VERIFICATION REPORT

Document Prepared By China Quality Certification Centre

Project Title	**Hubei Hongshan IFM (conversion of logged to protected forest) Project**
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Report Title	**VCS Report of Hubei Hongshan IFM (conversion of logged to protected forest) Project**
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Summary:

- **China Quality Certification Centre (CQC) has performed a verification of emission reductions from the project -"Hubei Hongshan IFM (conversion of logged to protected forest) Project" for the monitoring period from 01/01/2015-30/06/2019, with regard to the relevant requirements of Voluntary Carbon Standard v4.0, VCS methodology VM10 v1.3 as well as criteria given to provide for consistent project operations, monitoring and reporting.**
- **The project activity is implemented in Hongshan County, Hubei Province of China, which includes the improved Forest Management (IFM) of the forests from the conversion of logged to protected forest. Before the implementation of the project activity, the trees are logged based on a valid and verifiable government-approved timber management plan for harvesting the project area. The implementation of the project activity converses the trees to protected forest to reduce the GHG emissions.**
- **A risk-based approach has been followed to perform this verification. In the course of the verification, 1 Clarification Requests (CL) was raised by CQC verification team and successfully closed by PP.**
- **Based on the information and evidence observed and evaluated during document review and on-site assessment, CQC verification team confirms that the GHG emission reduction for the monitoring period is calculated without material misstatements. It can be also confirmed that the monitoring is implemented as per the monitoring plan in the registered VCS PD, which complies with the VCS methodology VM0010 version 1.3. Therefore, CQC verification team confirms the following statements:**
- **The reporting Period: 01/01/2015-30/06/2019**
- **The number of credits withheld in VCS buffer account during this reporting period (01/01/2015–30/06/2019): 262,913tCO_2e.**
- **Net anthropogenic GHG removals by sinks during this reporting period (01/01/2015–30/06/2019): 1,195,059tCO_2 equivalents.**
- **The amount of VCUs that can be issued for monitoring period (01/01/2015–30/06/2019): 932,144tCO_2e**

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1 INTRODUCTION

1.1 Objective

Verification is the periodic independent review and ex post determination by the verification body of the monitored reductions in GHG emissions during defined verification period.

The purpose of this verification, by checking the objective evidences independently, is as follows:

To verify whether the reductions generated by the project are in line with the Voluntary Carbon Standard Verification Protocol and the information provided by the project participants contains all the necessary information to evidence the project's compliance with all criteria in the Voluntary Carbon Standard (VCS v4.0).

To verify that the implementation of the project is consistent with the description in the Monitoring Report (MR) and the monitoring system is fully in compliance with that described in the monitoring plan and the additional requirements stated by VERRA.

To confirm that the data reported are accurate, complete, consistent, transparent and free of material error or omission by assessing the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of the validated VCS project description (VCS-PD), the project's baseline study and monitoring plan, VCS monitoring report (VCS-MR) and other relevant documents. The information in these documents is reviewed against VCS version 4.0 requirements, UNFCCC rules and associated interpretations.

The CQC verification team has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions according to the relevant applicable rules for VCUs verification under the VCS.

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

1.3 Level of Assurance

The CQC verification team has undertaken a reasonable assurance engagement in accordance with VCS version 4.0. It requires a reasonable level of assurance in verification that GHG assertions are free of material errors, omissions and misrepresentations. The verification conclusion is based on the VCS-PD, VCS-MR and supporting evidences made available to the verifier and information collected through performing interviews and during the on-site inspection.

1.4 Summary Description of the Project

CQC verification team confirm the following information by on-site assessment and desk review on the supporting documents listed in the Appendix I:

The project activity is implemented in Hongshan County, Hubei Province of China, which includes the improved Forest Management (IFM) of the forests from the conversion of logged to protected forest. It applies methodology VM0010 version 1.3 " Methodology for Improved Forest Management: Conversion of Logged to Protected Forest".

The area of the project activity is 23,769.42ha , including 5,562 subcompartments spreading over Baoji country, Wangtai country, Baiguofan country, Huoyantao country, Jimingsi country, Sanshenmiao country, Peijiayan country, Qiaohe country, Shuangfeng country, Zhoujiawan country, Qinglongmiao country, Wushenggong country, Yutingling country, Jieshanchong country, Yunlin country, Sishan Neighborhood committee, Maocifan Neighborhood committee, Zhoujiazui country, Huanglongsi country, Wenquan country, Gaojianshan country, Xujiachong country, Guanyintang country, Zhuji country, Dujiadian country, Liangtinghe country, Wangheshan country, Guoji country, Dianzihe country, Huangjiafan country, Guihuayuan country. All these countries have the legal right to forest ownership. The species involved in the project are Oak, Masson Pine, Broad-Leaved Mixed Forest and Coniferous and Broad-Leaved Mixed Forest.

By checking the approval of the application for logging suspension from local forest bureau, CQC verification team confirmed the Project Start Date is 01/01/2015.

Before the implementation of the project activity, the trees are logged based on a valid and verifiable government-approved timber management plan for harvesting the project area. The implementation of the project activity converses the trees to protected forest to reduce the GHG emissions for about 8,769,291 tCO2e in 30 years, the average annual emission reduction is 292,309 tCO2e and Verified Carbon Units with buffer deduction is about 6,840,033 tCO2e in 30 years, the average annual VCUs with buffer deduction is 228,001 tCO2e

2 VERIFICATION PROCESS

2.1 Method and Criteria

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

CQC verified the project against the requirements set in VCS version 4.0

2.2 Document Review

PPs submitted MR (version 1.0) for the period covered from 01/01/2015 to 30/06/2019 and supporting background documents related to the project design to CQC on Jul 8th 2019. Then, a desk review of documentation has been conducted by CQC verification team with the use of a customized protocol according to the VCS v4.0;

PPs submitted MR (version 1.1) and supplementary evidence for closing the CL to CQC on Dec 6th 2019.

In addition to the monitoring documentation provided by the project proponents, the CQC verification team reviews:

(a) The validated VCS-PD and the validation report;

(b) The applied methodology;

(c) Other evidences and references relevant to the project activity's resulting emissions

2.3 Interviews

From 24/09/2019-25/09/2019, CQC verification team performed an on-site visit for the project activity. During this period, CQC verified the actual implementation of the project as described in the MR and the VCS PD.

During the visit,interviews with the PPs, the consultant and project stakeholders were carried out by CQC verification team conducted to confirm selected information and to resolve issues identified in the document review.

The key interviewees and main topics of the interview are summarized in Table 1.

