

FIRST ASSESSMENT REPORT FOR THE “BASELINE AND MONITORING METHODOLOGY FOR THE REWETTING OF DRAINED PEATLANDS USED FOR PEAT EXTRACTION, FORESTRY OR AGRICULTURE BASED ON GESTS”



Document Prepared By Zane Haxtema

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Report Title	First assessment report for the “Baseline and monitoring methodology for the rewetting of drained peatlands used for peat extraction, forestry or agriculture based on GESTs”
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Prepared By	SCS Global Services (SCS)
Contact	2000 Powell Street, Suite 600, Emeryville, CA 94608, USA http://www.scsglobalservices.com Email: cpollet-young@scsglobalservices.com Telephone: +1 (510) 452-8000
Approved By	Christie Pollet-Young
Work Carried Out By	Lead assessor: Zane Haxtema Technical expert: Dr. Carly Green Technical reviewer: Francis Eaton

Summary:

This report describes the first assessment of the “Baseline and monitoring methodology for the rewetting of drained peatlands used for peat extraction, forestry or agriculture based on GESTs” (the “methodology element”), which was developed for the purpose of providing a methodological framework for the quantification and reporting of GHG emission reductions and removals attributable to rewetting projects affecting temperate peatlands that were drained as a result of past land uses. The purpose of the assessment is to assess the conformance of the methodology element to the VCS rules and current best practices for quantification of GHG emission reductions and removals. The assessment was performed through a desk review of the methodology element and other relevant documents. The criteria for the assessment was the VCS Version 3. The conclusion of the draft assessment report is as stated in Section 5 below, and the conclusion of the final assessment report is as stated in Section 6 below. No uncertainties are associated with the assessment. Seventy-six findings were issued during the course of the assessment.

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1 INTRODUCTION

1.1 Objective

The purpose of the audit activity was to conduct a first assessment of the methodology element “Baseline and monitoring methodology for the rewetting of drained peatlands used for peat extraction, forestry or agriculture based on GESTs” (“the methodology element”) in accordance with the guidance documents listed in Section 1.2 of this report.

1.2 Summary Description of the Methodology

The methodology element which was developed for the purpose of providing a methodological framework for the quantification and reporting of GHG emission reductions and removals attributable to rewetting projects affecting temperate peatlands that were drained as a result of past land uses. The methodology element covers WRC activities in temperate climates that use the GEST approach.

2 ASSESSMENT APPROACH

2.1 Method and Criteria

In accordance with the Methodology Approval Process, the scope of the assessment included the following:

- **Applicability conditions:** Assessment of whether the proposed methodology’s applicability conditions are appropriate, adequate and in compliance with the VCS rules.
- **Project boundary:** Assessment of whether an appropriate and adequate approach is provided for the definition of the project’s physical boundary and sources and types of GHGs included.
- **Procedure for determining the baseline scenario:** Assessment of whether the approach for determining the baseline scenario is appropriate, adequate and in compliance with the VCS rules.
- **Procedure for demonstrating additionality:** Assessment of whether the approach/tools for determining whether the project is additional are appropriate, adequate and in compliance with the VCS rules.
- **Baseline emissions:** Assessment of whether the approach for calculating baseline emissions is appropriate, adequate and in compliance with the VCS rules.
- **Project emissions:** Assessment of whether the approach for calculating project emissions is appropriate, adequate and in compliance with the VCS rules.
- **Leakage:** Assessment of whether the approach for calculating leakage is appropriate, adequate and in compliance with the VCS rules.
- **Quantification of net GHG emission reductions and/or removals:** Assessment of whether the approach for calculating the net GHG benefit of the project is appropriate, adequate and in compliance with the VCS rules.

- **Monitoring:** Assessment of whether the monitoring approach is appropriate, adequate and in compliance with the VCS rules.
- **Data and parameters:** Assessment of whether the specification for monitored and not monitored data and parameters is appropriate, adequate and in compliance with the VCS rules.
- **Adherence to the project principles of the VCS Program:** Assessment of whether the methodology adheres to the VCS Program principles set out in the VCS Standard.
- **Relationship to approved or pending methodologies:** Assessment of whether any existing methodology could reasonably be revised to serve the same purpose as the proposed methodology.

The proposed revision was assessed for conformance against the VCS Version 3, including the following documents:

- VCS Standard, Version 3.4
- Agriculture, Forestry and Other Land Use Projects (AFOLU) Requirements, Version 3.4
- Methodology Approval Process, Version 3.5
- Program Definitions, Version 3.5
- Validation and Verification Manual, Version 3.0
- VCS Methodology Template, Version 3.3

Please note that the assessment criteria have changed over the course of the assessment. Therefore, while the assessment conclusion stated in Section 5 below refers to the versions of the VCS Program documents as noted above, many of the findings documented in Appendix A below refer to previous versions of said documents.

The primary method used for this assessment was document review, as described in Section 2.2 of this report. In addition, the assessor took into consideration one comment received during the public comment period from 13 December 2011 until 12 January 2012.

2.2 Document Review

The assessment activity included a detailed review of the methodology element against the criteria of the guidance documents listed in Section 1.2 of this report. In addition, the proposed methodology was assessed for logical coherence, internal consistency, completeness, and consistency with current best practices for quantification of emission reduction and removals.

Review of the methodology element was complemented by a review of the published literature relevant to the development of the methodology element. The following articles were reviewed in order to ensure the conformance of the proposed revision with the guidance documents listed in Section 1.2 of this report:

Alexeyev, V., Birdsey, R., Stakanov, V., Korotkov, I. (1995). Carbon in vegetation in Russian forests: methods to estimate storage and geographical distribution. *Water, Air Soil Pollution* 82: 271-282.

Couwenberg, J., Thiele, A., Tanneberger, F., Augustin, J., Bärtsch, S., Dubovik, D., Liashchynskaya, N., Michaelis, D., Minke, M., Skuratovich, A. & Joosten, H. (2011) Assessing greenhouse gas emissions from peatlands using vegetation as a proxy. *Hydrobiologia*, 674, 67–89.

2.3 Interviews

Additional information regarding the basis for the criteria and procedures contained within the methodology element was provided by Dr. Igino Emmer (Silvestrum) and Dr. John Couwenberg (professor, Greifswald University), the authors of the methodology element, during several Skype conversations.

2.4 Assessment Team

Zane Haxtema led the first assessment and performed or directly supervised all aspects of the work, including assessment, interviews and report writing.

Zane Haxtema holds a M.S. in Forest Resources from Oregon State University (Corvallis, Oregon, USA). Mr. Haxtema is well versed in a wide variety of methodological approaches for carbon accounting, having served as a lead auditor on a wide variety of projects under the Climate Action Reserve, the Air Resources Board, the Verified Carbon Standard and the Climate, Community and Biodiversity Standards. He is a VCSA-approved AFOLU expert for the IFM project type.

Dr. Carly Green, a VCSA-approved AFOLU expert in the Peatland Rewetting and Conservation project category (a previously existing category that is encompassed by the current Wetlands Restoration and Conservation category), provided the assessment team with specific expertise in peat science. Dr. Green provided comments on the first iteration of the methodology that was submitted to the assessment team. These comments were then reflected in the first round of the assessment findings that are documented in Appendix A below.

Dr. Green has 9 years International experience in cross sector greenhouse gas accounting. Her experience extends through research, government policy adviser, project developer, training facilitator, and lead auditor in Europe, South America and Asia Pacific. She completed her PhD in Europe in 2006 with her research contributing to IPCC National level carbon accounting methodologies in Agriculture, Forestry and Other Land Use (AFOLU). Since then she has been a policy adviser to the Irish and Australian governments and involved in the development of IPCC compliant forest sink accounting methodologies for 6 forest sink projects in Australia (2), South America (2), Indonesia (1) and China (1) and has lead or participated in 8 forest sink audits and 1 methodology validation under a range of standards including ISO 14064, the Voluntary Carbon Standard and the Climate Community and Biodiversity standard. She is a VCSA-approved AFOLU expert for the IFM, ALM and WRC (peat only) project types.

Francis Eaton holds a Masters of Forest Science from the Yale School of Forestry and Environmental Studies and received his B.S. in Forestry from Northern Arizona University. The focus throughout his studies was forest management with emphases on sampling design and statistical analysis. He spent three years working collecting field data and completing data analysis on forest restoration projects with the Ecological Restoration Institute. His work experience also includes complete biophysical inventories

and estimation of timber volume for two 3000 acre properties, as a forest consultant in northern New Mexico. Mr. Eaton is well versed in sampling designs and auditing field campaigns as a teaching fellow for masters-level management plan courses. Mr. Eaton currently works as a Verification Forester for SCS and has completed forest carbon projects under the Verified Carbon Standard (VCS), the Climate Action Reserve (CAR), and the Climate, Community, and Biodiversity Alliance (CCBA). Moreover, Mr. Eaton is accredited by the California Air Resources Board as Lead Offset Verifier and is also certified by the Board in the US Forest Project and Urban Forest Protocols. He is also certified as Lead Verifier under the Climate Action Reserve.

2.5 Resolution of Findings

Potential material discrepancies identified during the assessment process were resolved through the issuance of findings. The types of findings issued by SCS were characterized as follows:

Non-Conformity Reports (NCRs) were issued in response to material discrepancies in the proposed revision. A material discrepancy could be defined as one of the following:

- An instance of nonconformance to the guidance documents listed in Section 1.2 of this report;
- An instance where the language of the methodology element required clarification in order to avoid ambiguity;
- An instance where the proposed methodology lacked internal consistency; or
- An instance where formulae in the proposed revision were not consistent with mathematical convention.

An adequate response for each issued NCR, including evidence of corrective action, was required before a positive assessment opinion could be reached.

New Information Requests (NIRs) were issued to the client when more information was needed to determine whether a material discrepancy existed. Issuance of an NIR did not necessarily signify the presence of a material discrepancy. However, an adequate response to all issued NIRs was required before an assessment opinion could be reached.

Opportunities for Improvement (OFIs) were issued to the client when an opportunity for improvement in the proposed revision was identified. Such opportunities for improvement did not constitute material discrepancies. OFIs were considered resolved on issuance, and therefore a response to issued OFIs was not required before an assessment opinion could be reached.

In total, 76 findings were issued during the assessment. All issued findings are described in Appendix A below.

The main points of discussion raised during the assessment process were as follows:

1. Compliance of the methodology element with particular clauses of the VCS rules for WRC-related methodologies, as set out in the AFOLU Requirements

2. Compliance of the methodology element with VCS rules pertaining to the determination of the baseline scenario and the demonstration of additionality
3. Compliance of the methodology element with rules set out in the VCS Methodology Template

With respect to point 1 above, in some cases the methodology was modified in response to issues raised during the assessment process in order to conform to the VCS rules, while in other cases the VCS rules themselves changed. With respect to points 2 and 3, the methodology was modified in response to issues raised during the assessment process in order to conform to the VCS rules.

3 ASSESSMENT FINDINGS

3.1 Relationship to Approved or Pending Methodologies

No existing pending or approved methodology (that was available 60 days before the methodology element was submitted to the VCSA for public consultation, in accordance with Section 5.2.1(1) of the Methodology Approval Process) could reasonably be revised to serve the same purpose as the methodology element. The only other methodology that is applicable to the Restoring Wetland Ecosystems sub-category is the recently approved “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology. However, that methodology was not available 60 days before the methodology element was submitted to the VCSA for public consultation. Review of the VCS web-pages for the methodology element and the “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology confirmed that the public comment periods for the methodology element and the “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology both started on 11 December 2011. Therefore, the “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology was not available 60 days before the methodology element was submitted for public consultation. Therefore, the methodology element is not required to list the “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology, and the methodology element does contain a complete list of similar methodologies that were available 60 days before the methodology element was submitted to the VCSA for public consultation.

In addition, it may be noted that the “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology could not have reasonably been revised to meet the objective of the methodology element. While both methodologies pertain to rewetting of peatlands, the geographic scopes of the two methodologies are completely distinct, as the “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology is applicable only to Southeast Asia, while the methodology element is applicable only to temperate climatic regions. In addition, the quantification approaches taken by the two methodologies with respect to emissions from peatland are very different, as the “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology uses the SIMGRO model to determine water table depths (and, thus, emissions from peatland) in the baseline and project scenarios, whereas the methodology element uses the GEST approach for quantifying such emissions. Therefore, the “Rewetting of Drained Tropical Peatlands in Southeast Asia” methodology could not have reasonably been revised to meet the objective of the methodology element, had it been required to be considered.

3.2 Stakeholder Comments

The following comments were received by Peter Schlesinger, of Carbon Decisions International:

Comment	Assessment response
Methodology calls for “remotely sensed data of adequate resolution” p. 6, and elsewhere “high spatial resolution” p. 59, but never defines “adequate” or “high”	This comment was significant at the time that it was issued. The specific requirement that remotely sensed data have “adequate resolution” was removed from Section 5.2 of the methodology element. This is considered appropriate, as the remote sensing was only listed in this context as “official documentation that facilitates the clear delineation of the project boundary”. Additional criteria were provided regarding spatial resolution in Section 9.3.6 of the methodology element. The developer has taken due account of this comment.
Also, there is no accuracy assessment of the remote sensing classifications, which doesn’t meet good practice guidelines.	This comment was significant at the time that it was issued. In response, Section 9.3.6 contains an accuracy assessment procedure. The developer has taken due account of this comment.
The imagery classification methods offered are insufficient. Calls for: use of good practice, but doesn’t suggest any; and, following accuracy requirements, but doesn’t recommend any.	This comment was significant at the time that it was issued. In response, Section 9.3.6 contains a more well-defined procedure for imagery classification. The developer has taken due account of this comment.

In conclusion, the methodology element has been satisfactorily revised to address all stakeholder comments.

3.3 Structure and Clarity of Methodology

The methodology element is written in a clear, logical, concise and precise manner. Procedures and criteria are logically presented and easily understood. The methodology contains a high level of internal consistency. Equations are mathematically sound and parameters are presented consistently throughout the text of the methodology element (e.g., there are no inconsistencies between the symbolization of the parameters in Sections 9.1 and 9.2 and the symbolization in the rest of the methodology. Furthermore, this report affirms that:

- The developer has followed the instructions in the methodology template and ensured that the methodology’s various criteria and procedures are documented in the appropriate sections of the template.** It should be noted that many of the requirements within methodology template (in particular, requirements pertaining to applicability conditions in Section 4 and data and parameters monitored in Section 9) are subject to interpretation. However, the methodology element complies with a reasonable interpretation of these requirements.

