PROJECT REVIEW REPORT

This document tracks the findings raised in Verra's review of the project specified below. The VVB must address the findings before the project request can be considered by Verra for approval. The document will be made publicly available on the Verra Registry. Confidential information may be provided as separate attachments.

Review Type	Registration and Verification
Project ID	2692
Project Name	Aonong AWMS GHG Mitigation Project in Fujian Province
Program(s)	VCS
Verification Period	01-May-2020 to 31 -December-2021,
Project Proponent	Fujian Aonong Biological Technology Group Incorporation Limited
Methodology	ACM0010" GHG emission reductions from manure management systems (Version 08.0)
VVB	Shenzhen CTI International Certification Co., Ltd
Assessment Criteria	VCS Standard, v4.2, ACM0010, v8.0
Date of First Issue	16 December 2022
Review Conclusion	Closed
Date of Final Issue	09 January 2023

FINDINGS			
#	**Description**	**Response**	**Status**
1	**Lack of clarity on daily waste production** **Issue** Section 1.1 of the MR states that the approximately 2,009 tons of animal manure is handled by the AWMS in a day. Section 1.11 of the MR states that the live pigs are kept for 180 days in the farms. Based on this these values, the AWMS should only treat 361,620 tons of waste annually instead of the stated 733,437 tons/yr. **Action item** The VVB must describe the rationale behind accepting the annual waste treatment value. They must provide a justification about the same in section 3.1 of the VR and ensure that section 1.1, 1.11 and other relevant sections of the MR are updated accordingly. **Program rule(s) or methodology section** *VCS Project Description & Monitoring Report Template, v4.0, Section 1.1, 1.11* *VCS Joint Val/Ver Template, v4.0, Section 3.1*	**Round1**: VVB Response: Via site inspection and interview with the staff from swine farms and based on the local expertise of the VVB, CTI confirmed that although the live pigs are kept for 180 days in the farms, the pig house will not be empty. The manure pigs are out of the market after 180 days, but the new pigs will continue to enter the swine farm (not on same day), and the number of pigs in the farm will maintain a dynamic balance process. Therefore, manures are not only produced for 180 days. When new pigs enter the farm, they will also produce manure continuously. PP has been added an explanation in section 1.11 of JPM as a footnote 8 to illustrate clearly. The parameter table of $N_{da,LT}$ in Section 4.1 of the VVR has been updated with above assessment accordingly. Verra Review: No further action is required. **Round 2:**	Closed
2	**Inconsistent farm operation dates** **Issue:** The operational start date of each of the 9 farms is reported in table 1-1 is not consistent with the dates mentioned in table 1.2 of section 1.11 of the MR.	**Round1**: VVB Response: VVB has checked both table again and confirmed that Table 1-1 lists the operation start date of each of the 9 farms, and Table 1-2 shows the start construction date, start commissioning date and the start operation date of each of the 9 AWMSs involved in this project. Therefore, date in Table 1-1 and Table 1-2 are different.	Closed

	Action required: The VVB must ensure that consistent information is reported across all sections of the documents. Program rules: *VCS Project Description & Monitoring Report Template, v4.0, Section 1.11*	The name of Table 1-2 is a typo and has been modified. Verra Review: No further action is required. **Round 2:**	
<u>3</u>	**Inaccessible Footnotes** **<u>Issue</u>** The links provided in footnotes 21, 22 and 39 of the MR are not working. **<u>Action item</u>** The VVB must ensure that all the links provided as footnotes in the MR are working. **<u>Program rule(s) or methodology section</u>** *VCS Project Description & Monitoring Report Template, v4.0, Section 1.11*	**Round1**: VVB Response: The links provided in footnotes 21, 22 and 39 in JPM (Version 02) has been updated, which is correspond to footnotes 22, 23 and 40 in JPM (Version 03) respectively and all the links can be opened by VVB. Verra Review: No further action is required. **Round 2:**	Closed
<u>4</u>	**Unclear information on parameters** **<u>Issue</u>** • The details provided in section 4.1, 4.2 and 4.3 of the MR appear to be a copy of the text in the applied methodology. • The text in these sections includes the procedures of all the available options to estimate a particular parameter. • The calculation of each parameter is not provided. These sections only provide the steps used to calculate hem. No section of the MR provides a stepwise description of how the final value was attained. **<u>Action item</u>**	**Round1**: VVB Response: i) The section 4.1, 4.2 and 4.3 have been revised by PP. VVB confirmed that the options which are not applicable to the project have been deleted, only the applied options are retained which are in line with the actual situation of the project and as per the applied methodology. ii) VVB has updated the related section of "Ex ante calculation of emission reductions" in page 57 of the VVR to provide a detail calculation process based on each parameter to derive the final ER value. And all the values have been assessed in the section 3.4.8 of the VVR and the specific calculation process has been shown in the ER table and assessed by VVB as correct and reasonable. Verra Review: No further action is required.	Closed