Table 1: Interview and Interview Topics

Date	Interviewee	Organization	Interview Topics
24/09/2019	Mr. Zhou Xiongjie Local representative	Zhejiang Zhongzheng Forestry Development Co.,Ltd (the PP)	Project background information and implementation
25/09/2019	Mr.Liu Jun Head of station Mr. Chen Fang Mr. Li Baoshan	Hongshan County Forestry Management Station Local villager	Project monitoring and management plan; Roles and responsibility; Monitoring manual; Operation of the QA/QC system; Compliance with National Laws and Regulations; Environmental impact and solution for environmental issues.
	Ms.Tao yun	Zhong Che (Beijing)	Monitoring Plan and

	General Manager Mr. Yu Kaiquan Mr.Li Wei Project manager	Environment Energy Technology Development Co., Ltd. (the Consultant)	implementation □ Monitored data and Monitoring Report □ GHG Calculations

2.4 Site Inspections

During the period from 24/09/2019 to 25/09/2019, CQC verification team performed a site visit and interviews with project stakeholders; during the site visit, CQC visited Baoji country, Jieshanchong country, Yunlin country, Wangheshan country, Guoji country and Guihuayuan country to inspect all the species involved in the project including Oak, Masson Pine, Broad-Leaved Mixed Forest and Coniferous and Broad-Leaved Mixed Forest.

2.5 Resolution of Findings

CQC verification team will establish verification findings based on the results of evaluation of the collected verification evidence against verification criteria.

While aiming to resolve any outstanding issues which needed to be clarified about the project design, findings established during the verification can either be seen as a non-fulfillment of the VCU Verification Criteria or where a risk to the fulfillment of project objectives is identified.

Emission reductions with material misstatements shall be discounted based on the verifiers' expose determination of the achieved emission reductions.

Corrective action requests (CAR) are issued, where:

i) mistakes have been made with a direct influence on project results requiring adjustments of the VERs/VCUs monitoring report;

ii) applicable methodological specific requirements have not been met.

A clarification action request (CL) may be used where additional information is needed to fully clarify an issue.

A forward action request (FAR) should be issued, where:

i) the actual project monitoring and reporting practices requires attention and /or adjustment for the next consecutive verification period, or

ii) an adjustment of the MP is recommended.

In the context of FARs, risks have been identified, which may endanger the delivery of high quality emissions reductions in the future, i.e. by deviations from standard procedures. As a consequence, such aspects should receive a special focus during the next consecutive verification. A FAR may originate from lack of data sustaining claimed emission reductions.

2.5.1 Forward Action Requests

No Forward Action Request is raised during this monitoring period

2.6 Eligibility for Validation Activities

N/A, CQC as the validation/verification body of the Project has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

N/A, the project has not been registered, or is seeking registration under any other GHG programs

3.2 Methodology Deviations

N/A, no deviation from methodology.

3.3 Project Description Deviations

N/A, no deviation from project description in the registered VCS PD version 04 dated 10/04/2014.

3.4 Grouped Project

N/A, the project is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

CQC verification team confirmed the following by on-site assessment and desk review:

The project was implemented and operated as the validated VCS PD during the monitoring period. Through the on-site assessment and desk review, CQC verification team have verified that the project includes the area of the project activity is 23,769.42ha , including 5,562 subcompartments spreading over Baoji country, Wangtai country, Baiguofan country, Huoyantao country, Jimingsi country, Sanshenmiao country, Peijiayan country, Qiaohe country, Shuangfeng country, Zhoujiawan country, Qinglongmiao country, Wushenggong country, Yutingling country, Jieshanchong country, Yunlin country, Sishan Neighborhood committee, Maocifan Neighborhood committee, Zhoujiazui country, Huanglongsi country, Wenquan country, Gaojianshan country, Xujiachong country, Guanyintang country, Zhuji country, Dujiadian country, Liangtinghe country, Wangheshan country, Guoji country, Dianzihe country, Huangjiafan country, Guihuayuan country. All these countries have the legal right to forest ownership. The species involved in the project are Oak, Masson Pine, Broad-Leaved Mixed Forest and Coniferous and Broad-Leaved Mixed Forest. CQC has onsite checked the boundary of the Project and confirmed the project activity including different forest types, as well as the monitoring system, metering equipment and the monitoring procedure have been implemented and managed as described in the VCS PD.

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

By checking the approval of the application for logging suspension from local forest bureau, CQC verification team confirmed the Project Start Date is 01/01/2015, and it represents the date on which the project began generating GHG emission reductions or removals as defined by the VCS requirements.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

According to the validated VCS PD and the monitoring report, the emission reduction ERy for the project is the baseline emissions BEy minus the project emissions PEy and leakage Ly.
The leakage need not be considered as per the registered VCS PD and the applied methodology.

CQC has ensured that:

- The data used for the determination of the emission reductions are available and are monitored in accordance with the monitoring plan in the registered VCS PD without deviation;
- The appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been properly followed the methodology and VCS PD;

The parameters required by the monitoring plan and how CQC verification team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting) and appropriateness of the applied measurement/determination method, the correctness of the values applied for emission removals calculation, the accuracy, and applied QA/QC measures for all relevant monitoring parameters including the values in the monitoring report are described below:

4.2.1 Monitored Parameters

1. Illegal Logging PRA Results;
The value is zero since there are clear infrastructure, hiring and policies are in place to prevent illegal logging. CQC verification team has checked the Questionnaires and records of Participatory rural appraisal (PRA) of the communities in and surrounding the project area carried out from 2015 to 2019 and confirmed the value applied is consistent with the VCS PD and applied methodology.
2. Result of Limited Illegal Logging Survey;
The value is zero since there are clear infrastructure, hiring and policies are in place to prevent illegal logging.
3. A_i: Area covered by stratum i
According to the Timber Harvest Plan, there are 23,769.42ha , including 5,562 subcompartments of Oak, Masson Pine, Broad-Leaved Mixed Forest and Coniferous and Broad-Leaved Mixed Forest are accounted in this monitoring period.
4. DBH, Diameter at breast height of a tree in cm
This parameter was measured during the Forest management inventory carried out in 2014 and in 2019, field measurements in sample plots and records are recognized by local government forestry bureau. During site visit, CQC verification team has sample checked the diameter of each department and confirmed the records of Forest management inventory carried out in 2014 and in 2019 were reliable.
5. $A_{burn,i,t}$ Area burnt in stratum i at time t
N/A, no forest of the Project burnt during this monitoring period.
6. $A_{dist,i,t}$, Area disturbed in stratum i at time t
N/A, no forest of the Project disturbed during this monitoring period.
7. $A_{DIST\_IL,i}$: Area potentially impacted by illegal logging in stratum i
N/A, no forest of the Project will be disturbed during this monitoring period.
8. $C_{DIST\_IL,i,t|PRJ}$: biomass carbon of trees cut and removed through illegal logging in stratum i at time t
N/A, no illegal logging during this monitoring period.
9. AP_i: Total area of illegal logging sample plots in stratum i
N/A, no illegal logging during this monitoring period.
10. PMP_i: Merchantable biomass as a proportion of total aboveground tree biomass for stratum i within the project boundaries
N/A, no merchantable volume of timber in the forest during this monitoring period.