- **The terminology used in the methodology is consistent with that used in the VCS Program, and GHG accounting generally.** All definitions are consistent with those in the VCS program definitions, ISO 14064-2:2006, or other VCS guidance documents (e.g., the AFOLU Requirements).
- **The key words must, should and may have been used appropriately and consistently to denote firm requirements, (non-mandatory) recommendations and permissible or allowable options, respectively.** This convention is very intentionally followed throughout the methodology element.
- **The criteria and procedures are written in a manner that can be understood and applied readily and consistently by project proponents.** Some familiarity with the GEST approach will likely be necessary for complete application of the methodology; however, this familiarity can be readily gained through review of peer-reviewed literature, presentations, reports and other documents that can be readily accessed through the internet. Otherwise, the criteria and procedures are quite clearly presented, and should be readily accessible to users with the necessary competencies.
- **The criteria and procedures are written in a manner that allows projects to be unambiguously audited against them.** The criteria and procedures are not, in many cases, highly prescriptive; however, they are sufficiently prescriptive as to allow unambiguous assessment of projects, particularly in combination with other VCS requirements. For example, the methodology does not contain very criteria and procedures for selection of a root-shoot ratio, but further criteria and procedures are provided in Section 3.1.5 (and clauses referenced therein) of the VCS Standard.

In conclusion, the methodology element is structurally sound and of adequate clarity.

3.4 Definitions

The assessment team concludes, overall, that the definitions for terms used by the methodology element are appropriate and in conformance with the VCS rules. The definitions are clearly and appropriately set out in Section 3 of the methodology and are consistently used within the methodology element. The definitions for the terms “GEST” and “water table depth” are consistent with the use of the term in the scientific literature. The definition of the term “peatland” is consistent with the AFOLU Requirements (as it explicitly references that document), and does not conflict with the definition found in the VCS Program Definitions. The methodology element contains helpful clarification regarding areas that may not meet certain depth criteria but may otherwise be considered peatland.

3.5 Applicability Conditions

The assessment team concludes, overall, that the applicability conditions are appropriate and in conformance with the VCS rules.

3.5.1 Assessment of Conditions as a Whole

An assessment of the applicability conditions, as a whole, follows.

Criterion	Assessment findings
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Are the applicability conditions appropriately specified?	Yes; as described for each condition in Section 3.5.2 below, all conditions are specified with appropriate clarity and precision
Are the applicability conditions appropriate for the project activities targeted by the methodology and the quantification procedures set out within the methodology?	Yes; the conditions ensure the following: <ul style="list-style-type: none"> 1) Applicability of methodology element is restricted to peatland rewetting activities (for which the methodology provides appropriate procedures) in temperate regions (for which the Greenhouse gas Emission Site Type (GEST) approach has been specifically developed) 2) Baseline and project land uses are restricted to activities that would not result in non-conservative impact on quantification of GHG emission removal and/or violation of VCS rules for GHG accounting 3) Ecological leakage does not occur
Are the applicability conditions as a whole sufficiently clear for determining which project activities are eligible under the methodology, and which are not?	Yes; the conditions make use of clear and commonly-used terminology to clarify which project activities are eligible
How do the applicability conditions address environmental integrity and practical considerations?	The conditions limit applicability of the methodology to regions for which the GEST approach has been developed

3.5.2 Assessment of Each Applicability Condition

An identification and discussion of each conditions follows.

		Explanation of whether...	
Condition	Overall comments	The applicability condition is written in a sufficiently clear and precise manner	Conformance with the applicability condition can be demonstrated at the time of project validation
(a)	Serves to simplify determination of the baseline scenario and	Condition is written with adequate clarity and precision, using terms (e.g.,	Many requirements refer to past management activities and can thus be assessed

Condition	Overall comments	Explanation of whether...	
		The applicability condition is written in a sufficiently clear and precise manner	Conformance with the applicability condition can be demonstrated at the time of project validation
	demonstration of additionality, and to limit post-rewetting activities to those that the methodology element contains appropriate monitoring procedures for; allows activity-shifting leakage to be omitted from accounting	“agriculture”, “forestry”) that are not defined within the methodology element but for which precise dictionary definitions are available; reference to “project start date” makes clear the starting point for any temporal comparison	against at time of validation; other requirements refer to planned land use and thus can be assessed against as part of validation of overall project design at validation
(b)	Provides further justification for the exclusion of the wood products pool and allows market leakage to be omitted from accounting	Condition is written with adequate clarity and precision, as the terms “harvest” and “non-commercial” are readily understood in a forestry setting	Condition relates either to the baseline scenario (which is demonstrated at validation) or to accounting procedures (which can be confirmed as part of overall project design at validation) and thus conformance can be demonstrated at time of validation
(c)	Exclusion of firewood from project boundary in baseline scenario is conservative, as this could otherwise be a source of baseline emissions	Condition states, with adequate clarity and precision, that baseline firewood collection is conservatively not accounted for	Condition relates to project accounting procedures (which can be confirmed as part of overall project design at validation) and thus conformance can be demonstrated at time of validation
(d)	Necessary to ensure conservative quantification of GHG emission reductions, as the methodology element contains no procedures to account for biomass burning	Condition states, with adequate clarity and precision, that baseline biomass burning is not accounted for	Corresponding comments relating to (c) above apply here as well

Condition	Overall comments	Explanation of whether...	
		The applicability condition is written in a sufficiently clear and precise manner	Conformance with the applicability condition can be demonstrated at the time of project validation
(e)	Reinforces guidance provided elsewhere in methodology element	Condition clearly excludes use by projects using quantification approaches that are inconsistent with methodology element	Corresponding comments relating to (c) above apply here as well
(f)	Necessary to ensure conservative quantification of GHG emission reductions, as methodology element contains no procedures to account for ecological leakage	Condition is supported by further criteria/procedures in Section 5.2 that provide adequate clarity and precision	Condition pertains to project design measures (e.g., site selection, design of buffer zones) that can be assessed at validation
(g)	Corresponding comments relating to (f) above apply here as well	Corresponding comments relating to (f) above apply here as well	Corresponding comments relating to (f) above apply here as well
(h)	No overall comments	Indicates, with appropriate clarity/precision, that live tree vegetation may be included in project boundary (but does not really limit applicability in any way	Not applicable, as condition contains no requirements to be assessed against
(i)	Necessary to ensure conservative quantification of GHG emission reductions, as methodology element contains no procedures to account for burning of peat		Assessment team received guidance from VCSA, in an email (addressed to the methodology developer) dated 20 May 2014, indicating that "Following this rationale, "d" would be fine, as the project proponent should be able to control this"; this feedback was used as evidence that conformance with the

		Explanation of whether...	
Condition	Overall comments	The applicability condition is written in a sufficiently clear and precise manner	Conformance with the applicability condition can be demonstrated at the time of project validation
			condition can be demonstrated at validation
(j)	No overall comments	Methodology element provides clear and precise procedures for demonstrating "that a threat of frequent on-site fires exists"	Procedures in Section 8.3 must be undertaken prior to validation and assessed at validation, thus conformance can be demonstrated at time of validation
(k)	Necessary to ensure conservative quantification of GHG emission reductions, as the methodology element contains no procedures to account for nitrous oxide emissions due to rewetting of peatland	Uses clear and precise terminology; points specifically to peer-reviewed literature as a means of demonstration (there is a body of peer-reviewed literature on this topic)	It should be readily possible to demonstrate conformance with condition at validation using projections and peer-reviewed knowledge
(l)	Necessary to ensure conservative quantification of GHG emission reductions, as the methodology element contains no procedures to account for emissions fertilizer use	Condition clearly and precisely excludes a certain technology (nitrogen-based fertilizers) from use in project scenario	Assessment team received guidance from VCSA, in an email (addressed to the methodology developer) dated 20 May 2014, indicating that " Applicability condition "l" is fine"; this feedback was used as evidence that conformance with the condition can be demonstrated at validation
(m)	Limits applicability of methodology to conditions for which procedures for quantification of baseline emissions are applicable	In combination with Section 6.1, condition clearly and precisely sets out baseline scenario to which methodology is applicable	Condition relates to the baseline scenario (which is demonstrated at validation) and thus conformance can be demonstrated at time of validation

3.6 Project Boundary

The approach for identifying the project boundary is appropriate for the project activities covered by the methodology. The assessment team concludes, overall, that the specification of the project boundary is of adequate clarity and in conformance with the VCS rules. Further identification and discussion of the project boundary is provided below.

3.6.1 Temporal boundaries

Project boundary element(s)	Assessment findings
Project crediting period, project crediting period start date and project start date	<ul style="list-style-type: none"> • Clearly specified and consistent with VCS rules (i.e., Sections 3.1.7 and 3.3.1 of AFOLU Requirements)
Peat depletion time	<ul style="list-style-type: none"> • Procedures for establishment of peat depletion time are clearly specified and are consistent with all requirements of Sections 4.5.25(1) and 4.5.33 of AFOLU Requirements, as follows: <ul style="list-style-type: none"> ○ Procedures involve determination of the peat depletion time for individual strata, which will result in more accurate quantification than that required (as the bare minimum) by AFOLU Requirements ○ Procedures are mathematically correct and criteria and procedures provided for data and parameters used are appropriate ○ Impact of peat burning in baseline is appropriately accounted for in estimating rate of peat loss, per Section 4.5.33 of AFOLU Requirements

3.6.2 Geographic boundaries

Project boundary element(s)	Assessment findings
Physical delineation of project boundary	<ul style="list-style-type: none"> • Requirements appear are clearly specified and consistent with corresponding requirements in VCS methodology VM0007 and/or other VCS methodologies • Procedures are appropriate and consistent with the VCS rules
Stratification of project area based on peat depth	<ul style="list-style-type: none"> • Procedures are appropriate, as they require conservative exclusion of areas for which the peat depletion time exceeds the selected project crediting period (and criteria and procedures for collecting peat depth information are adequate to

Project boundary element(s)	Assessment findings
	ensure conservativeness in the determination of the peat depletion time)
Stratification of project area based on other factors	<ul style="list-style-type: none"> Methodology provides appropriate criteria for stratification based on vegetation, water table depth and other factors
Stratification of project area based on area of channels and ditches	<ul style="list-style-type: none"> Procedures are appropriate, as they allow require areas of channels and ditches to be included in separate strata Methodology has used peer-reviewed literature (in this case, study by Couwenberg et al. 2011) to justify that emissions from these areas may be conservatively excluded, in accordance with Section 4.3.4 (and thus Section 4.3.23) of AFOLU Requirements
Determination of area eligible for carbon crediting	<ul style="list-style-type: none"> Appropriate and in conformance with (and required by) Section 4.5.29 of AFOLU Requirements; both “total stock approach” and “stock loss approach” are mathematically correct and consistent with the IPCC 2006 Guidelines (as referenced in Section 4.5.1 of AFOLU Requirements) Methodology contains criteria to require the use of conservative parameters and verifiable assumptions.

3.6.3 Carbon pools

The procedures for selection of carbon pools is consistent with the requirements of the VCS rules (specifically, Section 4.3.1 of the AFOLU Requirements), as justified below.

Carbon pools	Selected	Assessment comments
Above-ground tree biomass	Yes	Required for inclusion by AFOLU Requirements
Above-ground non-tree biomass	Yes	Considered optional by AFOLU Requirements; the statement “This pool is optional” constitutes criteria and procedures to set out when a project proponent may include the pool, as required by the AFOLU Requirements

Below-ground biomass	Yes	Required for inclusion by the AFOLU Requirements
Tree litter	Yes	Considered optional by AFOLU Requirements; the statement “The litter layer does not need to be included” constitutes criteria and procedures to set out when a project proponent may include the pool, as required by the AFOLU Requirements
Wood products	No	Considered optional by AFOLU Requirements; applicability condition (b) ensures that it is conservative to exclude wood products from the project boundary
Dead wood	No	Considered optional by AFOLU Requirements; the statement “This pool is optional” constitutes criteria and procedures to set out when a project proponent may include the pool, as required by the AFOLU Requirements
Soil organic carbon	Yes	Required for inclusion by AFOLU Requirements

3.6.4 Greenhouse gases

The procedures for determination of the GHG sources included in the project boundary conform to the VCS rules, as specifically discussed for each GHG source below.

Gas	Sources	Selected	Assessment comments
Carbon dioxide (CO ₂)	Changes in stocks in carbon pools in biomass	Yes	Required for inclusion by AFOLU Requirements (see Section 3.6.3 above)
	Oxidation of drained peat	Yes	Major source of GHG emission reductions
	Accumulation of peat in with-project scenario	No	Conservative to exclude this source
	Fossil fuel combustion from transport and machinery use in project activities	No	Specifically indicated as de minimis by Section 4.3.3(3) of AFOLU Requirements

Gas	Sources	Selected	Assessment comments
	Burning of biomass	No	Provided that “The burning of peat as a project activity in the with-project scenario does not occur”, as required by applicability condition (i), it is conservative to exclude this source
	Peat burning	Yes	Allowed for inclusion by Section 4.5.34 of AFOLU Requirements
Methane (CH ₄)	Baseline emissions from drained peat	Yes	Required for inclusion by Section 4.3.23 of AFOLU Requirements; methodology contains criteria and procedures (at beginning of Section 5.4) by which methane may be deemed de minimis, per Section 4.3.23 of AFOLU Requirements
	Emissions from rewetted peat	Yes	Same comments as for “Baseline [methane] emissions from drained peat” above
	Fossil fuel combustion from transport and machinery use in project activities	No	Specifically indicated as de minimis by Section 4.3.3(3) of AFOLU Requirements
	Burning of biomass	No	Provided that “The burning of peat as a project activity in the with-project scenario does not occur”, as required by applicability condition (i), it is conservative to exclude this source
Nitrous oxide (N ₂ O)	Emissions from peat	No	Applicability condition (k) and Section 8.2.1 of methodology contain the criteria and procedures by which this source can be conservatively excluded, in accordance with Section 4.3.24 of AFOLU Requirements
	Fossil fuel combustion from transport and machinery use in project activities	No	Specifically indicated as de minimis by Section 4.3.3(3) of AFOLU Requirements

Gas	Sources	Selected	Assessment comments
	Nitrogen based fertilizer	No	Provided that “N-fertilizers are not used in the with-project scenario “, as required by applicability condition (I), it is conservative to exclude this source
	Burning of biomass	No	Provided that “The burning of peat as a project activity in the with-project scenario does not occur”, as required by applicability condition (i), it is conservative to exclude this source

3.7 Baseline Scenario

The criteria and procedures for determining the baseline scenario are appropriate for the project activities covered by the methodology. The assessment team concludes, overall, that the criteria and procedures for determining the baseline scenario are in conformance with the VCS rules.

The methodology requires use Steps 1 through 3 of the approved Clean Development Mechanism tool “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” (referred to in this section and the following Section 3.8 as “the baseline/additionality tool”) for determination of the baseline scenario and demonstration that “At the project start date, the baseline scenario consists of drained peatland with a land use that can be forestry, peat extraction or agriculture, abandonment after such activities, or a combination of these, but where these activities are not or no longer profitable”. In accordance with Section 5.1.4 of the Methodology Approval Process, the assessment team did not reassess the baseline/additionality tool, but did ensure that it is used appropriately within the methodology.

