency specified in the monitoring plan of the registered VCS-PD.
Quantity of diesel consumed during the current monitoring period in levelling of the biomass (a project emission parameter)	Diesel purchase receipts from third party.	Reliable as data is based on the third party purchase slips
Quantity of Biomass purchased during the current monitoring period (leakage parameter)	Purchase slips generated by the project participant for each truck.	Reliable as project participant makes payment to the supplier on the basis of the biomass quantity specified in the biomass purchase slip.

4.4 Management and Operational System

The Management System for the project and the organisation structures with the responsibilities has been properly identified and are in place as per the pre-defined manual. The operation and maintenance of the Co- Generation system and Power plant is vested with the operator say M/s Nectar Life sciences Ltd. The daily electricity generation and net heat supplied are monitored by competent personnel and reported to the head -operations for further review. The readings are recorded manually as well as electronically as stated in the monitoring plan. Periodic review being a regular practice ensures the quality assurance of the data. The data uncertainty level of the data is very low as the entire monitoring is based on DCS system. The project participant has deputed experienced personnel's for the regular day to day operations of the power plant as well as recording of the data from DCS. The GHG emission reductions are calculated on monthly basis which provides an opportunity to the project participant to correct errors, if any, identified during the data review process.

5 VERIFICATION CONCLUSION

Bureau Veritas Certification has performed third verification of the 'Biomass Based Cogeneration Project at Nectar Life Sciences Ltd' for the monitoring period covering 1st Jan 2011 to 31st Dec. 2011 (including both days). The verification was performed on the basis of VCS Standard 3.3 and approved CDM monitoring methodology AMS-I.C. version 15.

The management of Nectar Life sciences Ltd (Neclife) is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring and Verification Plan indicated in the VCS PD dated 18/11/2009. The development and maintenance of records and reporting procedures are in accordance with the monitoring plan contained in the registered VCS-PD. The calculation methods and determination of GHG emission reductions from the project activity are based on the approved methodology AMS-I.C. version 15.

Bureau Veritas Certification verified the contents of the revised Monitoring Report (Version 4.0) for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented and described in validated and registered VCS-PD. The Co-generation system and associated equipment such the control systems, switchgear and protection equipment, Pressure transmitters, temperature transducers and the energy meters which are essential for reliable generation of electricity, are being operated and maintained in accordance with standard practices and procedures. The meters and transmitters deployed for the measurement of generations are calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions.

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

Reporting period: From [01-01-2011] to [31-12-2011]

Verified GHG emission reductions or removals in the above reporting period:

GHG Emission Reductions or Removals	tCO_2e
Baseline Emissions	56992
Project Emissions	97
Leakage	1133
Net GHG emission reductions or removals	**55762**

Bhavesh Prajapati
(Internal Technical Reviewer)

Pramod Kamble
(Team Leader)

6 REFERENCES

⇒ Registered VCS-PD dated 20/10/10 submitted by Nectar Lifesciences Limited

⇒ Monitoring Report Ver -04 dated 31/12/2012

⇒ Emission reduction spreadsheet version 2.0 for the current verification period (1st Jan 2011 to 31st Dec. 2011)

⇒ Calibration certificates for Gross Energy meter, Auxiliary energy meter, BCK energy meter, Unit I energy meter, Unit II energy meter and Unit 10 energy meter

⇒ Calibration certificates for pressure Transmitters, temperature Transducers, steam Flow transmitter steam flow totalizer.

⇒ Daily Electricity Generation and auxiliary consumption reports of the Power Plant for the year 2011

⇒ Daily Steam Consumption data for Unit -2 and unit-10 for the Year 2010

⇒ Daily records of Gross Calorific Value (GCV) and Moisture Content of the biomass for year 2011

⇒ Monthly Biomass Purchase/ consumption Data and Records of annual plant operational days

⇒ Purchase receipt of diesel for year 2011

⇒ VCS Programme Guide, Version 3.4 dated 4th October 2012

⇒ VCS Standard Version 3.3 dated on 4th October 2012

⇒ CDM Approved methodology AMS-I.C. “Thermal energy production with or without electricity”, EB 48, Annex 24.