	• The VVB must ensure that they provide only provide the details of the option used to estimate a particular parameter, the other options must be omitted from the above sections of the MR for better clarity. • The VVB must provide the calculation of each parameter in the relevant sections of the MR along with a stepwise description depicting the arrival at the final value. **<u>Program rule(s) or methodology section</u>** *VCS Standard v4.2, Section 3.4.1* *VCS Project Description & Monitoring Report Template, v4.0, Section 4.1, 4.2, 4.3*	**Round 2:**	
<u>5</u>	**MS% values** **Issue:** • Section 6.1 of the PD&MR states that taking MS% as 100% is conservative. • Section 4.4 of the PD & MR indicate that different values of MS% i.e., 65%, 45%, have been applied in the calculation of the project emissions. **Action required:** The VVB must describe the bases on which the above assumptions were accepted for the current monitoring period. The VVB must describe why different MS% values have been applied. Program rules: *VCS Standard v4.2, Section 2.2.1* *VCS Project Description & Monitoring Report Template, v4.0, Section 6.1, 4.4*	**Round1**: VVB Response: PP has updated the JPM as per the issues, VVB confirmed that the value used for ex-estimated of emission reductions has been revised in section 6.1, the details are as follows: 50% and 65% for ex-estimated, which was sourced from project evaluation report. The reasons for applying 50% and 65% have been explained in the form of footnote 49. For this project, all of the manure and wastewater (including 50% solid material and 50% liquid material in raw materials) are collected and then be separated first. The separated liquid is treated through anaerobic digestion, during the anaerobic digestion, not only the biogas was generated, but also, biogas residue (15% of materials) also be generated. And then the biogas residue was treated by aerobic compost together with the separated solid (50% of raw material). Therefore, for this project, the materials entering the anaerobic treatment process account for 50% of the total materials, and the materials entering the aerobic stage account for 65% of the total materials. Therefore, during the ex-estimated of emission reduction, the value of 50% and 65% are used in the anaerobic digestion and aerobic phase, respectively which are verified as correct for ex ante as derived from the project evaluation report.	Closed

		However, in the monitoring period, PP use a conservative method that using the value of this parameter applied in the emission reduction calculation in the two phases are both 100%. This parameter mainly affects the project N_2O emissions ($PE_{N2O,y}$) by participating in the calculation of direct N_2O emission ($E_{N2O,D,y}$) and indirect N_2O emission ($E_{N2O,ID,y}$). It can be seen from equations 24, 25 and 26 in section 4.2 of JPM (version03) that the value of this parameter is larger, the project N_2O emissions is larger, the emission reductions is smaller. Therefore, the value of this parameter taking 100% is the most conservative.Hence, VVB confirmed that the values for ex ante and ex post are correctly and conservatively applied in the JPM. Verra Review: No further action is required. **Round 2:**	
6	**Missing parameter $EG_{d,y}$** **Issue:** The VVB assessment on parameter $EG_{d,y}$ is missing from section 3 of the VR. **Action required:** • The VVB must provide their assessment on parameter $EG_{d,y}$ in section 3 of the VR. Program rule: *VCS Joint Val/Ver Template, v4.0 Section 3*	**Round1**: VVB Response: The parameter $EG_{d,y}$ has been added by VVB into section 3 and section 4 of VVR. Verra Review: No further action is required. **Round 2:**	Closed
7	**Missing Calculation Sheet** **Issue:** The ex-ante ERR, NPV and ex-post ERR have not been submitted.	**Round1**: VVB Response: The ex-ante ERR, NPV and ex-post ERR have been submitted, please check the attachments. Verra Review: No further action is required.	Closed