While the baseline/additionality tool was designed for use by afforestation and/or reforestation projects, the methodology contains guidance to appropriately augment the baseline/additionality tool for use with project activities covered by the methodology, such that the baseline/additionality tool may be used without confusion by the user of the methodology. The procedures set out by the baseline/additionality tool are generally quite generic and lend themselves to being adapted by the methodology in this manner. The tool follows the stepwise approach that is common to Clean Development Mechanism tools for determination of the baseline scenario and demonstration of additionality, and is also used by the VCS “Tool for the Demonstration and Assessment of Additionality in Agriculture, Forestry and Other Land Use (AFOLU) Project Activities”. Plausible alternative scenarios are demonstrated and (in sequential order) scenarios that are not consistent with applicable legal requirements and scenarios that are prevented by implementation barriers are excluded, and the most profitable scenario or the scenario that allows for the highest baseline GHG removals by sinks is then selected as the baseline scenario. This procedure can be expected to result in a baseline scenario that reasonably represents the GHG emissions or removals that would occur in the absence of the project activity, as the land-use scenario that yields the highest rate of long-term financial return (and is also feasible and compliant with all laws) is, all other things being equal, the land-use scenario that is likely to be selected. Where no land-use scenario is profitable, the baseline/additionality tool requires selection of the scenario that results in the lowest baseline GHG

emissions (i.e., “the highest baseline GHG removals by sinks”), which is consistent with the principle of conservativeness as set out in Section 2.4.1 of the VCS Standard.

Through use of the baseline/additionality tool, the methodology complies with the relevant requirements within the VCS Standard for identification of the baseline scenario, as described below.

VCS Standard reference	Assessment findings
Section 4.5.1(1)	<ul style="list-style-type: none"> Outcome of baseline/additionality tool is a description of most plausible baseline land-use scenario, which allows identification of trends in status of applicable GHG sources, sinks and reservoirs
Section 4.5.1(2)	<ul style="list-style-type: none"> Step 1 of baseline/additionality tool requires identification of “realistic and credible land-use scenarios that would have occurred on the land within the proposed project boundary in the absence of the afforestation or reforestation project activity under the clean development mechanism”, thus fulfilling requirement
Section 4.5.1(3)	<ul style="list-style-type: none"> Baseline/additionality tool contains requirements, throughout, to encourage or require use of best available data (e.g., “If the baseline approach selected is 22b or c, then the project shall perform a survey of local experts or land owners/users on their plans for land management/investments during the period to the project start” in Sub-step 1a)
Section 4.5.1(4)	<ul style="list-style-type: none"> Also addressed by Step 1 of baseline/additionality tool, for same reasons as specified with respect to Section 4.5.1(2)

The criteria and procedures for determining the baseline scenario are appropriate for the Restoring Wetland Ecosystems project category (i.e., the AFOLU project category covered by the methodology) because said criteria and procedures are consistent with the requirements set out in the AFOLU Requirements for that category, as found in Sections 4.4.10-4.4.19 of that document. As conformance to the relevant requirements within the AFOLU Requirements is achieved within Section 8.1 of the methodology (which pertains to quantification of baseline emissions), a discussion of conformance with those requirements can be found in the corresponding Section 3.9.1 below.

3.8 Additionality

The criteria and procedures for determining additionality are appropriate for the project activities covered by the methodology. The assessment team concludes, overall, that the criteria and procedures for determining additionality are in conformance with the VCS rules.

The baseline/additionality tool, as described in Section 3.7 above, is used by the methodology for determining additionality. The baseline/additionality tool is an appropriate additionality tool that has been approved under the Clean Development Mechanism (an approved GHG program) and therefore complies

with VCS requirements for determination of additionality (as set out in Section 4.6.2 of the VCS Standard).

Steps 1 through 3 of the baseline/additionality tool for are appropriate for the project activities covered by the methodology, and the guidance provided to augment use of these steps is appropriate, for the reasons described in Section 3.7 above. Step 4 of the baseline/additionality tool, which requires a common practice analysis, is likewise appropriate. Specific references to “forestation” and “A/R CDM” aside, the language of Step 4 is practically identical to the corresponding of the VCS “Tool for the Demonstration and Assessment of Additionality in Agriculture, Forestry and Other Land Use (AFOLU) Project Activities”, and can be considered appropriate for the project activities covered by the methodology to the extent that Step 4 of the VCS “Tool for the Demonstration and Assessment of Additionality in Agriculture, Forestry and Other Land Use (AFOLU) Project Activities” (which is appropriate for all AFOLU project activities) can be considered appropriate for the project activities covered by the methodology. As with Steps 1 through 3, the methodology contains guidance to augment Step 4 of the baseline/additionality tool and ensure that the baseline/additionality tool is used in a manner that is appropriate to the project activities covered by the methodology, as described in Section 3.7 above.

3.9 Quantification of GHG Emission Reductions and Removals

3.9.1 Baseline Emissions

The assessment team concludes, overall, that the procedures for calculating baseline emissions and removals are in conformance with the VCS rules.

An assessment of the criteria and procedures for calculating baseline emissions and removals, as a whole, follows.

Criterion	Assessment findings
Are procedures for calculating baseline emissions and removals are appropriate for the project activities covered by the methodology?	Yes; procedures comply with all VCS rules for the category of project activities covered by the methodology, as further described below
Are all algorithms, equations and formulas used appropriate and without error?	Yes; assessment team carefully reviewed procedures and confirmed that all equations are appropriate and without mathematical errors; equations are consistent with best practices for GHG accounting, as found in relevant IPCC guidance documents
Do procedures for calculating baseline emissions and removals cover all GHG sources, sinks and reservoirs (and carbon pools) included in the project boundary?	Yes; procedures include all sources, sinks and reservoirs included in project boundary, as listed below (the methodology section containing said procedures is in quotes): <ul style="list-style-type: none"> • Aboveground tree biomass (8.1.2)

Criterion	Assessment findings
	<ul style="list-style-type: none"> • Aboveground non-tree biomass (8.1.3) • Belowground biomass (8.1.2) • Tree litter (8.1.3) • Soil organic carbon (8.1.3) • CO2 emissions from peat burning (8.3) • CH4 emissions from peat (8.1.3)
Are all models or default factors used are appropriate and in conformance with VCS requirements on same?	No specific models are used by methodology; default factors are in conformance with VCS requirements (see Section 3.10 below for more details)

Further identification and discussion of the procedures for calculating baseline emissions and removals is provided below.

Procedure	Sec.	Assessment findings
Summation of baseline emissions across sources, sinks, reservoirs	8.1.1	<ul style="list-style-type: none"> • Procedure correctly sums emissions across each baseline stratum and year
Summation of baseline emissions in non-peat carbon pools	8.1.2	<ul style="list-style-type: none"> • Procedure establishes that sum of baseline emissions in non-peat carbon pools equal baseline emissions in aboveground and belowground tree biomass (i.e., all other emissions are calculated in Section 8.1.3 of methodology)
Projection of future conditions in baseline tree biomass	8.1.2.1	<ul style="list-style-type: none"> • Procedure requires use of VCS module VMD0019 “Methods to Project Future Conditions” to project future conditions in baseline tree biomass; assessment team agrees VMD0019 is appropriately used in this context because: <ul style="list-style-type: none"> ○ It can be used to project a specific pool (Section 2 of module specifically mentions carbon stored in soil, but there is no reason that tool cannot translate to projection of carbon in aboveground and belowground biomass as well) ○ It has no applicability conditions ○ It is completely generic and thus can be readily adapted to projecting changes in tree biomass (a systemic, location specific variable, since Section 5 of module

Procedure	Sec.	Assessment findings
		<p>indicates that “carbon in living biomass and soil carbon are both location specific variables”, and future biomass would be considered a systemic variable because its quantity cannot be predicted with absolute certainty)</p> <ul style="list-style-type: none"> ○ It requires data of the sort that should be available to users of the methodology ○ End result is a “time series of tree biomass development”, which is needed as an input to Section 8.1.2.2 ○ Guidance provided by module is consistent with, and complementary to, guidance provided by Section 8.1.2.2 of methodology
Calculation of net carbon stock change in tree biomass	8.1.2.2	<ul style="list-style-type: none"> ● Per Section 4.5.1 of AFOLU Requirements, procedures for determining emissions from aboveground tree biomass and belowground biomass pools follow IPCC requirements, as follows: <ul style="list-style-type: none"> ○ “Gain-loss method” and the “stock difference method” are sourced from Volume 4, Chapter 2, Section 2.2.1 of the IPCC 2006 Guidelines for National GHG Inventories (“IPCC 2006 Guidelines”) ○ Biomass expansion factor approach is sourced from Chapter 4, Section 4.2.2.1 and Chapter 2, Section 2.3.1.1 of IPCC 2006 Guidelines ○ Allometric equations approach is discussed within Section 4.3.3.5.1 of the IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry (LULUCF) (“IPCC 2003 GPG”) as a “direct approach”, and is considered to be preferable to the biomass expansion factor approach “when using permanent sample plots to estimate the carbon stock of trees”
Gain-loss method for calculating aboveground biomass (Method 1)	8.1.2.2	<ul style="list-style-type: none"> ● As described above, gain-loss method and biomass expansion factor approach are consistent with IPCC 2006 Guidelines

Procedure	Sec.	Assessment findings
		<ul style="list-style-type: none"> • Assessment team agrees it is conservative to assume no losses in baseline aboveground tree biomass • Suggested data sources (e.g., volume increment tables) are appropriate
<p>Stock-difference method for calculating aboveground biomass (Method 2)</p>	<p>8.1.2.2</p>	<ul style="list-style-type: none"> • As described above, stock-difference method and biomass expansion factor approach are consistent with IPCC 2006 Guidelines • Allometric equations approach is consistent with IPCC 2003 GPG • Procedures for use of “pre-existing forest inventory data” are appropriate and ensure conservative quantification (i.e., conservatively high baseline stocks) in case that data were measured outside project area
<p>Calculation of GHG emissions due to peat drainage</p>	<p>8.1.3.1</p>	<ul style="list-style-type: none"> • GEST approach is consistent with Section 4.5.27 of the AFOLU Requirements, which allows for estimation of GHG emissions “through well-documented relationships between CO2 emissions and other variables such as vegetation types...” • GEST approach has been established in the scientific literature (Couwenberg et al. 2011 and articles referenced therein); while research related to development of emission factors appears to remain in early stages, validity of the basic approach (predicting emissions on the basis of vegetative communities and/or water levels) is well-documented • Although guidance of Section 4.5.1 of AFOLU Requirements is noted, GEST approach is superior to procedures for estimating emissions from drained peatlands for the following reasons: <ul style="list-style-type: none"> ○ IPCC 2006 Guidelines contains a Tier 1 approach (as set out in Volume 4, Chapter 5, Section 5.2.3.4) for quantifying such emissions, but with enormous uncertainties (as seen in Table 5.6 of that section) ○ GEST approach, by contrast, will result in credible quantification of baseline emissions from drained peatland

Procedure	Sec.	Assessment findings
		<ul style="list-style-type: none"> Procedures appropriately ensure that quantification of baseline emissions does not occur after peat depletion time for given stratum has elapsed
Determine and assess spatial distribution of GESTS	8.1.3.1	<ul style="list-style-type: none"> Procedure references Section 9.3.6 of methodology element (see Section 3.10 below for comments regarding this section)
Derive time series of GEST development	8.1.3.1	<ul style="list-style-type: none"> Procedure requires use of VCS module VMD0019 “Methods to Project Future Conditions” to determine a time series; this module is appropriately used for same reasons described with respect to aboveground and belowground tree biomass carbon pools above Methodology contains supplementary guidance to ensure that requirements of AFOLU Requirements for WRC baseline establishment are appropriately complied with (see below); this guidance dovetails appropriately with guidance of VMD0019 and does not conflict with it
Calculation of baseline CO2 and CH4 emissions from GESTS	8.1.3.2	<ul style="list-style-type: none"> Provide procedures for calculating emissions by stratum and year Allows use of GEST approach or, where GEST approach is not applicable, use of water table depth as a proxy for GHG emissions (explicitly allowed for in Section 4.5.27 of AFOLU Requirements)
Reassessment of baseline scenario	8.1.1, 6.2	<ul style="list-style-type: none"> Procedures for reassessing baseline scenario are consistent with Sections 3.1.10 and 4.5.25(1)(a) (“The PDT is considered part of the baseline and thus shall be reassessed with the baseline in accordance with Section 3.1.10”) of AFOLU Requirements

The procedures for calculating baseline emissions comply with the relevant requirements within the AFOLU Requirements, as described below.

AFOLU Requirements reference	Assessment findings
Section 4.4.1	<ul style="list-style-type: none"> • Procedure for determining and establishing baseline scenario is consistent with IPCC 2006 Guidelines
Section 4.4.10(1)	<ul style="list-style-type: none"> • Section 8.1.3.1 of methodology contains procedures for mapping historic drainage layout and assessing impact on baseline GHG emissions
Section 4.4.10(2)	<ul style="list-style-type: none"> • Section 8.1.3.1 of methodology requires that “the long-term average climate variables must be determined using data from two climate stations nearest to the project area and must include at least 20 years worth of data”, thus enforcing requirement
Section 4.4.10(2)	<ul style="list-style-type: none"> • Section 8.1.3.1 of methodology contains procedures for considering impact of planned dam construction on baseline GHG emissions
Section 4.4.11(1)	<ul style="list-style-type: none"> • Section 8.1.3.1 of methodology requires that “In case of abandonment of pre-project land use in the baseline scenario, the baseline scenario must also consider - based on expert judgment taking account of verifiable local experience and/or studies and/or scientific literature and in a conservative way - non-human induced rewetting brought about by collapsing dikes or ditches that would have naturally closed over time, and progressive subsidence, leading to raising relative water levels, increasingly thinner aerobic layers and reduced CO2 emission rates”, thus enforcing requirement
Section 4.4.11(2)	<ul style="list-style-type: none"> • Section 8.1.3.1 of methodology requires that “Unless alternative evidence is provided, annual subsidence (as derived from subsidence - water table observations or models) must be assumed to result in a 1:1 proportional rise the water table relative to the surface in the area between ditches”, thus enforcing requirement
Section 4.4.13	<ul style="list-style-type: none"> • The requirement that “The criteria and procedures for identifying fire in the baseline scenario shall demonstrate with fire maps and historical databases on fires that the project area is now and in future would be under risk of anthropogenic fires” is enforced in Section 8.1.3.1 of methodology, which requires that “If a Fire Reduction Premium is claimed, the project proponent must demonstrate with fire maps and historical databases on fires that the project area is now and in future would be under risk of anthropogenic fires” • The requirement that “The procedure for identifying fire in the baseline scenario shall also consider any relevant current and planned land use conditions that may affect the occurrence of fire in order to establish the most plausible scenario for fire in the baseline” has not been complied with because Fire Reduction Premium (as described in Section 8.3 of