4.2.2 Ex-ante determined Parameters

1. $V_{l,j,i,sp}$, Merchantable volume for tree l of species j in sample plot spin stratum l, sourced from Forest inventory by local forest bureau and Calculated from equations linking diameter at breast height, which has been determined in the registered VCS PD.
2. CF_j, Carbon fraction of dry matter for species j
The value is 0.5, which is the default value from VM0010 version 1.3.
3. D_j, Basic wood density of species j in t d.m. m-3
The value for Oak is 0.676, for Masson Pine is 0.38, for Broad-Leaved Mixed is 0.482 and for Coniferous and Broad-Leaved Mixed is 0.486, which are the national specific values from Land Use Change and Forestry GHG Inventory(2013).

4. $f_j(X,Y…)$, Allometric equation(s) for species j linking measured tree variable(s) to aboveground biomass of living trees

Equations used by local forest bureau during the forest inventory are derived using a wide range of measured ages based on datasets that comprise at least 30 trees. Equations are based on statistically significant regressions and the r2 is $\geqslant$ 0.8. The source of equations are chosen from academic paper and equations developed for regional forest types.

5. $BCEF_R$, Biomass conversion and expansion factor applicable to wood removals in the project area

The value for Oak is 0.916, for Masson Pine is 0.559, for Broad-Leaved Mixed is 0.73 and for Coniferous and Broad-Leaved Mixed is 0.805, which are the national species-specific values from Land Use Change and Forestry GHG Inventory(2013).

6. OF, SLF,WW,

OF = Fraction of wood products that will be emitted to the atmosphere between 5 and 100 years after production;

SLF = Fraction of wood products that will be emitted to the atmosphere within 5 years of production;

WW = Fraction of extracted biomass effectively emitted to the atmosphere during production The values are sourced from VM0010 version 1.3.

7. RGR_i, Forest re-growth rate post timber harvest for stratum i m

The values are sourced from VM0010 version 1.3.

8. $V_{EX,j,i|BSL}$, Mean volume of extracted timber per unit area for species j in stratum i

9. $TH_{i,p}$, Number of years since timber harvest in stratum I in land parcel p;

The values are sourced from the timer plan.

10. $A_{i,p}$, Area covered by stratum I over land parcel p

The values are consistent with the Forestry Right Certificates of the Project.

11. $A_{1,i,p}$: The area of stratum i in land parcel p that was harvested 1 year ago

The values are consistent with the Forestry Right Certificates of the Project.

12. $A_{2\text{-}10,i,p}$: The area of stratum i in land parcel p that was harvested between 2 and 10 year ago

The values are consistent with the Forestry Right Certificates of the Project.

13. $A_{11\text{-}20,i,p}$: The area of stratum i in land parcel p that was harvested between 11 and 20 year ago

The values are consistent with the Forestry Right Certificates of the Project.

14. A_{t^*}: Cumulative area harvested until time t*

The values are consistent with the Forestry Right Certificates of the Project.

15. A_{sp}, Area of sample plot

The values are consistent with the monitoring plan.

16. t_{VAL}, Two-sided Student's t-value, at infinite degrees of freedom in the first iteration and at degrees of freedom equal to (n-1) in subsequent iterations, for the required confidence level;

The values are sourced from A/R Methodological Tool “Calculation of the number of sample plots for measurements within A/R CDM project activities”.

17. E, Acceptable margin of error (i.e. one-half the confidence interval) in estimation of biomass stock within the project boundary; in units used for S_i

The value is sourced from A/R Methodological Tool “Calculation of the number of sample plots for measurements within A/R CDM project activities”.

18. G_{gi} Emission factor for stratum i for gas g
The value of this parameter is sourced from IPCC 2006.
19. $V_{EX,j,i|BSL}$, Mean volume of extracted timber per unit area for species j in stratum I;
The timber harvest plan sets the allowable mean extracted volume is equal to the merchantable volume of timber in the forest inventory ($V_{j,i|BSL}$).

Through desk review, CQC verification team confirmed a complete set of data for the specified monitoring period is available.
The critical parameter used for the determination of the Emission Removals is the area of forest, diameter at breast height of a tree and other parameters relate to the forest inventory. The data pertaining to the above parameters are maintained in the identified records. All the data are in compliance with that stated in the Monitoring Report version 1.1.

4.2.3 Baseline emissions

According to the methodology and the VCS PD, the net change in carbon stock from wood products and logging slash across all parcels within the first year of harvest in the baseline is calculated as:

$$\Delta C_{NET|BSL(1)} = \sum_{i,p} A_{1,i,p} * \sum_{i=1}^{M} \left(\frac{C_{DWSLASH,i,p\backslash BSL}}{10}\right) + C_{WP0,i,p\backslash BSL} + \left(\frac{C_{WP100,i,p\backslash BSL}}{20}\right)$$

The net change in carbon stock from wood products and logging slash across all parcels the years 2-10 since harvest in the baseline are calculated as:

$$\Delta C_{NET|BSL(2-10)} = \sum_{i,p} A_{2-10,i,p} * \sum_{i=1}^{M} \left(\frac{C_{DWSLASH,i,p\backslash BSL}}{10}\right) + \left(\frac{C_{WP100,i,p\backslash BSL}}{20}\right)$$

The net change in carbon stock from wood products across all parcels the years 11-20 since harvest in the baseline are calculated as:

$$\Delta C_{NET|BSL(11-20)} = \sum_{i,p} A_{11-20,i,p} * \sum_{i=1}^{M} (C_{WP100,i,p\backslash BSL}/20)$$

The net change (sequestration) in carbon stock due to reforest across all parcels in all years since harvest in the baseline scenario are calculated according to equation 6 below. Note that there will be no more emissions quantified from decay of logging slash or wood products.

$$\Delta C_{NET|BSL(1+)} = \sum_{i} A_{t*} * \sum_{i=1}^{M} (-\Delta C_{RG,i,p\backslash BSL})$$

The calculation of A_{t*}, is cumulative area harvested until time t* since timber harvest in stratum i in land parcel p in the baseline scenario. In the estimation of baseline emissions, it is relevant to the rotation of the different kinds of trees and it could be calculated by MAX (Age_{2015} +30 –$Years_{since\ harvest\ to\ year\ t}$, 0) during the whole crediting period.
Therefore, net change in carbon stock across all parcels harvested over each year of the project crediting period in the baseline scenario since the start of the project activity is calculated as:

$$\Delta C_{NET|BSL,t*} = \sum_{p=1}^{P} \Delta C_{NET|BSL(1)} + \Delta C_{NET|BSL(2-10)} + \Delta C_{NET|BSL(11-20)} + \Delta C_{NET|BSL(1+)}$$