	Action required: The VVB must ensure that the project latest versions of the aforementioned spreadsheets are submitted to verra for review. **Program rule:** *VCS Project Description & Monitoring Report Template, v4.0,*	**Round 2:**	
8	**Project Ownership** **Issue:** Section 1.7 of the PD & MR states that the AWMS is facility is owned by the PP. However, it is unclear who owns the swine farms and if there is an agreement between PP and farm owners on carbon rights. **Action required:** • The VVB must describe the basis on which they assessed the ownership of the project. • They must clarify in section 3.1 of the Val/Ver whether they checked the agreement between the PP and farm owners. **Program rule:** *VCS Standard v4.2, Section 3.6* *VCS Project Description & Monitoring Report Template, v4.0, Section 1.7* *VCS Joint Val/Ver Template, v4.0 Section 3.1*	**Round1:** VVB Response: Via site inspection and interview with the project owner and representatives from AWMSs and Swine farms, also by checking the Licenses for production and operation, VVB confirmed that this project introduces new animal waste management systems (AWMSs) to treat the manure from 9 Existing swine farms in Fujian Province and not only the 9 AWMSs are owned by the project owner-Fujian Aonong Biological Technology Group Incorporation Limited, but also the 9 existing swine farms are also owned by the project owner - Fujian Aonong Biological Technology Group Incorporation Limited, thus, it is verified that the project owner, i.e., Fujian Aonong Biological Technology Group Incorporation Limited have an uncontroversial ownership of carbon credit. Relevant information has been supplemented by PP in Section 1.7 of JPM (version 03), and section 3.1 of the VVR is updated also. Verra Review: No further action is required. **Round 2:**	Closed

9	**Tool 14 applicability** **Issue:** The first applicability condition if tool 14 in section 3.2 of the PD&MR states that CH_4 from flaring (d) is not applicable. However, the project boundary includes an open flare, and PE_{flare} is a component of $PE_{AD,y}$. **Action required:** The VVB must describe how it validated that CH_4 from flaring (d) is not applicable in relevant section of the Val/Ver. Program rule: *VCS Project Description & Monitoring Report Template, v4.0, Section 3.2* *VCS Joint Val/Ver Template, v4.0*	**Round1:** VVB Response: Via site inspection and checking the equipment installed on-site, VVB confirmed that for this project, the biogas generated during the anaerobic process was captured for electricity generation and if there is surplus biogas, then the biogas is flared through the flaring system, so the CH_4 from flaring (d) is applicable. PP has revised in the first applicability condition of tool 14 in section 3.2 of the JPM (version 03). And VVB has provided related assessment accordingly in section 3.4.2. Verra Review: No further action is required. **Round 2:**	Closed
10	**Incorrect MP end date** **Issue:** The tables for parameters $N_{p,LT}$ and $N_{da,LT}$ in section 6.1 of the PD&MR indicate the monitoring period end date to be 31/05/2020. Whereas the actual end date is 31/12/2021. **Action required:** The VVB must ensure that the correct monitoring period end date is report across the documents and corresponding information in section 6.1 is updated accordingly. Program rule:	**Round1:** VVB Response: The monitoring period covers from 01-May-2020 to 31-December-2021, the related information for parameters $N_{p,LT}$ and $N_{da,LT}$ has been corrected by PP in section 6.1 in JPM (version 03) which confirmed by VVB as correct. Verra Review: No further action is required. **Round 2:**	Closed

VCS Project Description & Monitoring Report Template, v4.0, Section 6.1	