AFOLU Requirements reference	Assessment findings
	methodology) is entirely based on historic fire trends and not related to present or future baseline conditions (see Section 3.9.4 below for more information regarding Fire Reduction Premium)
Section 4.4.14	<ul style="list-style-type: none"> Section 8.1.3 of methodology contains procedures, throughout, for accounting for impact of past drainage due to agricultural activities (indeed, this is focus of entire methodology)
Section 4.5.1	<ul style="list-style-type: none"> As described above, procedures for quantifying baseline emissions are consistent with IPCC 2006 Guidelines and IPCC 2003 GPG Section 9.3.2 of methodology contains guidance regarding quality assurance/quality control methods that is consistent with Volume 1, Chapter 6 of IPCC 2006 Guidelines Sections 8.5.2 and 9.3.2 of methodology contain guidance regarding uncertainty analysis and reduction of uncertainties that follows Volume 1, Chapter 3 of IPCC 2006 Guidelines Section 9.3.3 of methodology specifically references Volume 1, Chapter 2 of IPCC 2006 Guidelines with respect to uncertainties arising from expert judgment
Section 4.5.2	<ul style="list-style-type: none"> IPCC 2006 Guidelines has been referenced to establish procedures for quantifying GHG emissions/removals associated with the belowground biomass pool
Section 4.5.25(1)(a)	<ul style="list-style-type: none"> Methodology contains procedures for calculation of peat depletion time (Section 5.1) and accounting for peat depletion time in calculation of baseline emissions (Section 8.1.3.1) for each stratum Section 9.3.3, which provides a procedure for selecting conservative values, ensures that calculation of peat depletion time is conservative
Section 4.5.25(2)	<ul style="list-style-type: none"> The GEST approach and water level are used by the methodology as proxies for GHG emissions
Section 4.5.26	<ul style="list-style-type: none"> See above comments regarding Section 4.4.11
Section 4.5.27	<ul style="list-style-type: none"> As described above, both GEST approach and water level are well-documented approaches for determining GHG emissions As described in Section 3.10 below, net GHG emissions reductions are calculated in the methodology using the same methods that are used for baseline estimates

AFOLU Requirements reference	Assessment findings
Section 4.5.29	<ul style="list-style-type: none"> Section 5.2 of methodology contains two separate procedures to estimate the remaining soil carbon stock adjusted for any project emissions and leakage emissions in both the baseline and project scenarios for 100 years, requiring that “If a significant difference at the 100-years mark cannot be demonstrated, the project area is not eligible for carbon crediting” and that “The assessment must be executed ex ante using conservative parameters” Methodology requires that rate of peat loss in baseline and project scenarios be “based on verifiable information”; Section 9.3.3 appropriately accounts for uncertainties in modeling
Section 4.5.30	<ul style="list-style-type: none"> Methodology contains criteria and procedures (at beginning of Section 5.4) by which methane emissions may be deemed de minimis, per Section 4.3.23 of AFOLU Requirements
Section 4.5.31	<ul style="list-style-type: none"> Methodology establishes procedures (in Sections 8.2.3.1 and 9.3.6) to estimate methane emissions in project scenario Methodology contains criteria and procedures (at beginning of Section 5.4) by which methane emissions may be deemed de minimis, per Section 4.3.23 of AFOLU Requirements
Section 4.5.33	<ul style="list-style-type: none"> Parameter $Rate_{peatloss-BSL,i,t}$ is defined in Section 5.1 of methodology as “Rate of peat loss due to subsidence and fire in the baseline scenario in stratum i” Methodology contains procedures (in parameter table in Section 9.1) for deduction of amount of peat assumed to burn from calculated value of this parameter
Section 4.5.34	<ul style="list-style-type: none"> Section 8.3 of methodology contains a procedure for estimating baseline emissions based on defensible data, such as “statistics and/or maps in official reports and/or remotes sensing data” (however, see Section 3.9.4.2 below for assessment team’s findings regarding Section 8.3 overall, including a finding on whether procedure is conservative, as required by Section 4.5.34)

3.9.2 Project Emissions

Unless otherwise stated, all statements made below in this section do not apply to the “Alternative procedure” set out in Section 8.2.3 of the methodology, which combines quantification of baseline and project emissions from the soil organic carbon pool in a single procedure. For reasons described in Section 3.9.4 below, the “alternative procedure” approach does not comply fully with the VCS rules.

The assessment team concludes, overall, that the procedures for calculating project emissions and removals are in conformance with the VCS rules.

An assessment of the criteria and procedures for calculating project emissions and removals, as a whole, follows.

Criterion	Assessment findings
Are procedures for calculating project emissions and removals appropriate for the project activities covered by the methodology?	Yes; procedures comply with all VCS rules for the category of project activities covered by the methodology, as described in Section 3.9.1 above (with respect to instances where procedures for project emissions are equivalent to those for baseline emissions) or as described below (with respect to instances where procedures for calculating project emissions are, in some sense, unique)
Are all algorithms, equations and formulas used appropriate and without error?	Yes; assessment team carefully reviewed procedures and confirmed that all equations are appropriate and without mathematical errors; equations are consistent with best practices for GHG accounting, as found in relevant IPCC guidance documents
Do procedures for calculating baseline emissions and removals cover all GHG sources, sinks and reservoirs (and carbon pools) included in the project boundary?	Yes; procedures include all sources, sinks and reservoirs included in project boundary, as listed below (the methodology section containing said procedures is in quotes): <ul style="list-style-type: none"> • Aboveground tree biomass (8.2.2) • Aboveground non-tree biomass (8.2.3) • Belowground biomass (8.2.2) • Tree litter (8.2.3) • Soil organic carbon (8.2.3) • CO2 emissions from peat burning (8.3) • CH4 emissions from peat (8.2.3)
Are all models or default factors used are appropriate and in conformance with VCS requirements on same?	No specific models are used by methodology; default factors are in conformance with VCS requirements (see Section 3.10 below for more details)

Criterion	Assessment findings
Are procedures for estimating parameters related to the quantification of project emissions appropriate	Yes ; see Section 3.10 below for more details

Further identification and discussion of the procedures for calculating project emissions and removals is provided below. Note that, due to the high degree of similarity between procedures for calculating baseline emissions and project emissions, within the methodology, the below discussion is limited to those procedures for calculating project emissions that is different from any procedure for calculating baseline emissions. Note, also, that a discussion of procedures for monitoring of project emissions is provided in Section 3.10 below.

Procedure	Sec.	Assessment findings
Determination that nitrous oxide emissions are de minimis or can be conservatively excluded	8.2.1	<ul style="list-style-type: none"> • Refers to “Tool for testing significance of GHG emissions in A/R CDM project activities” as explicitly allowed for by Section 4.3.3 of AFOLU Requirements • Peer-reviewed literature, as referenced by procedure, is also appropriate
Projection of conditions in project scenario	8.2.1	<ul style="list-style-type: none"> • Requires use of VCS module VMD0019 “Methods to Project Future Conditions”, as with baseline projections • Module is considered appropriate in this context for same reasons as for baseline projections (see Section 3.9.1 above)
Calculation of net carbon stock change in tree biomass	8.2.2	<ul style="list-style-type: none"> • Identical to baseline procedures (in Section 8.1.2 of methodology) except that: <ul style="list-style-type: none"> ○ Only the stock-difference method is allowed; exclusion of gain-loss method from project calculation procedures does not result in a violation of VCS rules or an instance of inappropriate procedures ○ Methodology allows value of parameter $C_{WPS-tree-AB,j,i,t}$ to be set to zero (Section 8.2.2); assessment team agrees this is conservative because it involves assumption that 100% of aboveground biomass is emitted at project start, which is an appropriately conservative assumption even considering the possibility that some carbon may be lost from aboveground

Procedure	Sec.	Assessment findings
		<p>biomass carbon pool due to mortality attributable to rewetting (a distinct possibility in some circumstances)</p> <ul style="list-style-type: none"> ○ Methodology also allows value for belowground biomass to be set to zero; assessment team agrees this is appropriate because it is not likely stocking in this pool will decrease much in project scenario compared to the in project scenario. even assuming total loss of carbon from aboveground biomass pool (which, as discussed above, is a completely conservative assumption) ○ Methodology contains procedures for implementation of “BEF” and “allometric equations” methods using measured data at tree level (baseline procedure performs calculations species/stratum level); these additional procedures are mathematically correct and consistent with best practices for calculation of aboveground and belowground carbon stock
GHG emissions as predicted by GESTs	8.2.3	<ul style="list-style-type: none"> ● Procedures are similar to those for baseline emissions (in Section 8.1.3 of methodology) but require information about GESTS to be determined based on predictions (ex ante) or monitoring ● Procedures are deemed appropriate by assessment team
Calculation of methane emissions	8.2.3	<ul style="list-style-type: none"> ● Methodology contains criteria and procedures to calculate methane emissions in project scenario; these criteria/procedures require use of “conservative estimates from appropriate literature sources” and provides criteria for determination of appropriate literature sources ● Approach undertaken is deemed appropriate by assessment team
GHG emissions as predicted by water depth	8.2.3	<ul style="list-style-type: none"> ● Methodology contains appropriate procedures to determine emissions on basis of water depth (in circumstances where GEST approach is not appropriate), including appropriate criteria for selection of conservative values

Procedure	Sec.	Assessment findings
		<ul style="list-style-type: none"> Water depth is affirmed by AFOLU Requirements as an appropriate predictor of emissions (see Sections 4.2.19(1)(a)(i) and 4.5.27)
"Alternative procedure"	8.2.3	<ul style="list-style-type: none"> Methodology contains an "alternative procedure" to calculate emissions reductions attributable to rewetting in a single equation For reasons described in Section 3.9.4 below, assessment team does not feel this approach complies fully with VCS rules

3.9.3 Leakage

Leakage from all three of the sources outlined in Section 4.6.1 of the AFOLU Requirements is potentially applicable to the methodology element, as it applies to Restoration of Wetland Ecosystems projects that take place on land that was previously subjected to agricultural uses. The criteria and procedures of the methodology negate the need to account for such leakage through the use of applicability conditions, as described more fully below.

The methodology element avoids activity shifting and market leakage by limiting applicability to peatlands "that have been drained for forestry that is not or no longer profitable or peat extraction that has been abandoned at least 2 years prior to the project start date, or agriculture that has been abandoned at least 2 years prior to the project start date, or where drainage of additional peatland for new agricultural sites will not occur or is prohibited by law" (applicability condition (a)) where "Harvesting in the baseline scenario within the project boundary does not occur or is non-commercial in nature and is then conservatively not accounted for" (applicability condition (b)). If project activities are limited to areas where agriculture and/or forestry are not profitable, project activities performed on those areas will not reduce the quantity of land allocated to agricultural and/or timber production, and thus activity shifting leakage cannot occur. In addition, if the project precludes areas where commercial timber harvesting would occur in the baseline scenario, project activities will not reduce the quantity of timber supplied to markets, and thus market leakage cannot occur. In this case, Section 4.6.19 of the AFOLU Requirements does not require procedures for accounting of activity-shifting and market leakage.

Ecological leakage is precluded through applicability condition (g). Although it is understood that the Validation and Verification Manual states that "applicability conditions must not include criteria and procedures that are addressed in other sections of the methodology... the applicability conditions section cannot state that the project will have no leakage, but the methodology must instead provide a procedure for determining leakage within the leakage section" (Section 5.2.1), the methodology element does provide additional criteria and procedures that, if duly followed, will keep ecological leakage from occurring or ensure that it can be detected in the event that it does occur.

As set out in Section 8.4 of the methodology element, it is required that "hydrological connectivity with adjacent areas is insignificant". The procedures of the methodology element allow for the construction of an impermeable dam or a buffer zone within the project boundary, and appropriate criteria and procedures are provided for ensuring that a buffer zone is designed so as to eliminate hydrological

conductivity with adjacent areas. Section 9.3.3 of the methodology element contains appropriate criteria and procedures for monitoring to ensure that applicability condition (g) is complied with throughout the project crediting period. If appropriately carried out, these procedures should ensure the detection of any ecological leakage that may be attributable to project activities.

In summary, the procedures for calculating leakage (specifically, the requirement that leakage emissions equal 0 tonnes CO₂-equivalent) are appropriate for the project activities covered by the methodology.

A description of how the procedures for calculating leakage comply with each applicable VCS requirement for the relevant project category (as set out in the AFOLU Requirements) follows.

AFOLU Requirements reference	Assessment findings
Section 4.6.1	<ul style="list-style-type: none"> Market, activity-shifting and ecological leakage are precluded for reasons stated above
Section 4.6.19	<ul style="list-style-type: none"> Market and activity-shifting leakage are precluded for reasons stated above
Section 4.6.20	<ul style="list-style-type: none"> Ecological leakage is precluded for reasons stated above
Section 4.6.22	<ul style="list-style-type: none"> This requirement is applicable, as project activities covered by methodology may include fire reduction activities and land use changes are (specifically, peat drainage) may be “identified as the cause (or one of the causes) of anthropogenic fires in the project region” While it is unclear what requirement refers to, as no requirements exist within AFOLU Requirements for “accounting for fire under REDD” related to leakage, it should be noted that activity-shifting leakage is precluded as described above, and it follows that leakage attributable to increased emissions from burning outside project area are therefore categorically excluded

3.9.4 Net GHG Emission Reductions and Removals

3.9.4.1 Findings relating to procedures in the methodology other than the “Alternative procedure” in Section 8.2.3 and Section 8.3

All statements made below in this Section 3.9.4.1 do not apply to the following procedures:

- The “Alternative procedure” set out in Section 8.2.3 of the methodology
- The procedures set out in Section 8.3 of the methodology

See Section 3.9.4.2 below for findings regarding these procedures.

The assessment team concludes, overall, that the procedures for calculating net GHG emission reductions and removals are in conformance with the VCS rules.

An assessment of the criteria and procedures for calculating net GHG emission reductions and removals, as a whole, follows.

Criterion	Assessment findings
Are procedures for calculating net GHG emission reductions and removals appropriate for the project activities covered by the methodology?	Yes; procedures comply with all VCS rules for the category of project activities covered by the methodology, as described below
Are all algorithms, equations and formulas used appropriate and without error?	Yes; assessment team carefully reviewed procedures and confirmed that all equations are appropriate and without mathematical errors; equations are consistent with best practices for GHG accounting, as found in relevant IPCC guidance documents
Are uncertainties associated with the quantification of net GHG emission reductions addressed appropriately?	Yes; uncertainties are addressed through explicit accounting and through procedures for selection of conservative values, as further described below

Further identification and discussion of the procedures for calculating net GHG emission reductions and removals is provided below.