The net carbon stock change in the baseline scenario since the start of the project activity must be converted to net greenhouse gas emissions and is calculated as:

$$GHG_{NET|BSL,t*} = \Delta C_{NET|BSL,t*} * \frac{44}{12}$$

Here t* is 4.5years for the time elapsed from 01/01/2015 to 30/06/2019.
CQC verification team has checked the Emission Removals calculation sheet and found the calculation of baseline is correct, and the results are listed as following:

Period	$GHG_{NET,BSL,t}$ (tCO_2e)
01/01/2015-31/12/2015	110
01/01/2016-31/12/2016	-11
01/01/2017-31/12/2017	337
01/01/2018-31/12/2018	22
01/01/2019-30/06/2019	166
Total	**624**
Average annual $GHG_{NET|BSL}$	**138**[1]

[1] The average annual $GHG_{NET|BSL}$ is calculated by 624/4.5=138 tCO_2/yr

4.2.4 Project emissions

According to the methodology and the VCS PD, net greenhouse gas emissions in the project scenario in year t, is calculated as the formula below:

$$\Delta C_{NET,t|PRJ} = \left(\Delta C_{DIST_{FR},t|PRJ} + \Delta C_{DIST,t|PRJ} + \Delta C_{DIST_{IL},t|PRJ}\right) - \Delta C_{AB,t|PRJ}$$

The net greenhouse gas emissions across in the project scenario since the start of the project activity is calculated as:

$$GHG_{NET|PRJ} = \sum_{t=1}^{t^*} \Delta C_{NET,t|PRJ}$$

According to the PRA implemented from 2015 to 2019, $\Delta C_{DIST\_FR,t|PRJ}$, $\Delta C_{DIST,t|PRJ}$ and $\Delta C_{DIST\_IL,i,t|PRJ}$ are all zero.

The annual carbon stock change in aboveground biomass of trees in year t is the difference in mean carbon stock in aboveground biomass between sampling events and, when expressed in tCO2e, is calculated as:

$$\Delta C_{AB,t|PRJ} = \left(\sum_{i=1}^{M} \left(A_i * \frac{C_{AB,i,t2|PRJ} - C_{AB,i,t1|PRJ}}{T}\right)\right) * \frac{44}{12}$$

CQC verification team has checked the Emission Removals calculation sheet and found the calculation is correct, and the results are as following

Period	$\triangle C_{DIST\text{-}FR,t,PRJ}$ (tCO_2e)	$\triangle C_{DIST,t,PRJ}$ (tCO_2e)	$\triangle C_{DIST\_IL,I,t,PRJ}$ (tCO_2e)	$\triangle C_{AB,t,PRJ}$ (tCO_2e)	$\triangle C_{NET,t,PRJ}$ (tCO_2e)
01/01/2015-31/12/2015	0	0	0	265,430	-265,430
01/01/2016-31/12/2016	0	0	0	265,430	-265,430
01/01/2017-31/12/2017	0	0	0	265,430	-265,430
01/01/2018-31/12/2018	0	0	0	265,430	-265,430
01/01/2019-30/06/2019	0	0	0	132,715[2]	-132,715
Total	**0**	**0**	**0**	**1,194,435**	-1,194,435
Average annual value	**0**	**0**	**0**	**265,430**	-265,430

[2] The project scenario emission reduction of 2019 is 265,430 as calculated in MR-ER sheet, the period of 01/01/2019-30/06/2019 is half year, so $GHG_{NET,PRJ,t}$ of 01/01/2019-30/06/2019 is calculated by 265,430*0.5=132,715 tCO_2

4.2.5 Leakage

a. Activity shifting leakage

The project does not involve in the activity shifting leakage .In China, the forest timber harvest is strictly controlled by the forestry authority. Also, the China Forest Law also clearly stipulates the punishment for the illegal logging.

CQC verification team verified and confirmed the PP have no right to harvest more in other parcels outside the project activity and the project does not involve in the activity shifting leakage. Therefore, the activity shifting leakage is zero.

b. Market leakage

According to the Validation Report version 02, the leakage factor for market-effects calculations (LF_{ME}) is 0.

CQC verification team has verified the following documents:

According to the National Forestry Law of P.R. China, the forest concessions must be strictly implemented;

According to the Forestry Law of P.R. China, Illegal logging in China will be faced punished by replanting, penalty, or criminal responsibilities.

CQC verification team can confirm that the logging is impossible increased as a result of the decreased supply of the timber caused by the project in this monitoring period.

Therefore,

LF_{ME} = 0.

Hence:

$$GHG_{LK|LtPF,t*} = LF_{ME} * GHG_{NET|BSL,t*}=0$$

4.2.6 Emission reductions

According to VM0010 version 1.3, the Net Project Greenhouse Gas Emission removals in the monitoring crediting period are calculated as:

$$GHG_{CREDITS|LtPF} = GHG_{NET|BSL} - GHG_{NET|PRJ} - GHG_{LK|LtPF}$$

Where:

$GHG_{CREDITS|LtPF}$ is the project greenhouse gas credits associated with the implementation of improved forest management (IFM) activities in the project scenario, tCO_2e

$GH_{GNET|BSL}$ is the net greenhouse gas emissions in the baseline scenario in the year t* since the start of the project activity, tCO_2e

$GHG_{NET|PRJ}$ is the net greenhouse gas emissions in the project scenario in the year t* since the start of the project activity, tCO2e

$GHG_{LK|LtPF}$ is the total greenhouse gas emissions due to leakage arising outside the project boundary as a result of the implementation of improved forest management (IFM) activities in the year t* since the start of the project activity, in the project scenario, tCO2e

The result are listed as following:

Period	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
01/01/2015-31/12/2015	110	-265,430	0	265,540
01/01/2016-31/12/2016	-11	-265,430	0	265,419
01/01/2017-31/12/2017	337	-265,430	0	265,767
01/01/2018-31/12/2018	22	-265,430	0	265,452
01/01/2019-30/06/2019	166	-132,715	0	132,881
Total	**624**	**-1,194,435**	**0**	**1,195,059**
Average annual value	**138**	**-265,430**	**0**	**265,568**

According to the VCS PD, if the uncertainty propagation $U_{total|LtPF} \leqslant 0.15$ then no deduction will result for uncertainty; If $U_{total|LtPF} > 0.15$ then the amount of greenhouse gas emission credits associated with IFM activities will be deducted as follows:

$$Credits_{total|LtPF} = GHG_{credits|LtPF} * (1 - U_{total|LtPF})$$

Verification on uncertainty

Estimated greenhouse gas emissions and emission reductions from IFM activities have uncertainties associated with parameters and coefficients including estimates of area, carbon stocks, regrowth and expansion factors. It is assumed that the uncertainties associated with input data are available, either as default uncertainty values given in most recent IPCC guidelines, or as statistical estimates based on sampling.