⇒ Levelized cost spreadsheet submitted at the time of validation of the project activity

7 C.V. OF THE DOE'S VERIFICATION TEAM MEMBERS

Pramod Kamble (Team Leader)
Bureau Veritas Certification, Lead Verifier – Climate Change
He is a Graduate in Chemical Engineering from Mumbai University (UICT). He has more than five years experience in CDM, VCS and CCX projects development. He has undergone intensive training on Clean Development Mechanism and completed CDM Verifier/Lead Verifier training course. He has hands on experience in carrying out energy audits for energy industries and buildings. At present he is involved in the Validation/verification of CDM and VCS projects.

Ram Kurundkar (Technical Expert)
Independent Technical Expert on contract with Bureau Veritas Certification – Climate Change
Mr. Ram V Kurundkar is a competent professional with 33 years of experience in Operations & Maintenance of Thermal Power Stations, Hydro Power stations. He is a retired Superintending Engineer (O&M) from Maharashtra State Power Generation Company Limited. He is also a Certified Energy Auditor with extensive experience in Operations and Maintenance of Thermal Power Plants and hydro Power Plants.

Parthajoy Bhattacharya (Observer)
Bureau Veritas Certification, Trainee Verifier – Climate Change
Mr. Parthajoy Bhattacharya is a Graduate in Chemical Engineering from Jadavpur University and Post Graduate Diploma in Environmental Management from Indian Institute of Forest Management. He has more than 8 years of experience in turnkey HVAC projects, Industrial Water Treatment and Environmental Engineering.

Bhavesh Prajapati (Internal Technical Reviewer)
Bureau Veritas Certification, Lead Verifier – Climate Change
Graduate in the field of Chemical Engineering and post graduate in finance (MBA-Finance). He has more than 8 years of Industrial work experience in the field of environment audits, consultancy of HVAC (pharmaceutical industry as well as commercial air conditioning) and utility services and project management of various Greenfield as well as gray field projects. He has undergone lead verifier's training on Clean Development Mechanism. He is involved in the validation/verification projects of CDM and VCS.

8 APPENDIX A: VERIFICATION PROTOCOL

Table 1 Verification Protocol

CHECKLIST QUESTION		COMMENTS	Draft Concl	Final Concl
1 Project implementation in accordance with the registered project document				
a	Are all physical features of the proposed VCS project proposed in the registered PD in place?	Yes, all the physical features of the proposed VCS project in the registered PD are in place.	OK	OK
b	Have the project participants operated the proposed VCS project as per the registered PD?	Yes, the project participants operated the proposed VCS project as per the registered VCS-PD.	OK	OK
c	Was an on-site visit conducted?	Yes, the on-site visit is completed by verification team from 6th to 8th June 2012.	OK	OK
d	If not, justify the rationale of the decision.	Not Applicable	--	
e	Does the implementation or operation of VCS project conform with the description contained in the registered PD?	Clarify how the quantity of biomass consumed in project activity is measured/ monitored in line with the monitoring plan as provided in registered VCS-PD. It was stated that each type of biomass residue is monitored and quantity is calculated by Spring balance system which is in place for all 3 conveyor belts. However verification team observed that same practice is not followed at site. Please clarify.	~~CL-1~~	OK
f	If not, which are the potential impacts due to these changes?	Monitoring of biomass quantity is required for leakage estimation. Therefore it affects the final emission reduction calculations. Please clarify the CL-1 raised above.	~~(CL-1)~~	OK
2 Compliance of the monitoring plan with the monitoring methodology				