Procedure	Sec.	Assessment findings
Calculation of net GHG emissions reductions	8.5.1	<ul style="list-style-type: none"> Equation 55 is a contains mathematically correct equation for calculation of emission reductions/removals that is consistent with Section 4.7.1 of AFOLU Requirements, except for inclusion of term “Fire Reduction Premium” term (for reasons described in Section 3.9.4.2 below, assessment team does not agree this is appropriate) Assessment team does not agree that Equation 56 is appropriate, as further described in Section 3.9.4.2 below.
Estimation of uncertainty	8.5.2	<ul style="list-style-type: none"> Procedure is consistent with Section 4.1.4 of VCS Standard as follows: <ul style="list-style-type: none"> Procedure identifies “estimation of stocks in carbon pools and changes in carbon stocks”

Procedure	Sec.	Assessment findings
		<p>and “assessment of project emissions” as procedures with significant uncertainty</p> <ul style="list-style-type: none"> ○ Procedure describes, under “Planning to Diminish Uncertainty”, how uncertainty should be addressed ○ Procedure provides (where applicable) a means to estimate a 90 or 95 percent confidence interval and apply an appropriate confidence deduction, consistent with thresholds set out in VCS Standard ○ Methods for error propagation are statistically correct (where “uncertain quantities are to be combined by addition or subtraction”) and based on Equation 3.2 of IPCC 2006 Guidelines <ul style="list-style-type: none"> ● Procedure is consistent with Section 2.1.4 of VCS Standard as follows: <ul style="list-style-type: none"> ○ Methodology permits assumption that uncertainty for a given carbon pool or emissions source is 0% “where an uncertainty value is not known or cannot be simply calculated” or where “conservative estimates” are used, but requires that “where uncertainty is not known it must be demonstrated that the value used is conservative” ○ This approach is consistent with note in Section 2.4.1 of the VCS Standard, which states that “Accuracy should be pursued as far as possible, but the hypothetical nature of baselines, the high cost of monitoring of some types of GHG emissions and removals, and other limitations make accuracy difficult to attain in many cases. In these cases, conservativeness may serve as a moderator to accuracy in order to maintain the credibility of project GHG quantification.”
Calculation of verified carbon units	8.5.3	<ul style="list-style-type: none"> ● Procedure is consistent with Sections 4.7.1 and 4.7.2 of AFOLU Requirements, as a proxy for “change in carbon stocks only” (see below bullet point) is correctly multiplied by non-permanence risk

Procedure	Sec.	Assessment findings
		<p>rating; leakage does not need to be deducted from this quantity because no leakage occurs</p> <ul style="list-style-type: none"> • Net GHG emission reductions are used as a proxy for net change in carbon stocks; assessment team agrees this is appropriate (except insofar as incorporation of “Fire Reduction Premium” is concerned) as follows: <ul style="list-style-type: none"> ○ Section 4.1.8 of VCS Standard allows for proxies that “are strongly correlated with the value of interest” that that “can serve as an equivalent or better method (eg, in terms of reliability, consistency or practicality) to determine the value of interest” ○ Assessment team agrees that net GHG emission reductions (again, assuming said reductions do not include “Fire Reduction Premium”) are strongly correlated with carbon stock change relative to baseline scenario, as said emission reductions are strongly correlated with 1) emissions/removals from aboveground and belowground biomass pools (accounted for directly as carbon stock change) and 2) avoided loss from soil carbon pool attributable to rewetting (accounted for indirectly on basis of GEST approach or water levels) ○ Assessment team agrees that net GHG emission reductions are a better method in terms of practicality because, given nature of procedure for quantification of emission reductions from soil carbon pool, it is far more practical to use net emission reductions in this procedure than to attempt transformation of emission reductions from peatland into an estimate of net change in carbon stocks (which would result in necessity for additional calculations) ○ Assessment team agrees that use of this proxy will result in conservative quantification of the quantity of buffer credits, except insofar as “Fire Reduction Premium” approach is used in quantification of net emission reductions, because if

Procedure	Sec.	Assessment findings
		<p>methane emissions are included in the quantification of emission reductions, the value used in calculation of number of buffer credits will be larger than net change in carbon stocks, thus resulting in a larger quantity of credits being deposited in AFOLU pooled buffer account.</p> <ul style="list-style-type: none"> Methodology contains appropriate procedures to limit claimed quantity of GHG emission reductions to difference between project and baseline scenario after a 100-year time frame, as required by Section 4.5.29 of AFOLU Requirements

3.9.4.2 Findings relating to the “Alternative procedure” in Section 8.2.3 and Section 8.3

The statements made below in this Section 3.9.4.2 apply to the following procedures:

- The “Alternative procedure” set out in Section 8.2.3 of the methodology
- The procedures set out in Section 8.3 of the methodology

However, the methodology element does not establish criteria and procedures for quantifying all GHG emissions separately for the project and baseline scenarios, and therefore does not conform to Section 4.7.1 of the VCS Standard, the text of which is as follows:

“The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals, and/or carbon stocks, for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios.”

Two Non-Conformity Reports (NCRs) were issued by SCS with respect to specific nonconformities to Section 4.7.1 that were identified.

NCR 2012.20 was issued regarding the “Fire Reduction Premium” procedure set out in Section 8.3 (which was termed the “Fire Premium” procedure at the time the finding was issued). The finding was issued because, in the judgment of the assessment team, the “Fire Reduction Premium” procedure does not establish separate criteria and procedures for quantifying GHG emissions and/or removals for the project scenario and for the baseline scenario, as is required by Section 4.7.1. Instead, GHG emission reductions and/or removals related to fire reduction attributable to the project are quantified in a single set of equations.

In addition to the lack of conformance that this procedure exhibits with respect to Section 4.7.1, the assessment team is concerned that, because the procedure allows crediting due to reductions of fire-related emissions that are assumed to occur in the baseline scenario but does not contain specific procedures to directly account for emissions due to fire in the project scenario, the procedure runs the risk of violating the core principle of conservativeness, as set out in Section 2.4.1 of the VCS Standard. The

methodology indicates that “Peatland fires inside the project boundary must... be monitored and – if not catastrophic as defined above – accounted for by cancelling the premium for the entire project or the individual sub-project...” Thus, the procedure would allow for project proponents to continue to claim the “Fire Reduction Premium”, even if fires occur in the project scenario, so long as it can be demonstrated that “a) peatland rewetting and b) a best-practices fire management have been implemented”. As an approach, this strikes the assessment team as an approach that is analogous to a Reduced Emissions from Deforestation and Degradation (REDD) methodology allowing a project proponent to claim emission reductions relating to deforestation in the baseline scenario and then, if deforestation occurs in the project scenario, allowing project proponents to avoid accounting for emissions attributable to this project-scenario deforestation if it can be demonstrated that “best-practices patrolling activities have been implemented” (this would be a clearly nonconservative approach that has not been implemented in any REDD methodology approved under the VCS Program).

In the event that a fire occurring in the project scenario is defined as “non-catastrophic”, the methodology requires cancellation of the “Fire Reduction Premium”. It is unclear whether the “Fire Reduction Premium” must be cancelled for the entire crediting period of the project (including, perhaps, previous monitoring periods) or only for the specific monitoring period in question; however, it should be noted that the ability of a methodology to contain procedures for cancellation of previously issued verified carbon units is questionable. In the event that the methodology only requires cancellation of the “Fire Reduction Premium” as it relates to crediting of a project post-fire, the assessment team has concerns the conservativeness of the procedure, along the same lines as stated above, as it appears the procedure would allow a project proponent to retain previously issued credits attributable to reduction of fires in the baseline scenario while only requiring the project proponent to forfeit the “Fire Reduction Premium” during future monitoring periods. The methodology also states that “In case of non-catastrophic fires, adjustments must be made for subsequent changes in carbon store and GHG fluxes, e.g. peat stocks at $t=100$ ”, but contains no procedures for making these “adjustments”.

Finally, the procedure does not explicitly “consider any relevant current and planned land use conditions that may affect the occurrence of fire in order to establish the most plausible scenario for fire in the baseline”, as required by Section 4.4.13 of the AFOLU Requirements, because it is entirely based on historical data and does not involve any explicit consideration of potential future conditions. The methodology requires a demonstration that “the area is now, and in future will be, under risk of anthropogenic peat fires, as demonstrated by current and historic fire statistics and/or fire maps for the project area, in combination with information on current and future land use”, but contains no procedures to explicitly account for “relevant current and planned land use conditions that may affect the occurrence of fire”; rather, the baseline conditions relating to fire occurrence are (implicitly) assumed to be similar to those conditions that prevailed during the “fire reference period”.

NCR 2012.25 was written with respect to the “alternative procedure” set out in Section 8.2.3.1 of the methodology. The alternative procedure allows the methodology user to quantify the GHG emission reductions and removals due to peat rewetting in a single step, rather than requiring the emissions and/or removals to be first quantified separately for the project and baseline scenarios. While the assessment team feels that this procedure is not in conformance with Section 4.7.1 of the VCS Standard, the assessment team is not concerned that the procedure may violate other requirements of the assessment criteria.

In an email dated 24 April 2012, Sam Hoffer of the VCSA suggesting the following:

“In response, given that we seem to have reached a point where we cannot move forward with closing out these NCRs in a timely manner, I would recommend issuing a draft report that leaves these open and simply moving on to second assessment. In doing so, I will take responsibility for pointing out to the second assessor the issues that have been dealt with so far, along with the clarifications that have been issued by the VCS. Once we reach the conclusion of second assessment, we can revisit these issues during the report reconciliation process in light of the conclusions reached by the second assessor.”

As the above suggestion was amenable to both the assessment team and the methodology developer, it has been followed in issuance of this report.

3.10 Monitoring

All statements made in following paragraphs in this Section 3.10 do not apply to Section 9.3.7 of the methodology, which pertains to the “Fire Reduction Premium” procedure discussed in Section 3.9.4.2 above. Although the methodology element does establish criteria and procedures for monitoring peat fires in Section 9.3.7, such criteria and procedures are fully tailored to the “Fire Reduction Premium” set out in Section 8.3 of the methodology. That is, if fires occur, they do not attempt to determine emissions that occur due to fires, but only to determine if “rewetting and fire management have been carried out as proposed at validation”. Therefore, the methodology element does not contain ex post procedures for quantifying all GHG emissions separately for the project and baseline scenarios, and therefore does not conform to Section 4.7.1 of the VCS Standard, for the same reasons described in Section 3.9.4.2 above.

The assessment team concludes, overall, that the procedures for monitoring are in conformance with the VCS rules. The procedures for monitoring are appropriate for the project activities covered by the methodology, as further described for each data/parameter below.

Further identification and discussion of the procedures for monitoring is provided below.

Procedure	Sec.	Assessment findings
Requirements for monitoring plan	9.3.1	<ul style="list-style-type: none"> Sets out purpose of monitoring, as required by Section 4.8.4(1) of VCS Standard Introduces requirements for monitoring plan (not required by assessment criteria but helpful to ensure consistency in terms of information provided by monitoring plans)
Uncertainty and quality management	9.3.2	<ul style="list-style-type: none"> Establishes appropriate procedures for managing data quality, as required by Section 4.8.4(3) of VCS Standard Ensures that, when highly uncertain data and information are relied upon, conservative values are selected (thus complying with Section 4.8.2 of VCS Standard) through the following language: “In choosing key parameters, or making important assumptions based on information that is not specific to the project circumstances, such as in use of default data, project proponents must select

Procedure	Sec.	Assessment findings
		<p>values that will lead to an accurate estimation of net GHG emission reductions, taking into account uncertainties. If uncertainty is significant, project proponents must choose data such that it indisputably tends to under-estimate, rather than over-estimate, net GHG project benefits.”</p> <ul style="list-style-type: none"> • Contains guidance regarding quality assurance/quality control methods that is consistent with Volume 1, Chapter 6 of IPCC 2006 Guidelines
Expert judgment	9.3.3	<ul style="list-style-type: none"> • Provides criteria for sourcing values from expert judgment • From review of Volume 1, Chapter 2 of IPCC 2006 Guidelines, assessment team agrees that guidance therein is applicable to methodology and will help to ensure that values are appropriately sourced from expert judgment
Monitoring of project implementation	9.3.4	<ul style="list-style-type: none"> • Monitoring is required to ensure ongoing conformance with several applicability conditions • Methodology element contains procedures for the required monitoring • Methodology element contains appropriate procedures for confirming absence of ecological leakage through ongoing monitoring of water levels or GESTs within the buffer zone (in the case that a buffer zone is used) or outside the boundary of the dam (in the case that an impermeable dam is used) • Assessment team agrees that procedures for monitoring project implementation are appropriate
Stratification and sampling framework	9.3.5	<ul style="list-style-type: none"> • Contains guidance on stratification and sampling that is appropriate and consistent with guidance found in Sections 4.3.3.2 and 4.3.3.4 of IPCC 2003 GPG.
Estimating GHG emissions on the basis of GESTs and water table depth	9.3.6	<ul style="list-style-type: none"> • Methodology contains appropriate procedures quantifying emissions on basis of GESTs and water table levels • As required by Section 4.5.27 of the AFOLU Requirements, same procedures that are used for quantification of baseline emissions are also used for quantification of project emissions, with the use of monitored data substituted for ex-ante projections

Procedure	Sec.	Assessment findings
		<ul style="list-style-type: none"> • Procedure closely follows methods used by Couwenberg et al. (2011), and is therefore consistent with accepted scientific practices for this approach • While procedure for determining GHG emissions from specific GESTs is somewhat open-ended, guidance provided is sufficiently prescriptive to ensure that, where error is made in the determination of GHG emissions, such error is conservative; projects that do not establish specific values for GHG emissions are permitted to source such values from “appropriate literature sources” and methodology contains appropriate requirements to ensure that such values are either appropriately accurate or appropriately conservative (requirements of Section 3.1.5 of the VCS Standard will also serve to ensure that literature sources are credible and appropriate to a given project) • Procedure for assessing spatial distribution of GESTs is adequate for this task and allows for vegetation mapping using remotely sensed imagery (where this occurs, appropriate procedures for accuracy assessment are in place) • Procedure explicitly accounts for presence of “shunt” species, as these species can result in very high quantities of CH4 emissions • Procedures also exist for monitoring of water table depth, although requirements are not very prescriptive • As required by Section 4.8.4(4) of VCS Standard, recommended monitoring frequencies are established • Although monitoring frequencies are established as recommendations rather than strict guidance, they are sufficient to meet requirements of VCS Standard (which does not necessarily require firm requirements)

The assessment team has the following general findings regarding the data units used in the methodology:

Data unit	Abbreviation in methodology	Findings
Meter	m	As defined under the Le Système international d'unités ("SI system"), the meter is an internationally recognized unit of distance that is commonly used in GHG accounting
Centimeter	cm	As defined under the Le Système international d'unités ("SI system"), the centimeter is an internationally recognized unit of distance that is commonly used in GHG accounting
Cubic meter	m ³	See above comment regarding the meter; the cubic meter is thus an internationally recognized unit of volume that is commonly used in GHG accounting
Year	yr	The year is a universal unit of time that is commonly defined with sufficient specificity for purposes of the methodology
Tonne	t	As defined under the Le Système international d'unités ("SI system"), the tonne is an internationally recognized unit of weight that is commonly used in GHG accounting
Hectare	ha	As a unit adopted for use with the Le Système international d'unités ("SI system"), the hectare is an internationally recognized unit of distance that is commonly used in GHG accounting

An identification of each data/parameter available at validation, and an assessment (as requested) of how each piece of information provided in the parameter table is appropriate, is provided below.