Uncertainty at all times is defined at the 95% confidence interval where the estimated variance exceeds +/- 15 percent from the mean. Procedures including stratification and the allocation of sufficient measurement plots will help ensure that low uncertainty results and ultimately full crediting can result.

Uncertainties arising from the measurement and monitoring of carbon pools and greenhouse gases shall always be quantified. Errors in each pool shall be weighted by the size of the pool so that projects may reasonably target a lower precision level in pools that only form a small proportion of the total stock.

For both the baseline and the with-project case the total uncertainty is equal to the square root of the sum of the squares of each component uncertainty and is calculated at the time of reporting through propagating the error in the baseline stocks and the error in the project stocks. Therefore,

total uncertainty for the project is calculated as:

$$U_{Totall|LtPF} = \sqrt{U^2_{|PRJ} + U^2_{|BSL}}$$

If $U_{total|LtPF} \leq 0.15$ then no deduction will result for uncertainty.

If $U_{total|LtPF} > 0.15$ then the amount of greenhouse gas emission credits associated with IFM activities will be deducted as follows:

$$Credits_{total|LtPF} = GHG_{credits|LtPF} \cdot (1 - U_{total|LtPF})$$

For the baseline scenario:

As ex-ante calculated in the VCS-PD, the U_{BSL} is 1.32% for the baseline scenario.

For the project scenario:

According to *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*[3], the uncertainty in the baseline scenario is associated with parameters and coefficients including estimates of area, carbon stocks, and expansion factors, the calculation process follows the two rules below:

Rule A: Where uncertainties are to be combined by addition, the standard deviation of the sum will be the square root of the sum of the squares of the standard deviations of the quantities that are added with the standard deviations all expressed in absolute terms (this rule is exact for uncorrelated variables).

Using this interpretation, a simple equation can be derived for the uncertainty of the sum, that when expressed in percentage terms becomes:

$$U_{total} = \frac{\sqrt{(U_1 \times E_1)^2 + (U_2 \times E_2)^2 + \cdots + (U_n \times E_n)^2}}{E_1 + E_2 + \cdots + E_n}$$

Where:

U_{total} is the percentage uncertainty in the sum of the quantities (half the 95% confidence interval divided by the total (i.e. mean) and expressed as a percentage);

E_i and are the uncertain quantities and the percentage uncertainties associated with them,

[3] IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, Chapter 6, Quantifying Uncertainties in Practice.

U_i respectively

Rule B: Where uncertain quantities are to be combined by multiplication, the same rule applies except that the standard deviations must all be expressed as fractions of the appropriate mean values (this rule is approximate for all random variables).

A simple equation can also be derived for the uncertainty of the product, expressed in percentage terms:

$$U_{total} = \sqrt{U_1^2 + U_2^2 + \ldots + U_n^2}$$

Where:

U_{total} is the percentage uncertainty in the product of the quantities (half the 95% confidence interval divided by the total and expressed as a percentage);

U_i is the percentage uncertainties associated with each of the quantities.

The uncertainty of each stratum is calculated by dividing the 95% confidence interval by the mean value of the uncertainty quantities. The corresponding standard deviation is calculated over the measured plot values of the uncertainty quantities. The 95% confidence interval is calculated based on the standard deviation and the t-value for n-1 degree of freedom of plots per stratum.

As the uncertainty in the baseline scenario is associated with parameters and coefficients including estimates of area, carbon stocks, regrowth and expansion factors, the calculation of the 4 parameters and coefficients are shown below:

1) Uncertainty of Area:

In the baseline and project scenario, the area of every stratum are quoted from the field survey inventory data and legal right of harvest, so no data are from measurement and monitoring. Therefore, it is deemed as 0 in the period of validation. It will be monitored in the period of verification..

2) Uncertainty of expansion factors:

The Sample size, Sample mean and Standard error of expansion factors are quoted from Forestry Part of China's greenhouse gas emissions list divided as tree species, and the uncertainty of expansion factors are calculated as below:

For Oak:

Uncertainty of BCEF-Oak		7.63%	
Uncertainty of BEF-Oak	6.77%	Uncertainty of D-Oak	3.53%
BEF		D	
Sample size	73	Sample size	82
Sample mean (BEF)	1.36	Sample mean (D)	0.68
Standard deviation	0.39	Standard deviation	0.11
Average error	0.05	Average error	0.01
Confidence level	0.95	Confidence level	0.95
Degree of freedom	72	Degree of freedom	81
Two-sided Student's t-value	1.99	Two-sided Student's t-value	1.99
Allowable error	0.09	Allowable error	0.02
Lower confidence limit	1.26	Lower confidence limit	0.65
Upper confidence limit	1.45	Upper confidence limit	0.70
Confidence interval	0.09	Confidence interval	0.02

For Masson Pine:

Uncertainty of BCEF-Masson Pine		11.91%	
Uncertainty of BEF-Masson Pine	6.33%	Uncertainty of D-Masson Pine	10.09%
BEF		D	
Sample size	103	Sample size	43
Sample mean (BEF)	1.47	Sample mean (D)	0.38

Standard deviation	0.48	Standard deviation	0.12
Average error	0.05	Average error	0.02
Confidence level	0.95	Confidence level	0.95
Degree of freedom	102	Degree of freedom	42
Two-sided Student's t-value	1.98	Two-sided Student's t-value	2.02
Allowable error	0.09	Allowable error	0.04
Lower confidence limit	1.38	Lower confidence limit	0.34
Upper confidence limit	1.57	Upper confidence limit	0.42
Confidence interval	0.09	Confidence interval	0.04

For Broad-Leaved Mixed:

Uncertainty of BCEF-Broad-Leaved Mixed		6.33%	
Uncertainty of BEF-Broad-Leaved Mixed	3.94%	Uncertainty of D-Broad-Leaved Mixed	4.95%
BEF		D	
Sample size	84	Sample size	82
Sample mean (BEF)	1.51	Sample mean (D)	0.48
Standard deviation	0.27	Standard deviation	0.11
Average error	0.03	Average error	0.01
Confidence level	0.95	Confidence level	0.95
Degree of freedom	83	Degree of freedom	81
Two-sided Student's t-value	1.99	Two-sided Student's t-value	1.99

Allowable error	0.06	Allowable error	0.02
Lower confidence limit	1.45	Lower confidence limit	0.46
Upper confidence limit	1.57	Upper confidence limit	0.51
Confidence interval	0.06	Confidence interval	0.02