CHECKLIST QUESTION		COMMENTS	Draft Concl	Final Concl
a	Is the validated monitoring plan in accordance with the approved methodology applied by the proposed VCS project?	Yes, the validated monitoring plan is in accordance with the approved monitoring methodology AMS I.C. Version-15 applied by the VCS project activity.	OK	OK
b	Are there any monitoring aspects of the project that are not specified in the methodology (e.g. additional monitoring parameters, monitoring frequency and calibration frequency)?	There are no monitoring aspects of project activity that are not specified in the methodology. All the monitoring parameters are monitored in line with the monitoring plan description provided in VCS-PD which is in line with methodology.	OK	OK
3	***Compliance of monitoring with the monitoring plan***			
a	Have the monitoring plan and the applied methodology been properly implemented and followed by the project participants?	Yes, the monitoring plan and the applied methodology has been properly implemented and followed by the project participants.	OK	OK
b	Have all parameters stated in the monitoring plan, the applied methodology been sufficiently monitored and updated as applicable, including:			
i	Project emission parameters?	In section 3.2 of Monitoring report, it is stated that diesel consumption will be monitored and sourced from the plant log book records. Please provide the plant log book record copies and corresponding purchase receipts of diesel for cross check.	~~CL-2~~	OK
ii	Baseline emission parameters?	During the site visit, it was observed that energy data parameters monitored in project activity are not matching with the plant log book records for the month of Mar-11, Apr-11, May-11, June-11, Sep-11, Oct-11 and Nov-11. Please clarify the correctness of values as provided in ER sheet and in section 3.2 of the Monitoring report for following paramters which are used for baseline emissions	~~CL-3~~	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	calculations. 1) Gross electricity generation. "EGy" 2) Auxiliary power consumption by Co-gen plant. "ECaux" 3) Captive power consumption monitored for Unit-2, Unit-9, Unit-10 and BCK unit of M/s Nectar Life Sciences. 4) Quanitity of steam consumption as stated in section 3.2 of MR and ER sheet for Unit-2 and Unit-10 is required to be substantiated with plant log book record copies.		
iii Leakage parameters?	Please justify the following issues. 1) Please substantiate the to and fro maximum distance traveled by trucks for biomass collection and transportation at project site for the project activity with suitable evidences. 2) Clarify the quantity of biomass used for leakage calculation as it is not accurately monitored in line with monitoring plan. The quntity of biomass consumed is estimated. Therefore please substantiate quantity of biomass considered for leakage by adopting conservative approach in line with biomass purchase records.	~~CL-4~~	OK
iv 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?	Yes, the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilites as stated in the monitoring plan.	OK	OK
c Are equipment controlled and calibrated in accordance with the monitoring plan?	Verification team checked the calibration details for the project activity monitoring equipments viz energy meters and flow meters. All calibration records found within the error limits and completes the current monitoring period i.e. 01/01/2011 to 31/12/2011.	OK	OK
d Are monitoring results consistently reccorded as per approved frequency?	Yes, all flow meters and energy meters are calibrated annually as stated in registered monitoring plant in VCS-PD.	OK	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
e Have quality assurance and quality control procedures been applied in accordance with the monitoring plan?	Yes, the quality assurance and quality control procedures have been applied in accordance with the monitoring plan.	OK	OK
4 Assessment of data and calculation of greenhouse gas emission reductions			
a Is a complete set of data for the specified monitoring period available? (If no, i.e., only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, the validator shall make the most conservative assumption theoretically possible in finalizing the verification report).	PP has provided the complete set of data for each of the monitoring parameters.	OK	OK
b Has information provided in the monitoring report been cross-checked with other sources such as plant log books, inventories, purchase records, laboratory analysis?	Yes, the information provided in the monitoring report has been cross-checked with other sources such as plant log books, purchase records, lab analysis reports etc.	OK	OK
c Have calculations of baseline emissions, proposed project 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?	Emission Reduction sheet provided to Verification team requires following corrections. 1) Calculations of baseline emissions, project emissions and leakage are required to be linked for each of the reference data sheet in emission reduction calculation sheet. 2) In Emission Reduction workbook, "power generation" spreadsheet, calculation of EC(Net Aux) is not correct. 3) Data reference source for enthalpy of steam at specified pressure and temperature conditions is not provided in excel sheet. 4) Truck loading capacity of 8 Tonnes to be substantiated with plant log book/ purchase records.	~~CAR-1~~	OK
d Have any assumptions used in emission calculations been justified?	No specific assumptions are used in emission reduction calculations. However following issues are required to be justified or clarified. 1) Shut down details and number of plant operational	~~CAR-2~~	OK