Data Unit / Parameter:	Depth _{peat-BSL,i}
Data unit:	Appropriate for measurement of depth
Equations	
Source of data:	Literature and measurements in project area are both potential sources of high-quality information for this parameter

Justification of choice of data or description of measurement methods and procedures applied:	<p>Where values are based on measurements, methodology provides an appropriate description of measurement methods to be applied, including references to standards/protocols to be applied; procedures are considered appropriate as this is a simpler measurement for which standardized techniques are available</p> <p>Where values are based on literature, methodology contains generic procedure (in Section 9.3.2) to ensure selection of conservative values</p> <p>The criteria and procedures for quantification are consistent with Sections 4.5.25(1)(a) and 4.5.29 of the AFOLU Requirements.</p>
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	Depth _{peat-WPS,i}
Data unit:	
Description:	
Equations	
Source of data:	See comments for Depth _{peat-BSL,i} above
Justification of choice of data or description of measurement methods and procedures applied:	See comments for Depth _{peat-BSL,i} above
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	Rate _{peatloss-BSL,i}
Data unit:	Appropriate for measurement of rate of peat loss
Description:	
Equations	
Source of data:	Own measurements, expert judgment, datasets and/or literature of historic subsidence are all capable of delivering high-quality information for this parameter

Justification of choice of data or description of measurement methods and procedures applied:	<p>Where data are based on expert judgment, methodology contains generic procedure (in Section 9.3.2) to ensure selection of conservative values.</p> <p>Where data are based on “datasets and/or literature of historic subsidence involving the project or similar areas”, methodology contains appropriate criteria for demonstration of “similarity” and conservative selection of data in case of dissimilarity; methodology contains generic procedure (in Section 9.3.2) to ensure selection of conservative values where values are sourced from literature.</p> <p>Where data are based on “surface height measurements relative to a fixed reference point in m asl”, methodology contains appropriate procedures for measurement, given that this is a relatively simple measurement. Where data are based on LiDAR measurements, methodology contains procedures and criteria that are appropriate to the complexity of the task.</p> <p>Where data source is CO₂ emissions from the prevalent GESTs (Section 8.1.3), in combination with data on volumetric carbon content of the peat, the methodology provides a clear procedure for calculation of values.</p> <p>The criteria and procedures for quantification are consistent with Sections 4.5.25(1)(a) and 4.5.29 of the AFOLU Requirements. In accordance with Section 4.5.33 of the AFOLU Requirements, suitable criteria and procedures are in place for deducting the amount of peat assumed to burn.</p>
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	Rate _{peatloss-WPS,i}
Data unit:	Appropriate for measurement of rate of peat loss
Description:	
Equations	
Source of data:	See comments for Rate _{peatloss-BSL,i} above

Justification of choice of data or description of measurement methods and procedures applied:	See comments for Rate _{peatloss-BSL,i} above
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	VC _{peat}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	
Equations	
Source of data:	Measurements within the project area or literature involving the project or similar areas are capable of delivering high-quality information for quantification of this parameter
Justification of choice of data or description of measurement methods and procedures applied:	Methodology contains appropriate criteria for demonstration of “similarity” and conservative selection of data in case of dissimilarity; methodology contains generic procedure (in Section 9.3.2) to ensure selection of conservative values where values are sourced from literature. Methodology provides procedures for measurement that are appropriate, given that this is a fairly standardized measurement procedure. It should be noted that the actual value used for this parameter is not important, is algebraic manipulation will show that it has no effect on the calculation of the net GHG benefit, so long as the same value is for estimation of peat loss in both the baseline and project scenario.
Purpose of Data	Purpose of data is correctly stated in methodology
Comments:	

Data Unit / Parameter:	AbsL _{i,t}
Data unit:	Appropriate for measurement of area
Description:	
Equations	
Source of data:	Measurements of project area are the only way to collect reliable information for this parameter

Justification of choice of data or description of measurement methods and procedures applied:	A Geographical Information System (GIS) is a commonly used tool for area measurements that provides accurate (assuming that vertex coordinates are accurate) and repeatable results. Methodology provides procedures for measurement that are appropriate, given that area measurement using a GIS is a well-established procedure.
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	R_i
Data unit:	Standard unit used for this parameter in IPCC 2003 GPG and other sources
Description:	
Equations	
Source of data:	<p>Use of a default factor is consistent with IPCC 2003 GPG; methodology contains appropriate criteria for selection of data that mirror (in reverse order, from Tier 3 to Tier 1) criteria in Section 3.2.1.1.1.2 of IPCC 2003 GPG.</p> <p>The guidance provided is generally consistent with that provided in other VCS methodologies and is compliant with the VCS rules. At a minimum, the guidance requires reference to relevant IPCC guidance (i.e., the IPCC 2006 Guidelines for National GHG Inventories or the IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry). However, the guidance provided always indicates that better sources should be used where available. This is appropriate, as values sourced from such IPCC sources are typically biome-wide in scope and thus of limited accuracy in comparison to other values that may be drawn from the scientific literature.</p>
Justification of choice of data or description of measurement methods and procedures applied:	Justification of data choice is reasonable
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	CF_j
Data unit:	Standard unit used for this parameter in IPCC 2003 GPG and other sources
Description:	
Equations	
Source of data:	Value applied, 0.5, is a default value from IPCC 2003 GPG Factor conforms to Section 4.5.6 of the VCS Standard (as referenced by Section 4.1.7(1) of the VCS Standard), as is sourced from the 2003 IPCC GPG (see, for example, Equation 3.2.3). VCSA has indicated that "...it is our expectation that using IPCC default factors would always be appropriate in VCS methodologies (assuming, of course, that they've been used in the appropriate context). As such, utilizing an IPCC default factor in a VCS methodology would meet the intent of Section 4.1.7(1)...". As a generic value that is globally applicable for calculation of carbon stock in trees, default value of 0.5 is therefore consistent with the VCS rules.
Justification of choice of data or description of measurement methods and procedures applied:	Justification of data choice is reasonable
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	$I_{v,j,i,t}$
Data unit:	Data unit applied is a common unit for measurement of annual volume increment per land area.
Description:	
Equations	
Source of data:	Source of data is reasonable; methodology contains generic procedure (in Section 9.3.2) to ensure selection of conservative values
Justification of choice of data or description of measurement methods and procedures applied:	See above
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	D_j
Data unit:	Standard unit used for this parameter in IPCC 2003 GPG and other sources
Description:	Basic wood density for species j
Equations	20, 22, 31
Source of data:	Datasets or literature are appropriate source of values for this parameter (it cannot be expected that this parameter would be directly measured in the field).
Justification of choice of data or description of measurement methods and procedures applied:	The guidance provided is generally consistent with that provided in other VCS methodologies and is compliant with the VCS rules. At a minimum, the guidance requires reference to relevant IPCC guidance (i.e., the IPCC 2006 Guidelines for National GHG Inventories or the IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry). However, the guidance provided always indicates that better sources should be used where available. This is appropriate, as values sourced from such IPCC sources are typically biome-wide in scope and thus of limited accuracy in comparison to other values that may be drawn from the scientific literature.
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	$BEF_{1,j}$
Data unit:	Standard unit used for this parameter in IPCC 2003 GPG and other sources
Description:	
Equations	
Source of data:	The guidance provided is generally consistent with that provided in other VCS methodologies and is compliant with the VCS rules. At a minimum, the guidance requires reference to relevant IPCC guidance (i.e., the IPCC 2006 Guidelines for National GHG Inventories or the IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry). However,

	the guidance provided always indicates that better sources should be used where available. This is appropriate, as values sourced from such IPCC sources are typically biome-wide in scope and thus of limited accuracy in comparison to other values that may be drawn from the scientific literature.
Justification of choice of data or description of measurement methods and procedures applied:	Justification of data choice is reasonable
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	K_{ph}
Data unit:	Data unit applied is consistent with unit used in Alexeyev et al. (1995)
Description:	
Equations	
Source of data:	The methodology element does not require use of this parameter, but states that “Depending on the kind of information locally available, instead of R_j and BEF_j one can use other parameters converting stem volume to total biomass, for example K_{ph} (Alexeyev coefficient; Alexeyev et al. (1995)”. As the methodology does not prescribe the use of this parameter, the guidance of Section 4.1.7(1) does not apply here. However, it should be noted that the suggested values for this parameter are sourced from a peer-reviewed study (Alexeyev et al. 1995, as indicated by the methodology element) and thus do comply with Section 4.5.6 of the VCS Standard, so long as they are applicable to a geographic scope of a specific project (as required by Section 4.5.6(7) of the VCS Standard).
Justification of choice of data or description of measurement methods and procedures applied:	Justification of data choice is reasonable
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	$V_{j,i,t}$
Data unit:	The cubic meter is an internationally accepted unit of stem volume that is used in IPCC 2003 GPG (see, for example, Equation 3.2.3)
Description:	
Equations	
Source of data:	Datasets or literature are capable of delivering high-quality information for this parameter; methodology contains generic procedure (in Section 9.3.2) to ensure selection of conservative values
Justification of choice of data or description of measurement methods and procedures applied:	Justification of data choice is reasonable
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	BEF_{2j}
Data unit:	Standard unit used for this parameter in IPCC 2003 GPG and other sources
Description:	
Equations	
Source of data:	The guidance provided is generally consistent with that provided in other VCS methodologies and is compliant with the VCS rules. At a minimum, the guidance requires reference to relevant IPCC guidance (i.e., the IPCC 2006 Guidelines for National GHG Inventories or the IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry). However, the guidance provided always indicates that better sources should be used where available. This is appropriate, as values sourced from such IPCC sources are typically biome-wide in scope and thus of limited accuracy in comparison to other values that may be drawn from the scientific literature.
Justification of choice of data or description of measurement methods and procedures applied:	Justification of data choice is reasonable

Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	$nTR_{j,i,t}$
Data unit:	Commonly used unit of stem density in forest measurements
Description:	
Equations	
Source of data:	Field measurements are the most common way to accurately determine stem density
Justification of choice of data or description of measurement methods and procedures applied:	Methodology provides procedures for measurement that are appropriate, given that procedures for measuring this parameter are quite well-standardized
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	$f_j(X, Y, \dots)$
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	
Equations	
Source of data:	Field measurements or literature are both commonly accepted sources of data for this parameter (as referenced in Section 4.3.3.5.1 of IPCC 2003 GPG)
Justification of choice of data or description of measurement methods and procedures applied:	The guidance provided is generally consistent with that provided in other VCS methodologies and is compliant with the VCS rules. At a minimum, the guidance requires reference to relevant IPCC guidance (i.e., the IPCC 2006 Guidelines for National GHG Inventories or the IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry). However, the guidance provided always indicates that better sources should be used where available. This is appropriate, as values sourced from such IPCC sources are typically biome-wide in scope and thus of limited accuracy in comparison to

	other values that may be drawn from the scientific literature.
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	GHG _{GESTbsl-CO2,i,t}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	
Equations	
Source of data:	Peer-reviewed literature and field measurements are both capable of delivering high-quality measurements for this parameter.
Justification of choice of data or description of measurement methods and procedures applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology.
Comments:	

Data Unit / Parameter:	GHG _{WLbsl-CO2,i,t}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	
Equations	
Source of data:	Peer-reviewed literature and field measurements are both capable of delivering high-quality measurements for this parameter.
Justification of choice of data or description of measurement methods and procedures applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology. Additional guidance is appropriate to ensure selection of accurate or conservative data, and includes reference to an appropriate protocol.
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	GHG _{GESTbsl-CH4,i,t}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out

Description:	
Equations	
Source of data:	Peer-reviewed literature and field measurements are both capable of delivering high-quality measurements for this parameter.
Justification of choice of data or description of measurement methods and procedures applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology.
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	GHG _{Wlbsl-CH4,i,t}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	
Equations	
Source of data:	Peer-reviewed literature and field measurements are both capable of delivering high-quality measurements for this parameter.
Justification of choice of data or description of measurement methods and procedures applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology. Additional guidance is appropriate to ensure selection of accurate or conservative data, and includes reference to an appropriate protocol. Appropriate guidance is also provided for conservatively omitting this parameter.
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	V _{l,jj,sp,t}
Data unit:	The cubic meter is an internationally accepted unit of stem volume that is used in IPCC 2003 GPG (see, for example, Equation 3.2.3)
Description:	
Equations	
Source of data:	Equations, yield tables or other datasets are appropriate ex-ante sources of data for this parameter; methodology contains generic

	procedure (in Section 9.3.2) to ensure selection of conservative values
Justification of choice of data or description of measurement methods and procedures applied:	Justification of data choice is reasonable
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	A_{peatburn}
Data unit:	Appropriate for measurement of area
Description:	
Equations	
Source of data:	Consistent with requirement of Section 4.5.34 of AFOLU Requirements that estimation of baseline emissions from peatland fire occurring in the project area must be based on “defensible data (such as fire maps, historical databases on fires, and where appropriate, combined with temperature and precipitation data)”.
Justification of choice of data or description of measurement methods and procedures applied:	A Geographical Information System (GIS) is a commonly used tool for area measurements that provides accurate (assuming that vertex coordinates are accurate) and repeatable results. Methodology provides procedures for measurement that are appropriate, given that area measurement using a GIS is a well-established procedure. The assessment team agrees that it is appropriate for repeated burning of the same area to add to the cumulative area.
Purpose of Data	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	A_P
Data unit:	Appropriate for measurement of area
Description:	
Equations	
Source of data:	Measurements of project area are the only way to collect reliable information for this parameter

Justification of choice of data or description of measurement methods and procedures applied:	A Geographical Information System (GIS) is a commonly used tool for area measurements that provides accurate (assuming that vertex coordinates are accurate) and repeatable results. Methodology provides procedures for measurement that are appropriate, given that area measurement using a GIS is a well-established procedure.
Purpose of Data	Purpose of data is correctly stated
Comments:	

An identification of each data/parameter monitored, and an assessment (as requested) of how each piece of information provided in the parameter table is appropriate, is provided below.