For Coniferous and Broad-Leaved Mixed:

Uncertainty of BCEF-Coniferous and Broad-Leaved Mixed		9.91%	
Uncertainty of BEF-Coniferous and Broad-Leaved Mixed	5.99%	Uncertainty of D-Coniferous and Broad-Leaved Mixed	7.89%
BEF		D	
Sample size	103	Sample size	43
Sample mean (BEF)	1.66	Sample mean (D)	0.49
Standard deviation	0.51	Standard deviation	0.12
Average error	0.05	Average error	0.02
Confidence level	0.95	Confidence level	0.95
Degree of freedom	102	Degree of freedom	42
Two-sided Student's t-value	1.98	Two-sided Student's t-value	2.02
Allowable error	0.10	Allowable error	0.04
Lower confidence limit	1.56	Lower confidence limit	0.45
Upper confidence limit	1.76	Upper confidence limit	0.52
Confidence interval	0.10	Confidence interval	0.04

3) Uncertainty of carbon stock:

The calculation of uncertainty of carbon stock is based on the uncertainty of volume in every stratum multiply by the uncertainty of expansion factors using formula (21) in the VCS-PD:

For year 2015:

Uncertainty of carbon stock-Oak	7.64%	Uncertainty of carbon stock-Masson Pine	11.95%
Uncertainty of volumn-Oak	0.17%	Uncertainty of volumn-Masson Pine	0.96%
carbon stock-Oak	802557.61	carbon stock-Masson Pine	144881.36
Area(ha)	7415.59	Area(ha)	3087.63
Sample size	1407	Sample size	583
Sample mean (m3/ha)	236.30	Sample mean (m3/ha)	167.88
Standard deviation	7.69	Standard deviation	19.80
Average error	0.20	Average error	0.82
Confidence level	0.95	Confidence level	0.95
Degree of freedom	1406	Degree of freedom	582
Two-sided Student's t-value	1.96	Two-sided Student's t-value	1.96
Allowable error	0.40	Allowable error	1.61
Lower confidence limit	235.90	Lower confidence limit	166.27
Upper confidence limit	236.70	Upper confidence limit	169.49
Confidence interval	0.40	Confidence interval	1.61

Uncertainty of carbon stock-Broad-Leaved Mixed	6.37%	Uncertainty of carbon stock-Coniferous and Broad-Leaved Mixed	9.91%
Uncertainty of volumn-Broad-Leaved Mixed	0.29%	Uncertainty of volumn-Coniferous and Broad-Leaved Mixed	0.24%

carbon stock-Broad-Leaved Mixed	677868.81	carbon stock-Coniferous and Broad-Leaved Mixed	520787.01
Area(ha)	7244.29	Area(ha)	6021.91
Sample size	2469	Sample size	1103
Sample mean (m3/ha)	256.36	Sample mean (m3/ha)	214.86
Standard deviation	18.90	Standard deviation	8.67
Average error	0.38	Average error	0.26
Confidence level	0.95	Confidence level	0.95
Degree of freedom	2468	Degree of freedom	1102
Two-sided Student's t-value	1.96	Two-sided Student's t-value	1.96
Allowable error	0.75	Allowable error	0.51
Lower confidence limit	255.62	Lower confidence limit	214.35
Upper confidence limit	257.11	Upper confidence limit	215.37
Confidence interval	0.75	Confidence interval	0.51

For year 2019:

Uncertainty of carbon stock-Oak	7.75%	Uncertainty of carbon stock-Masson Pine	12.07%
Uncertainty of volumn-Oak	1.33%	Uncertainty of volumn-Masson Pine	1.97%
carbon stock-Oak	27.75	carbon stock-Masson Pine	21.03
Area(ha)	1.28	Area(ha)	1.36
Sample size	32	Sample size	34
Sample mean (m3/ha)	47.33	Sample mean (m3/ha)	55.31

Standard deviation	1.75	Standard deviation	3.13
Average error	0.31	Average error	0.54
Confidence level	0.95	Confidence level	0.95
Degree of freedom	31	Degree of freedom	33
Two-sided Student's t-value	2.04	Two-sided Student's t-value	2.03
Allowable error	0.68	Allowable error	0.99
Lower confidence limit	46.66	Lower confidence limit	54.32
Upper confidence limit	48.01	Upper confidence limit	56.31
Confidence interval	0.68	Confidence interval	0.99

Uncertainty of carbon stock-Broad-Leaved Mixed	6.49%	Uncertainty of carbon stock-Coniferous and Broad-Leaved Mixed	10.09%
Uncertainty of volumn-Broad-Leaved Mixed	1.41%	Uncertainty of volumn-Coniferous and Broad-Leaved Mixed	1.90%
carbon stock-Broad-Leaved Mixed	73.15	carbon stock-Coniferous and Broad-Leaved Mixed	24.96
Area(ha)	3.04	Area(ha)	1.16
Sample size	76	Sample size	29
Sample mean (m3/ha)	65.93	Sample mean (m3/ha)	53.46
Standard deviation	4.07	Standard deviation	2.67
Average error	0.47	Average error	0.53
Confidence level	0.95	Confidence level	0.95
Degree of freedom	75	Degree of freedom	28

Two-sided Student's t-value	1.99	Two-sided Student's t-value	2.05
Allowable error	0.93	Allowable error	1.09
Lower confidence limit	64.99	Lower confidence limit	52.37
Upper confidence limit	66.86	Upper confidence limit	54.54
Confidence interval	0.93	Confidence interval	1.09

The baseline emission uncertainty has been listed in the PD is 1.32%, the detailed calculation is listed as follows:

Based on the calculation of the parameters and coefficients above, the calculation of U_{PRJ} is shown below

Baseline Emission Uncertainty:

Stratum	Parameter	A_{rea}(Ha)	$V_{EX,i,l\|BSL}$ (m^3/ha)	BEF	D (tdm/m^3)	$BCEF_R$ (tdm/m^3)	CFj (tc/tdm)	$C_{HB,i,l\|BSL}$ (tC /ha)	$C_{EX,i,l\|BSL}$ (tC ha^{-1})	$\Delta C_{DW,i,p\|BSL}$
		a	b	c	d	e=c*d	f	g=b*e*f	h=b*d*f	i=g-h
								$U_g=\sqrt{U_b^2+U_e^2}$	$U_h=\sqrt{U_b^2+U_d^2}$	$U_i=\frac{\sqrt{(E_g*U_g)^2+(E_h*U_h)^2}}{(E_g+E_h)}$
Oak	E	7415.59	174.06	1.355	0.676	0.916	0.5	79.72	58.83	20.89
	U		0.17%	6.77%	3.53%	7.63%		7.64%	3.54%	4.64%
Masson Pine	E	3087.63	97.98	1.472	0.380	0.559	0.5	27.39	18.62	8.77
	U		0.96%	6.33%	10.09%	11.91%		11.95%	10.14%	8.21%
Broad-Leaved Mixed	E	7244.29	209.42	1.514	0.482	0.730	0.5	76.44	50.47	25.97
	U		0.29%	3.94%	4.95%	6.33%		6.34%	4.96%	4.30%
Coniferous and Broad-Leaved Mixed	E	6021.91	154.68	1.656	0.486	0.805	0.5	62.26	37.59	24.67
	U		0.24%	5.99%	7.89%	9.91%		9.91%	7.89%	6.86%