CHECKLIST QUESTION	COMMENTS	Draft Concl	Final Concl
	days as provided in monitoring report is not matching with the boiler log book data. Please clarify with submission of electronic data archiving records. 2) In Section 1.6 of the monitoring report, end date of crediting period is incorrectly reported as 26th May 2016. 3) The metering system for electricity provided in section 2.1 of monitoring report is not clear with respect to captive consumption sections, list of auxiliary equipment and metering points in block diagram.		
e Have appropriate emission factors, IPCC default values and other reference values been correctly applied?	Yes, ex-ante emission factor of coal i.e. 96.1 tCO2/TJ is taken for emission reduction calculations.	OK	OK

Table 2 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
CL-1 Clarify how the quantity of biomass consumed in project activity is measured/ monitored in line with the monitoring plan as provided in registered VCS-PD. It was stated that each type of biomass residue is monitored and quantity is calculated by Spring balance system which is in place for all 3 conveyor belts. However verification team observed that same practice is not followed at site. Please clarify.	1-e	The quantity of biomass consumed in the project activity is measured/ monitored by the log sheet of hopper data. The total number of hoppers trips in a day is measure/monitored and the total biomass consumed in day would be calculated. The log sheet of hopper data is being provided to DOE. 2nd Response: The daily consumption of biomass is monitored /measured by number of times the Hopper is filled in a day. The total consumption of daily biomass is calculated from number of times hopper is filled in a day multiplied by the quantity of biomass filled in a hopper in singe time. For biomass quantity, the volume of hopper is multiplied with the density of the fuel. This is estimated figure at operation level. However for conservative estimation of emission reductions, the purchase quantity of biomass is used.	The response is not clear. Please clarify the process as to how the biomass consumption data is quantified for a day by hoppers. Further please provide the log book details wherein daily biomass consumption details measured by hopper are mentioned. Section 3.2 of the monitoring report is also requires modification accordingly. Comment 2: As per the registered VCS PDD, section 3.3, the quantities of biomass residues consumed in the plant is monitored at the site and factory records are maintained. Project proponent monitors the biomass consumption in a day by counting the number of times a hopper in boiler house is filled with biomass and multiply it by the quantity of biomass that can be filled in hopper in single time. Verification team during site visit observed the fuel feeding practice implemented by project proponent and confirms that the biomass consumption in the project activity on a daily basis can be estimated by above method. The quantity of biomass that can be hold by hopper in single time is evaluated based on

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
			volume of hopper and density of biomass residue. The daily biomass consumption is estimated based on above method and informed to plant manager for preparation of daily generation report. Validation team has verified daily generation report which confirms the biomass consumption on daily basis by project activity. Since the PP has adopted the monitoring of biomass consumption on daily basis which is recorded in daily generation reports, as well as the biomass purchase quantity is maintained in the purchase department, verification team confirms that the quantity of biomass consumption during the monitoring period can be very well estimated with greater accuracy. However in case of leakage emission calculation, conservatively the biomass purchase quantity is considered so that emission reductions are calculated on conservative basis. Therefore CL raised is **closed.**

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
CL-2 In section 3.2 of Monitoring report, it is stated that diesel consumption will be monitored and sourced from the plant log book records. Please provide the plant log book record copies and corresponding purchase receipts of diesel for cross check.	3-b-i	The Plant log book records of diesel consumption are being provided to DOE.	Project proponent provided the diesel consumption records maintained in plant note book along with the diesel purchase slips for the monitoring period. Verification team has cross checked the diesel purchase slips for every month of verification period i.e. from Jan-11 to Dec-11 along with details noted down in notebook records. It was found to be matching with the internal note book records maintained by PP during site visit. Hence verification team confirms the quantity of diesel consumed during monitoring period. PP has further modified the emission reductions sheet by using the diesel purchase quantity for project emissions which are now conservatively calculated. Therefore CL raised is **closed.**
CL-3 During the site visit, it was observed that energy data parameters monitored in project activity are not matching with the plant log book records for the month of Mar-11, Apr-11, May-11, June-11, Sep-11, Oct-11 and Nov-11. Please clarify the correctness of	3-b-ii	There is a correction required in the values of ER sheet for the month of Mar-11, Apr-11, May-11, June-11, Sep-11, Oct-11 and Nov-11. Initially the ER sheet was not included the shut down details. The ER sheet has been revised and is being provided to DOE. Now, the values are consistent with the value of plant log book record. To substantiate the same, scan copy of plant book record is being	Verification team has checked the revised ER sheet wherein PP has now corrected the values of EGy, ECaux and power consumption data for captive units for the month of Mar-11, Apr-11, May-11, June-11, Sep-11, Oct-11 and Nov-11. However it is not clear how the figures in ER sheet have been calculated from plant log book records. Please explain the sample calculation method