Data Unit / Parameter:	$A_{WPS,i,t}$
Data unit:	Appropriate for measurement of area
Description:	
Equations:	
Source of data:	Measurements of project area are the only way to collect reliable information for this parameter
Description of measurement methods and procedures to be applied:	A Geographical Information System (GIS) is a commonly used tool for area measurements that provides accurate (assuming that vertex coordinates are accurate) and repeatable results. Methodology provides procedures for measurement that are appropriate, given that area measurement using a GIS is a well-established procedure.
Frequency of monitoring/recording:	As stratum boundaries may change during project implementation, it is appropriate to monitor during each monitoring period.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	$A_{sp,i}$
Data unit:	Appropriate for measurement of area

Description:	
Equations:	
Source of data:	Measurements of project area are the only way to collect reliable information for this parameter
Description of measurement methods and procedures to be applied:	Both of the measurement procedures described are appropriate for determining a value for this parameter and are fairly well-established in forest inventory
Frequency of monitoring/recording:	As permanent sample plots are required, it is reasonable to expect that this value would not need to be monitored each monitoring period.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	$f_j(X, Y, \dots)$
Data unit:	See description of corresponding data/parameter available at validation
Description:	
Equations:	
Source of data:	See description of corresponding data/parameter available at validation
Description of measurement methods and procedures to be applied:	See description of corresponding data/parameter available at validation
Frequency of monitoring/recording:	Assessment team agrees that this parameter does not need to be monitored more than once.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	See description of corresponding data/parameter available at validation
Comments:	

Data Unit / Parameter:	DBH
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Data unit:	Commonly used metric for tree DBH
Description:	
Equations:	
Source of data:	Field measurement is the most reliable way to monitor this parameter.
Description of measurement methods and procedures to be applied:	Methodology provides procedures for measurement of DBH that are appropriate, given that said measurement procedures are quite standardized in forest inventory
Frequency of monitoring/recording:	Appropriate to monitor values at each monitoring period, as tree growth occurs in the permanent sample plots.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	H
Data unit:	Field measurement is the most reliable way to monitor this parameter.
Description:	
Equations:	
Source of data:	Field measurement is the most reliable way to monitor this parameter.
Description of measurement methods and procedures to be applied:	Methodology provides procedures for measurement of DBH that are appropriate, given that said measurement procedures are quite standardized in forest inventory
Frequency of monitoring/recording:	Appropriate to monitor values at each monitoring period, as tree growth occurs in the permanent sample plots.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated

Comments:	
Data Unit / Parameter:	GHG _{GEST_{wps}-CO_{2,i,t}}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	
Equations:	
Source of data:	Peer-reviewed literature and field measurements are both capable of delivering high-quality measurements for this parameter.
Description of measurement methods and procedures to be applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology.
Frequency of monitoring/recording:	As more fully described elsewhere in this Section 3.10, an appropriate monitoring schedule is set out under “Determining annual GHG emissions per stratum for the entire Project Crediting Period” in Section 9.3.6 of the methodology.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	GHG _{GEST_{wps}-CH_{4,i,t}}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	
Equations:	
Source of data:	Peer-reviewed literature and field measurements are both capable of delivering high-quality measurements for this parameter.
Description of measurement methods and procedures to be applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology.
Frequency of monitoring/recording:	As more fully described elsewhere in this Section 3.10, an appropriate monitoring schedule is set out under “Determining annual GHG emissions

	per stratum for the entire Project Crediting Period” in Section 9.3.6 of the methodology.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	GHG _{WLwps-CO2,i,t}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	
Equations:	
Source of data:	Peer-reviewed literature and field measurements are both capable of delivering high-quality measurements for this parameter.
Description of measurement methods and procedures to be applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology. Additional guidance is appropriate to ensure selection of accurate or conservative data, and includes reference to an appropriate protocol.
Frequency of monitoring/recording:	As more fully described elsewhere in this Section 3.10, an appropriate monitoring schedule is set out under “Determining annual GHG emissions per stratum for the entire Project Crediting Period” in Section 9.3.6 of the methodology.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	GHG _{WLwps-CH4,i,t}
Data unit:	Data unit corresponds correctly with use of this parameter in equations such that units cancel out
Description:	

Equations:	
Source of data:	Peer-reviewed literature and field measurements are both capable of delivering high-quality measurements for this parameter.
Description of measurement methods and procedures to be applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology. Additional guidance is appropriate to ensure selection of accurate or conservative data, and includes reference to an appropriate protocol.
Frequency of monitoring/recording:	As more fully described elsewhere in this Section 3.10, an appropriate monitoring schedule is set out under “Determining annual GHG emissions per stratum for the entire Project Crediting Period” in Section 9.3.6 of the methodology.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated
Comments:	

Data Unit / Parameter:	Water table depth
Data unit:	Appropriate unit for measurement of distance
Description:	
Equations:	
Source of data:	Field measurements are capable of delivering high-quality measurements for this parameter.
Description of measurement methods and procedures to be applied:	See findings elsewhere in this Section 3.10 regarding measurement procedures in Section 9.3.6 of the methodology.
Frequency of monitoring/recording:	As more fully described elsewhere in this Section 3.10, an appropriate monitoring schedule is set out under “Determining annual GHG emissions per stratum for the entire Project Crediting Period” in Section 9.3.6 of the methodology.
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated

Comments:	
Data Unit / Parameter:	t2 and t1
Data unit:	Appropriate unit for measurement of time
Description:	
Equations:	
Source of data:	Calculation of value of this parameter is completely intuitive
Description of measurement methods and procedures to be applied:	Assessment team agrees this information is unnecessary
Frequency of monitoring/recording:	Assessment team agrees that, as the value is based on length of the monitoring period in question, it should be monitored at each monitoring period
QA/QC procedures to be applied:	Section 9.3.2 of the methodology provides appropriate procedures that can be readily adapted to a wide variety of monitoring tasks (including monitoring this parameter).
Purpose of Data:	Purpose of data is correctly stated
Comments:	

4 ASSESSMENT CONCLUSION

The assessment team was unable to conclude, as of the issuance of the draft assessment report to the client on 4 September 2014, that the methodology element is in full compliance with the assessment criteria as described in Section 1.2 of this report. The specific reasons for the limitations regarding the assessment team’s opinion are stated in Sections 3.9.4.2 and 3.10 of this report.

5 REPORT RECONCILIATION

Subsequent to completion of the second assessment, the assessment team received the updated version of the methodology element for review. The assessment team found that most or all of the revisions made during the second assessment were related to modifying and/or improving the appearance and readability of the methodology element—few, if any, of the revisions had any bearing on the actual functioning of the methodology element. The assessment team has found that the modifications made during the second assessment have generally made the methodology easier to understand and make use of. None of the modifications affect the conformance of the methodology element to the VCS rules.

The methodology element also reviewed the concerns that were left unresolved as of the issuance of the draft assessment report.

Regarding the concerns identified in NCR 2012.20, the assessment team was provided with a letter, dated 12 March 2015 and written by Jerry Seager. In this letter, the following was stated:

“As VCS has determined that the method is appropriate for use within a VCS approved methodology, the validation/verification body is not required to assess the fire reduction premium against the requirements of the VCS Standard.

This clarification maybe used and referenced by validation/verification bodies in their assessment reporting of the methodology Baseline and Monitoring Methodology for the Rewetting of Drained Peatlands used for Peat Extraction, Forestry or Agriculture based on GESTs.”

Because it has been explicitly clarified that review of the “fire reduction premium” approach falls outside the scope of the assessment services being provided by SCS, the concerns identified in NCR 2012.20 are no longer relevant.

Regarding the concerns identified in NCR 2012.25, the assessment team received an email from Andrew Beauchamp, dated 27 March 2017, in which the following is stated:

“Per our discussion on Monday, VCS has reviewed the “alternative approach” incorporated in Section 8.2.3.2 of the GEST methodology and determined it meets the intent of a “deemed savings factor” as allowed by the note in Section 4.1.7 of the VCS Standard and further defined in the VCS Program Definitions document.

Reference to this email may be included in SCS’ assessment report to close any findings necessary.”

Therefore, as the VCSA has explicitly reviewed the “alternative approach” and found it to meet the intent of a “deemed savings factor”, the assessment team agrees that the prior concern expressed regarding the conformance of this approach to Section 4.7.1 of the VCS Standard is no longer relevant.

In summary, the areas of concern identified in NCR 2012.25 and NCR 2012.26 have essentially been removed from the scope of SCS’ assessment services, given that the VCSA has provided explicit review of the aspects of the methodology element in question. In respect of those aspects of the methodology element that remain within the scope of SCS’ assessment services, the assessment team is able to conclude that the methodology element (version 20160815, date of issue 28 November 2011) is in full compliance with the assessment criteria as described in Section 1.2 of this report.

6 EVIDENCE OF FULFILMENT OF VVB ELIGIBILITY REQUIREMENTS

The following evidence of fulfillment of SCS’ eligibility requirements is presented in accordance with Section 4.2 of the Methodology Approval Process.

SCS has completed ten project validations under sectoral scope 14 (AFOLU). A summary of the first ten project validations performed by SCS is as follows:

Project and Project ID	Date validation report issued	Date project registered	Name of GHG program under which project registered
INFAPRO Rehabilitation of logged-over dipterocarp forest in Sabah, Malaysia (672)	31-Aug-2011	2-Sep-2011	Verified Carbon Standard
Natural High Forest Rehabilitation Project on degraded land of Kibale National Park (673)	6-Sep-2011	6-Sep-2011	Verified Carbon Standard
Protection of a Tasmanian Native Forest (Project 3: Peter Downie) (587)	18-Mar-2011	7-Apr-2011	Verified Carbon Standard
Redd Forests Grouped Project: Protection of Tasmanian Native Forest (641)	13-May-2011	1-Jul-2011	Verified Carbon Standard
Protection of a Tasmanian native forest – Project 1 – REDD Forests Pilot (605)	18-Mar-2011	3-May-2011	Verified Carbon Standard
Boden Creek Ecological Preserve Forest Carbon Project (647)	24-Jun-2011	18-Jul-2011	Verified Carbon Standard
Peri-urban bamboo planting around South African townships (Project ID confidential)	8-Aug-2011	8-Dec-2011	Verified Carbon Standard
Tree planting in South African townships (Project ID confidential)	2-Sep-2011	8-Dec-2011	Verified Carbon Standard
Rimba Raya Biodiversity Reserve Project (674)	31-Aug-2011	7-Sep-2011	Verified Carbon Standard
Reforestation Across the Lower Mississippi Valley (774)	20-Apr-2011	14-Feb-2012	Verified Carbon Standard

Note that the above is not necessarily an exhaustive list of all validations performed by SCS.

The identity and role of the VCS expert utilized in the course of the assessment are described in Section 2.4 of this report.

7 SIGNATURE

Signed for and on behalf of:

Name of entity: SCS Global Services

A handwritten signature in black ink that reads "Christie Pollet-Young". The signature is written in a cursive style with a large initial 'C' and a long, sweeping tail on the 'y'.

Signature:

Name of signatory: Christie Pollet-Young

Date: 4 September 2014

APPENDIX A

The following tables include all findings issued during the course of the methodology assessment. It should be noted that all language under “Client Response” is a verbatim transcription of responses provided by the methodology developer.

NCR 2012.1 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.5.23(1)

Document Reference: proposed methodology (11/28/11), Section 5.2

Finding: The proposed methodology states that "Stratification of the project area by peat depth is required when in more than 5% of the project area the Peat Depletion Time is less than 100 years in the with-project scenario." However, the VCS AFOLU Requirements states that "The PDT is the time during which GHG emissions would occur in the baseline until the peat has disappeared due to gradual oxidation or other losses, within the project boundary based on peat depth maps, water levels, and associated CO2 emissions and subsidence rates." As the peat depletion time is defined solely as a property of the baseline scenario, the term has no meaning when used with reference to the project scenario. Therefore, the quoted text from the proposed methodology is not coherent.

Client Response: We have amended the text for compliance with v3.2.

FYI, in the upcoming Wetlands Restoration and Conservation requirements, replacing the PRC, this may change: The PDT is the time until the peat has disappeared due to oxidation or other losses, on the basis of peat depth, water levels, and associated CO2 emissions and/or peat subsidence rates (incl. microbial oxidation, fire, wind and water erosion, etc.).

Auditor Response: The reference to the peat depletion time in the project scenario has been removed from the cited section of the proposed methodology.

Closing Remarks: The Client’s response adequately addresses the finding.

NCR 2012.2 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.5.30

Document Reference: proposed methodology (11/28/11), Section 5.1

Finding: The VCS AFOLU Requirements states that "RDP projects that include an activity designed specifically to reduce incidence and severity of fires shall deduct the amount of peat assumed to burn when estimating peat depletion times." While the methodology explicitly allows for claimed emission reductions due to reduction of peat fires, the procedure for calculating the peat depletion time does not deduct the amount of peat assumed to burn in the baseline scenario.

Client Response: Eq 1 and table in Section 9.1 amended. The project will not measure time series because this is an ex ante estimation. Historic subsidence rate determination requires techniques that vary case by case and require a certain expertise.

Auditor Response: Equation 1 of the proposed methodology now deducts the amount of peat assumed to burn when estimating peat depletion times.

Closing Remarks: The Client’s response adequately addresses the finding.

NCR 2012.3 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.3.25

Document Reference: proposed methodology (11/28/11), Section 4(k)

Finding: The VCS AFOLU Requirements states that "For RDP projects, N2O emissions shall be included in the project boundary. The methodology shall establish the criteria and procedures by which the N2O source may be deemed de minimis (as set out in Section 4.3.4) or conservatively excluded (as set out in Section 4.3.5)." The proposed methodology does not include N2O emissions in the project boundary. Neither does the proposed methodology establish criteria and procedures by which the N2O source may be deemed de minimis or conservatively excluded. Applicability condition (k) of the proposed methodology states that "It can be demonstrated (e.g. by referring to peer-reviewed literature) that in the with-project scenario N2O emissions are insignificant or decrease in the with-project scenario compared to the baseline scenario, and therefore N2O emissions need not be accounted for." However, this applicability condition does not contain the specific criteria and procedures for deeming N2O emissions de minimis or conservatively excluded.

Client Response: Applicability condition k amended. The project must use literature which shows that N2O will decline upon rewetting.

Auditor Response: The proposed methodology now states, as an applicability condition, "k. It can be demonstrated by referring to peer-reviewed literature that in the with-project scenario N2O emissions will decline in the with-project scenario compared to the baseline scenario, and therefore N2O emissions need not be accounted for." This appropriately constitutes the "criteria and procedures" required by the VCS AFOLU Requirements.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.4 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.4.11

Document Reference: proposed methodology (11/28/11), Section 6

Finding: The VCS AFOLU Requirements states that "The criteria and procedures for identifying alternative baseline scenarios shall take into account the current and historic layout of the drainage system and the long-term average climate variables influencing water levels prior to project start. The long-term average climate variables shall be determined using data from climate stations that are representative of the project area and shall include at least 20 years worth of data." The proposed methodology does not provide criteria and procedures for identifying alternative baseline scenarios that take into account the current and historic layout of the drainage system and the long-term average climate variables, as determined using data from climate stations that are representative of the project area and include at least 20 years of data (see also NCR 2012.10). Merely citing the requirement of the VCS AFOLU Requirements, as is currently done in Section 6, is not adequate to fulfill the requirement.

Client Response: Text expanded

Auditor Response: The proposed methodology now contains explicit guidance for mapping the drainage layout at the start of the project activity, as well as the historic drainage layout prior to peat drainage. In addition, the proposed methodology contains more explicit guidance for the determination of "long-term average climate variables". However, the criteria and procedures for identifying alternative baseline scenarios still do not take into account the current and historic layout of the drainage system and the long-term average climate variables influencing water levels prior to project start. Therefore, the NCR remains open.