Stratum	Parameter	WW_k	SLF_k	$C_{wp,0\|BSL}$ (tc/ha)	$C_{WP,i\|BSL}$(tc/ha)	OF_k	$\Delta C_{WP,100\|BSL}$ (tc/ha)	Ai,p(ha)	$\Delta C_{NET\|BSL(1)}$(tC)

		j	k	l=h*(j+k)	m=h-l	n	o=m*n	p	q=(i/10+l+o/20)*p
				$U_l=U_h$	$U_m=\frac{\sqrt{(E_h*U_h)^2+(E_l*U_l)^2}}{(E_h+E_l)}$		$U_o=U_m$	$U_p=0$	$U_m=\frac{\sqrt{(E_l*U_l)^2+(E_l*U_l)^2+(E_o*U_o)^2}}{(E_l+E_l+E_o)}$
Oak	E	24%	0.12	21.18	37.65	0.62	23.34	688.70	16828.60
	U			3.54%	2.76%		2.76%		2.12%
Masson Pine	E	24%	0.12	6.70	11.91	0.62	7.39	1078.24	8569.88
	U			10.14%	7.92%		7.92%		5.03%
Broad-Leaved Mixed	E	24%	0.12	18.17	32.30	0.62	20.03	645.81	14057.54
	U			4.96%	3.88%		3.88%		2.54%
Coniferous and Broad-Leaved Mixed	E	24%	0.12	13.53	24.06	0.62	14.91	644.04	10783.94
	U			7.89%	6.17%		6.17%		4.15%

Stratum	Parameter	$\Delta C_{NET\|BSL(2\text{-}10)}$(tC)	$\Delta C_{NET\|BSL(11\text{-}20)}$(tC)	regrowth rate (m3/ha/yr)	$\Delta C_{NET\|BSL,t^*}$(tC)	ΔCNET, i,P|BSL
		r=(i/10+o/20)*p	s=o/20*p	t	v=e*f*p*t	w=q+r+s-v

		$U_r=\frac{\sqrt{(E_i*U_i)^2+(E_o*U_o)^2}}{(E_i+E_o)}$	$U_s=U_o$	$U_t=10\%$	$U_v=\sqrt{U_{E_i}^2+U_{E_o}^2}$	$U_m=\frac{\sqrt{(E_q*U_q)^2+(E_r*U_r)^2+(E_s*U_s)^2+(E_{rr}*U_{rr})^2}}{(E_q+E_r+E_s+E_{rr})}$
Oak	E	2242.35	803.86	1.50	473.14	19401.68
	U	2.63%	2.76%	10.00%	12.58%	1.80%
Masson Pine	E	1343.76	398.24	1.50	452.05	9859.83
	U	5.74%	7.92%	10.00%	15.55%	4.13%
Broad-Leaved Mixed	E	2323.70	646.66	1.50	353.58	16674.32
	U	2.96%	3.88%	10.00%	11.84%	2.11%
Coniferous and Broad-Leaved Mixed	E	2069.21	480.28	1.50	388.84	12944.59
	U	4.86%	6.17%	10.00%	14.08%	3.37%
					U_{BSL}	1.32%

Project Emission Uncertainty:

uncertainty of project

Stratum	Parameter	A_{rea}(Ha)	$V_{AB,i,2015}$ (m^3 ha^{-1})	BEF	D(tdm/m^3)	$BCEF_R$ (tdm/m^3)	CFj (tc/tdm)	$V_{AB,i,2019}$ (m^3 ha^{-1})	$\Delta V_{AB,t\|PRJ}$(m^3 ha^{-1})	$\Delta C_{AB,t\|PRJ}$(tCO_2)
		a	b	c	d	e=c*d	f	g	h=g-b	i=h*a*e*f*44/12
									$U_{l}=\frac{\sqrt{(E_b*U_b)^2+(E_g*U_g)^2}}{(E_b+E_g)}$	$U_g=\sqrt{U_d^2+U_f^2}$
Oak	E	7415.59	11.30	1.355	0.676	0.916	0.5	47.33	36.03	448736.14
	U		0.17%	6.77%	3.53%	7.63%		1.33%	1.08%	7.75%
Masson Pine	E	3087.63	32.88	1.472	0.380	0.559	0.5	55.31	22.43	70973.05
	U		0.96%	6.33%	10.09%	11.91%		1.97%	1.29%	12.08%
Broad-Leaved Mixed	E	7244.29	16.36	1.514	0.482	0.730	0.5	65.93	49.56	131051.11
	U		0.29%	3.94%	4.95%	6.33%		1.41%	1.13%	6.49%
Coniferous and Broad-Leaved Mixed	E	6021.91	4.86	1.656	0.486	0.805	0.5	53.46	48.59	117780.59
	U		0.24%	5.99%	7.89%	9.91%		1.90%	1.74%	10.09%
									U|PRJ	5.03%

Total uncertainty

Total uncertainty for LtPF project is calculated according to the equation in VCS-PD:

$$U_{Totall|LtPF} = \sqrt{U_{|PRJ}^2 + U_{|BSL}^2} = \sqrt{5.03^2 + 1.32\%^2} = 5.20\% = 0.052$$

As $U_{total|LtP}F \leq 0.15$, then no deduction will result for uncertainty and

$Credits_{total|LtPF} = GHG_{credits|LtPF}$

As per the methodology VM0010 version 1.3 and the VCS PD, the amount of VCU's that can be issued at time t=t2 (the date of verification) for monitoring period T=t2-t1, is calculated as:

$VCU_{net|LtPF} = (Credits_{total,t2|LtPF} - Credits_{total,t1|LtPF}) - Bu_{|IFM-VCS}$

Where:

$VCU_{net\ |\ LtPF}$ is the number of verified carbon units; dimensionless;

$Credits_{total.t1\ |\ LtPF}$ is the net anthropogenic greenhouse gas removals by sinks, as estimated for t*=t1, in tCO2e;

$Creditst_{otal.t2\ |\ LtPF}$ is the net anthropogenic greenhouse gas removals by sinks, as estimated for t*=t2, in tCO2e;

$Bu_{|IFM-VCS}$ is the total number of credits withheld in VCS buffer account.