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
values as provided in ER sheet and in section 3.2 of the Monitoring report for following paramters which are used for baseline emissions calculations. 1) Gross electricity generation. "EGy" 2) Auxiliary power consumption by Co-gen plant. "ECaux" 3) Captive power consumption monitored for Unit-2, Unit-9, Unit-10 and BCK unit of M/s Nectar Life Sciences. 4) Quanitity of steam consumption as stated in section 3.2 of MR and ER sheet for Unit-2 and Unit-10 is required to be substantiated with plant log book record copies.		provided to DOE. 2nd Response: Sample Calculation for Power Generation for the month of February: Meter reading of total generation (TG) at 6.00 am on 01.02.2011 – **128630.4** Meter reading of total generation (TG) at 6.00 am on 28.02.2011 – **132089.4** To calculate the power generation for February month = 132089.4 - 128630.4 = **3459** MWh = 3459 * 1000 = 3459000 KWh Sample Calculation for steam data for the month of February: Meter reading for Unit-2 at 6.00 a.m. on 01.02.2011 – **421147** tonne Meter reading for Unit-2 at 6.00 a.m. on 28.02.2011 – **433288** tonne To calculate the steam data of unit-2 for	using the power plant logbook records. Further verification team also reviewed the steam consumption data as mentioned in section 3.2 of MR with that of plant log book record however it is not clear how the data is calculated from the plant logbook records. Comment 2: Verification team has reviewed the Power plant log book during site visit. Also the PP has provided the sample power plant log book copies for power generation as well as steam generation. Based on these reference documents, verification team verified the calculation provided by PP in response to this CL and they are found correct. Therefore the total power generation data as well as steam consumption data mentioned in revised ER sheet is found correct. Therefore CL raised is **closed.**

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
		February month = 421147 - 433288 = **12141** Tonne Enclosed the scan copy of Log sheet for Pressure and $Temp_{UNIT-2}$ and $Temp_{UNIT-10}$. Enthalpy has been calculated on average monthly value of pressure and temperature.	
CL-4 Please justify the following issues. 1) Please substantiate the to and fro maximum distance traveled by trucks for biomass collection and transportation at project site for the project activity with suitable evidences. 2) Clarify the quantity of biomass used for leakage calculation as it is not accurately monitored in line with monitoring plan. The quntity of biomass consumed is estimated. Therefore please substantiate quantity of biomass considered for leakage.		1) The declaration from biomass supplier is being provided to DOE to substantiate the to and fro maximum distance travelled by trucks for biomass collection and transportation at project site. 2) The excel sheet is being provided to DOE which is substantiated the biomass used for leakage calculation. The total details fuel purchase in the whole along with vendor details and MR No. Moreover, the scan copy of bill would be provided to DOE on sample basis, if required. 2nd Response: The Emission reduction sheet has been	1) The declaration certificates provided by biomass suppliers are reviewed by verification team. It was found that the maximum distance between biomass supplier and the Nectar Lifesciences does not cross more than 60 km. However PP has considered the roundtrip distance as 150 km for leakage calculation which is found as more conservative. The distance of 150 Km which is maximum possible travel distance was considered in last verification and hence same is accepted by verification team as this is conservative assumption for leakage calculation. 2) PP has provided the total biomass purchased record as archived in electronic spreadsheet. However the purchase data is not matching with the details provided in ER