Based on the provided evidences and the AFOLU Non-Permanence Risk Tool, VCS version 4.0, CQC verified the overall risk rating in this monitoring period is 22, therefore, the total amount of VCU in this monitoring period are:

$VCU_{net|LtPF} = (Credits_{total,t2|LtPF} - Credits_{total,t1|LtPF}) - Bu_{|IFM-VCS}$ =1,195,059 – 22%*1,195,059 = 932,144tCO_2e

CQC has ensured that:

The data used for the determination of the emission reductions are available and are monitored in accordance with the registered monitoring plan without conservative assumption; □

The relevant documents have been cross checked and found consistent;

The appropriate methods and formulae for calculating baseline emissions, project emissions and leakage have been properly followed the methodology and VCS PD;

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The data pertaining to the monitored parameters are maintained in the identified internal records and consistent with the values stated in the Monitoring Report version 1.1. Key data have been cross-checked via external sources, such as records of Filed measurement of Forest management inventory. All necessary documentation as evidence to determine emission reductions is collected in hard-copy or electronic format. The evidences were assessed as of sufficient quantity and appropriate quality.

4.4 Non-Permanence Risk Analysis

CQC verification team has reviewed the Hubei Hongshan IFM(Conversion of Logged to Projected Forest) Project Non-Permanence Risk Report and the related evidences, include the Forest management and protected agreement signed between the local forest bureau and the forest farm, Forest management plan of Hubei Hongshan IFM(Conversion of Logged to Projected Forest) Project and records of stakeholder interview, CQC has evaluated the risk assessment undertaken by the project proponent and assess all data, rationales, assumptions, justifications and documentation provided by the project proponent to support the non-permanence risk rating, then CQC confirms that the evidences are substantial, and the overall risk rating is 22 based on the provided evidences and the AFOLU Non-Permanence Risk Tool, VCS version 4.0.
However, CL 01 was raised because AFOLU Non-Permanence Risk Tool, VCS Version 3.2 was applied in the MR Version 1.0, and successfully closed when AFOLU Non-Permanence Risk Tool, VCS Version 4.0 was applied in the MR Version 1.1

CL	Summary of project owner response	Conclusion
CL 01 The old version of AFOLU Non-Permanence Risk Tool was applied in MR	AFOLU Non-Permanence Risk Tool, VCS Version 4.0 was applied in the MR Version 1.1	OK. The lasted tool are applied in the updated MR. CL 01 can be closed.

5 SAFEGUARDS

5.1 No Net Harm

During the visit, CQC verification team has interviewed the PPs, the consultant and project stakeholders and confirmed the project activity is compliance with National and Local Laws and Regulations and no negative environmental and socio-economic impacts identified.

5.2 Local Stakeholder Consultation

CQC verification team has interviewed the project stakeholders and confirmed no negative stakeholder input received during ongoing communication with local stakeholders.

6 VERIFICATION CONCLUSION

The scope of this verification covers the determination of voluntary greenhouse gas emission reductions generated by the above mentioned project. The verification is based on the VCS PD, and applying the VCS methodology VM0010 version 1.3, on the basis of Voluntary Carbon Standard (VCS) Version 4.0, the MR, and the supporting documents made available to the verifiers by the PPs.

As a result of the verification, CQC verification team confirms that:

The project activity is implemented as per monitoring plan and compliance with the description in the VCS PD. The monitoring system is in place, functional and reliable.

The GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner in the revised MR.

The verification statement should give the final verdict of the project in terms of the completeness, comparability, accuracy and correctness of the reported GHG emission reductions.

Verification period: From 01/01/2015 to 30/06/2019

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

Period	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Greenhouse Gas Credits (tCO_2e	credits withheld in VCS buffer account (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
01/01/2015-31/12/2015	110	-265,430	0	265,540	58,419	207,121
01/01/2016-31/12/2016	-11	-265,430	0	265,419	58,393	207,026
01/01/2017-31/12/2017	337	-265,430	0	265,767	58,469	207,298
01/01/2018-31/12/2018	22	-265,430	0	265,452	58,400	207,052
01/01/2019-30/06/2019	166	-132,715	0	132,881	29,234	103,647
Total	**624**	**-1,194,435**	**0**	**1,195,059**	**262,913**	**932,144**
Average annual	**138**	**-265,430**	**0**	**265,568**	**58,425**	**207,143**

APPENDIX I: <REFERENCE>

/1/ VCS-PD version 02 dated 09/10/2019

/2/ VCS-MR version 01 dated 02/07/2019

/3/ VCS-MR version 1.1 dated 13/12/2019

/4/ ER Calculation Spreadsheet dated 09/12/2019

/5/ Plot and Uncertainty Calculator of Hubei Hongshan IFM(Conversion of Logged to Projected Forest) Project

/6/ Validation Report version 02, dated 12/11/2019

/7/ VM0010 version 1.3 dated 28/04/2016

/8/ Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" (VT0001 VCS AFOLU Additionality Tool v3.0) dated 01/02/2012

/9/ AFOLU Non-Permanence Risk Tool, VCS version 4

/10/ Tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version 02.1.0) approved by the CDM Executive Board.

/11/ Valid and verifiable Government-approved timber management plan for harvesting the project area

/12/ Business license of the project proponent

/13/ Forestry Right Certificates of the Project

/14/ Maps of the Project

/15/ Field measurement of Forest management inventory of Hubei Hongshan IFM(Conversion of Logged to Projected Forest) Project carried out in 2014 and 2019

/16/ Statement regarding the Forest management inventory issued by Hubei Province Hongshan County Forestry Bureau in Jan 2015

/17/ Yearly Questionnaires and records of Participatory rural appraisal (PRA) of the communities in and surrounding the project area from 2015 to 2019

/18/ The national forestry inventory (II) in 2005

/19/ National Forestry Law of China

/20/ The 13th Five-year Forest Harvest Limit issued by State Council (Guohan [2016] No.32)

/21/ Tool for calculation of the number of sample plots for measurements within A/R CDM project activity

/22/ Technical guidelines for national forest inventory. SFA 2004 No.25

/23/ IPCC Guidelines for National Greenhouse Gas Inventories (2006), Table 4.9.

/24/ Sale Price of the Wood from local forest bureau

/25/ “Economic Evaluation Method and Parameters for Project Construction” (version 3)

/26/ Hubei Hongshan IFM(Conversion of Logged to Projected Forest) Project Non-Permanence Risk Report version 01 dated 08-07-2019

/27/ Hubei Hongshan IFM(Conversion of Logged to Projected Forest) Project Non-Permanence Risk Report version 02 dated 06-12-2019

/28/ Forest management plan of Hubei Hongshan IFM(Conversion of Logged to Projected Forest) Project