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
		revised. Now, the biomass data is matched with the biomass purchased record.	sheet. Comment 2: Verification team has verified the revised ER sheet and rice husk and saw dust purchase data from the purchase department. Both are matching and correctly used for leakage emission calculation. Hence CL raised is **closed.**
CAR-1 Emission Reduction sheet provided to Verification team requires following corrections. 1) Calculations of baseline emissions, project emissions and leakage are required to be linked for each of the reference data sheet in emission reduction calculation sheet. 2) In Emission Reduction workbook, "power generation" spreadsheet, calculation of EC(Net Aux) is not correct. 3) Data reference source for enthalpy of steam at specified pressure and temperature conditions is not provided in excel sheet. 4) Truck loading capacity of 8 Tonnes to be substantiated		1) Baseline emissions, project emissions and leakage is now interlinked with reference data sheet in emission reduction sheet. 2) In emission reduction work book "Power generation" spread sheet, EC (Net Aux) has been corrected and now in line with the monitoring report. 3) The data reference source for enthalpy of steam at specified pressure and temperature conditions has been provided in the excel sheet. 4) The truck loading capacity of 8 tonnes has been substantiated with the log book/purchased records. In the records the average loading capacity is approximately 9 tonnes. Being conservative, 8 tonne/truck has been	Verification team has reviewed revised ER sheet. 1) PP has now linked all the values and formulas in reference data sheet and other sheet so that final emission reduction calculation can be calculated correctly for any change in input values. 2) The calculation of EC(Net Aux) is now modified by PP and found in line with the monitoring plan of registered VCS-PD. 3) PP has now provided the web link of spirex sarco website which provides the online steam table for enthalpy calculations. Hence data source is provided in revised sheet

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
with plant log book/ purchase records.		considered in the emission reduction sheet.	4) Verification team has reviewed the day wise purchase record of rice husk and saw dust wherein quantity of biomass purchased for each trip with bill number, party or supplier and date is mentioned. The average biomass transported truck capacity is found to be higher than 8 Tonnes/truck. Hence being conservative verification team accepts 8 Tonnes of biomass/truck value for leakage calculation. Therefore CAR raised is **closed.**
CAR-2 Following issues are required to be justified or clarified. 1) Shut down details and number of plant operational days as provided in monitoring report is not matching with the boiler log book data. Also it was noticed that the ERs estimated during current verification period is higher than that estimated in registered VCS-PD. Please clarify with submission of electronic data archiving records. 2) In Section 1.6 of the monitoring report, end date of crediting period is incorrectly reported as 26th May 2016. 3) The metering system for	4-d	1) The shut down details has been revised and now the monitoring report is in line with the boiler log book data. The data record is being provided to DOE. PP would like to clarify that the power plant is operated for 339 days in current verification period which are more than the 330 days assumed in registered VCS-PD and validation report of the project, hence the actual emission reductions are higher than estimated earlier. 2) The date of crediting period has been corrected. Now, it is in a standard format	1) Verification team has referred to archived data of pressure and temperature of steam on daily basis. It also monitors the plant shut down details hourly which is highlighted in red color. PP has now corrected the plant shut down details in ER sheet and MR also. The number of shutdown days is now evaluated equal to 26 days and corrected in revised ER sheet and monitoring report. Verification team also noted that the project activity is operated for 9 more days than 330 days assumed during validation. Hence the actual emission reductions are more than that estimated in registered VCS-PD. 2) The closing date of crediting period is not

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
electricity provided in section 2.1 of monitoring report is not clear with respect to captive consumption sections, list of auxiliary equipment and metering points in block diagram.		i.e. DD/MM/YYYY. 3) The metering system for electricity provided in section 2.1 of monitoring report is now explained with clarity. The auxiliary meter equipment comprises the reading of three section i.e. BCK unit, Unit 10 & net auxiliary consumption of the plant. 2nd Response: 2) The closing date has been corrected.	correct. Please refer submitted MR. 3) PP has modified the block diagram and now it is clear with respect to monitoring points in project activity. Comment 2: The crediting period date is now corrected by PP in revised MR. Hence all points in raised CAR are **closed.**