Client Response 2: We added that taking this into account shall be based on expert judgement. "Alternative baseline scenarios shall take into account the current and historic layout of the drainage system and the long-term average climate variables influencing water table depths prior to project start, on the basis of expert judgment." (...) "Alternative baseline scenarios shall also consider - based on expert judgment or scientific literature and in a conservative way - non-human induced rewetting brought about by collapsing dikes or ditches that would have naturally closed over time, and progressive subsidence, leading to raising relative water levels, increasingly thinner aerobic layers and reduced CO2 emission rates."

Auditor Response 2: The methodology does not contain procedures instructing the user on how to take into account, when identifying alternative baseline scenarios, the current and historic layout of the drainage system and the long-term average climate variables influencing water levels prior to project start. Neither does it contain criteria against which the results of such procedures may be judged. Therefore, the NCR remains open.

Client Response 3: Expert judgement is key. Situations vary considerably between sites and peatland experts need to take account of the VCS requirements as copied almost verbatim into the methodology. See methodology for amended language. Some more detailed procedurs are added to 9.3.4.

Auditor Response 3: Although the non-conformity necessitating the issuance of this finding has not been resolved, the issuance of an updated VCS AFOLU Requirements document has made it most appropriate to close this finding and open a different finding that is written against the updated requirements. Therefore, this finding has been closed and NCR 2011.49, related to the same non-conformity, has been opened.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.5 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Sections 4.4.11 and 4.5.26

Document Reference: proposed methodology (11/28/11), Section 8.1

Finding: Section 4.5.26 of the VCS AFOLU Requirements states that "Baseline emissions shall be estimated conservatively and consider that the water level in the project area may rise during the project crediting period due to any or all of the causes identified in alternative baseline scenarios as set out in Section 4.4.11."

Section 4.4.11 of the VCS AFOLU Requirements states that "The criteria and procedures for identifying alternative baseline scenarios shall also consider non-human induced rewetting brought about by:

- 1) Collapsing dikes or ditches that would have naturally closed over time.
- 2) Progressive subsidence, leading to raising relative water levels, increasingly thinner aerobic layers and reduced CO2 emission rates."

The procedure for baseline emissions does not consider that the water level in the project area may rise during the project crediting period due to the above causes.

Client Response: The procedure to determine BSL emissions is based on the BSL scenario and the GEST approach, which DO take into account spontaneous development (cf. Couwenberg et al. 2011, Hydrobiologia).

Auditor Response: The proposed methodology does not contain guidance to ensure that baseline emissions are estimated conservatively and consider that the water level in the project area may rise during the project crediting period due to any or all of the causes identified in alternative baseline scenarios as set out in Section 4.4.11. Therefore, the NCR remains open.

Client Response 2: Repeating the NCR does not help us a lot. We now try with this: "Alternative baseline scenarios shall also consider - based on expert judgment or scientific literature and in a conservative way - non-human induced rewetting brought about by collapsing dikes or ditches that would have naturally closed over time, and progressive subsidence, leading to raising relative water levels, increasingly thinner aerobic layers and reduced CO2 emission rates."

Auditor Response 2: The methodology does not contain procedures instructing the user on how to consider, when identifying alternative baseline scenarios, non-human induced rewetting brought about by collapsing dikes or ditches that would have naturally closed over time, or progressive subsidence, leading to raising relative water levels, increasingly thinner aerobic layers and reduced CO2 emission rates. Neither does it contain criteria against which the results of such procedures may be judged. Therefore, the NCR remains open.

Client Response 3: Same response as for NCR 4.

Auditor Response 3: Although the non-conformity necessitating the issuance of this finding has not been resolved, the issuance of an updated VCS AFOLU Requirements document has made it most appropriate to close this finding and open a different finding that is written against the updated requirements. Therefore, this finding has been closed and NCR 2011.50, related to the same non-conformity, has been opened.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.6 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.5.23(1)

Document Reference: proposed methodology (11/28/11), Sections 5.2

Finding: The VCS AFOLU Requirements requires that "The criteria and procedures for quantifying GHG emissions/removals in the baseline scenario shall determine the peat depletion time (PDT)... The PDT is the time during which GHG emissions would occur in the baseline until the peat has disappeared due to gradual oxidation or other losses, within the project boundary based on peat depth maps, water levels, and associated CO2 emissions and subsidence rates."

The proposed methodology does not contain clear, mandatory criteria and procedures for producing a peat depth map of the project area. Section 5.2 of the proposed methodology does state that "Stratification shall be based on a peat depth map with a spatial resolution of at least 1 observation point per hectare and a depth resolution of at least 10 cm." However, it is not clear in the proposed methodology that creation of a peat depth map is mandatory in all cases.

Client Response: Text amended

Auditor Response: The proposed methodology now contains clear, mandatory criteria and procedures for producing a peat depth map of the project area. In addition, the proposed methodology adequately establishes the conditions under which the creation of a peat depth map is required.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.7 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.5.23(1)

Document Reference: proposed methodology (11/28/11), Section 9.1, definition of parameter Rate(sub-BSL,i)

Finding: The VCS AFOLU Requirements requires that "The criteria and procedures for quantifying GHG emissions/removals in the baseline scenario shall determine the peat depletion time (PDT)." As the parameter Rate(sub-BSL,i) is used to compute the peat depletion time, the criteria and procedures used to estimate this parameter on the basis of measurements within the project area must be established. The following criteria and procedures have not been established:

- Criteria regarding measurement frequency and the number of measurements required in a time-series in order to estimate the parameter
- Procedures for locating sample points and perform field measurements, if the parameter is derived from field measurements
- Procedures for remote sensing, if the parameter is derived from remote sensing

Client Response: Eq 1 and table in Section 9.1 amended. RS is not to be used.

Auditor Response: Additional guidance has been added in Section 9.1 regarding parameter Rate(peatloss-BSL,i). However, the additional guidance provided regarding the estimation of the peat loss rate through "CO2 emissions either directly measured or derived from the prevalent GESTs (Section 8.1.3), in combination with data on bulk density and carbon content of the peat" must be clarified, as it is currently unclear exactly how the peat loss rate is to be derived from CO2 emissions data.

In addition, the following aspects of the added guidance regarding "the average depth of burn scars" are not clear:

- The methodology states that the average depth of burn scars is taken into account (if relevant), but the criteria for relevancy are not explicitly stated.
- It is unclear how remote sensing data is to be used in determining the average depth of burn scars.
- It is unclear how "Justification that the area in the baseline is now, and in future will be, under risk of anthropogenic peat fires, as demonstrated by current and historic fire statistics and/or fire maps for the project area, in combination with information on current and future land use" is to be used in determining the average depth of burn scars.
- The criteria and procedures for "own measurements", as requested by this NCR for the determination of parameter Rate(peatloss-BSL,i), have not been established.
- It is unclear how the average depth of burn scars is to be accounted for in quantification of parameter Rate(peatloss-BSL,i).

Therefore, the NCR remains open.

Client Response 2: How to obtain surface height loss from CO2 emissions is now clarified in 9.1. Rate_peatloss_WPS has been added. In addition, Eqs 10-12 have been removed.

Bullet points:

- "If relevant" replaced with "If burn scars are present over more than 5% of the area"
- RS: Use of remote sensing to establish burnt area and burn depth shall follow methods laid out in Ballhorn et al. 2009
- Now rephrased to point out that statistics and/or maps in official reports and/or remotes sensing data quantifying the areal extent of burn scars can be used
- We removed 'own measurements' of historic subsidence and burn depth because this is usually not possible. Observations of historic subsidence and burn depth can provide detailed information on surface height loss but requires expertise, hence reference to expert judgment.
- We propose a conservative approach applying mean burn depth to the entire project area

Auditor Response 2: The guidance in Section 9.1 regarding parameter Rate(peatloss-BSL,i) is now sufficient to satisfy the concerns that led to the issuance of this NCR. The criteria and procedures for estimation of this parameter have been appropriately clarified. Therefore, this NCR can be closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.8 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.5.26

Document Reference: proposed methodology (11/28/11), Sections 5.2 and 8.5.3

Finding: The VCS AFOLU Requirements states "The maximum quantity of GHG emission reductions that may be claimed by the project shall not exceed the net benefit generated by the project 100 years after its start date... To determine this long-term net GHG benefit, projects shall estimate the remaining peat carbon stock adjusted for any project emissions and leakage emissions in both the baseline and project scenarios at the 100-year mark, taking into account uncertainties in modeling and using verifiable assumptions. Projects unable to establish and demonstrate a significant difference in the net GHG benefit between the baseline and project for at least 100 years are not eligible."

Section 5.2 of the proposed methodology contains the following nonconformities with respect to the prescribed approach:

- The proposed methodology allows the assessment to take place at the stratum level, whereas the VCS AFOLU Requirements mandates that it take place for the project as a whole.
- As quantified by the proposed methodology, the remaining peat carbon stock at the 100-year mark is not adjusted for leakage emissions.
- The proposed methodology does not enforce the requirement that "projects unable to establish and demonstrate a significant difference in the net GHG benefit between the baseline and project for at least 100 years are not eligible", allowing crediting of the project/stratum so long as any difference in the net GHG benefit between the baseline and project can be demonstrated.
- It does not appear that the requirement to "take into account uncertainties in modeling and use verifiable assumptions" has been respected.

Some or all of the above comments may also apply to Equation 58 in Section 8.5.3.

Client Response: First point: Where is this requirement? The result counts for the project as a whole but the procedure must be followed for individual strata.

Second point: there are no leakage emissions.

Third point: Inserted 'at the 100-year mark' and 'over a period of 100 years'. This is covered in Eqs 9-12 anyhow.

Fourth point: See 9.1 - conservative!; Eq 1 amended.

Auditor Response: The Section 4.5.27 of the VCS AFOLU Requirements V3.2 states that "The maximum quantity of GHG emission reductions that may be claimed by the project shall not exceed the net GHG benefit generated by the project 100 years after its start date". The guidance does not refer to "areas within the project" or "strata within the project". The only way to assess whether the maximum quantity of GHG emission reductions that may be claimed by a given project may exceed the net GHG benefit generated by that project is to perform the required analysis at the scale of the project. To do otherwise does not conform to Section 4.5.27 of the VCS AFOLU Requirements.

In addition, the guidance text requires that "Projects unable to establish and demonstrate a significant difference in the net GHG benefit between the baseline and project for at least 100 years are not eligible." While the methodology developer asserts that "there are no leakage emissions", an NCR related to leakage remains outstanding. Therefore, this NCR must remain open until all findings related to leakage have been closed.

The third point of the NCR was that Section 5.2 allows eligibility if any difference, no matter how small, between leakage-adjusted project emissions and baseline emissions is projected at the 100-year mark, while the VCS AFOLU Requirements requires that a "significant difference in the net GHG benefit" of the project be demonstrated at the 100-year mark.

The procedure described in Section 5.2 of the proposed methodology does not provide any guidance to ensure that verifiable assumptions regarding the project and baseline scenario emissions are employed.

For the reasons outlined above, the NCR remains open.

Client Response 2: First point: Equation summing up strata included, replacing old equation 4; equations for depth placed after new equation.

Second point: See NCR 13.

Third point: Significance now defined as a difference of 5% or more between carbon stock in wps and bsl.

Fourth point: Rate, Depth, VC and GHG are defined in Ch 9. This is all verifiable information. Please clarify your point.

Auditor Response 2: The procedure has been revised such that the analysis is required to take place at the scale of the project rather than the individual stratum. In addition, a threshold for "significance" has been defined, in conformance with the VCS AFOLU Requirements. An NCR related to leakage remains open, but this NCR can be conditionally closed with the understanding that an additional NCR may be opened if a procedure for quantifying leakage is required by the VCS rules.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.9 dated 01-24-2012**Standard Reference:** VCS AFOLU Requirements V3.1, Sections 4.3.4 and 4.3.5**Document Reference:** proposed methodology (11/28/11), Section 5.2**Finding:** The proposed methodology states that "Channels and ditches that may cause CH₄ emissions only cover small areas and can be expected to close in the with-project scenario. Therefore, channels and ditches can be excluded from GHG accounting." So long as channels and ditches are located within the project area, they are located within the project boundary, and therefore cannot be excluded from accounting unless it can be demonstrated that emissions from these areas are de minimis (in accordance with Section 4.3.4 of the VCS AFOLU Requirements) or that they can be conservatively excluded (in accordance with Section 4.3.5 of the VCS AFOLU Requirements).**Client Response:** Text amended**Auditor Response:** The proposed methodology now reads "The area of channels and ditches must be quantified. However, CH₄ emissions from these channels and ditches in the with-project scenario will not increase and, therefore, CH₄ emissions from channels and ditches can be excluded from GHG accounting (Couwenberg et al., 2011)." This is not in conformance with the VCS AFOLU Requirements V3.2, Section 4.3.23, which specifically states "As transient peaks of CH₄ may arise after rewetting peatland, PRC rewetting methodologies shall include CH₄ emissions in the project boundary. The methodology shall establish the criteria and procedures by which the CH₄ source may be deemed de minimis (as set out in Section 4.3.3) or conservatively excluded (as set out in Section 4.3.4)."**Client Response 2:** Rephrased to read: "The area of channels and ditches must be quantified and treated as separate strata. CH₄ emissions from these channels and ditches will not increase in the with-project scenario compared to the baseline scenario (Couwenberg et al. 2011) and therefore, CH₄ emissions from these channels and ditches can be excluded from GHG accounting". We thus used 'peer reviewed literature' as requested in 4.3.4.**Auditor Response 2:** The cited Couwenberg et al. (2011) study does not unambiguously indicate that it is conservative to omit methane from GHG accounting. Figure 2 in that publication indicates that methane emissions may increase as mean annual water level approaches zero. Therefore, that publication is not sufficient to determine that methane may be conservatively excluded, in accordance with Section 4.3.4 of the VCS AFOLU Requirements.**Client Response 3:** For our understanding: is the new response of the auditor a clarification of the previous one? It now seems as if the proposed procedure in the methodology is accepted bar the fact that Couwenberg et al in their article draw the wrong conclusion.

That 'methane emissions increase as mean annual water level approaches zero' is true, but besides the point in case of ditches, where water level is always above the surface. Ditches are not prone to emission spikes after rewetting as these spikes are related to dying off of vegetation not adapted to high water levels; such non-adapted vegetation is per definition absent from ditches.

Citations from the article: "...ditches are expected to be overgrown after rewetting measures, which will substantially reduce emissions. Disregarding emissions from ditches thus means emission reductions are underestimated, which amounts to a conservative approach." And "In addition, conservative emission reduction estimates result from neglecting CH₄ emissions from ditches and N₂O emissions in general." This is in line with Section 4.3.4 of the AFOLU requirement ("conservative exclusion"). We think therefore that this article is a suitable and exact support for the procedure.**Auditor Response 3:** Section 4.3.4 of the VCS AFOLU Requirements does permit the use of peer-reviewed literature in the determination of whether CH₄ emissions may be conservatively excluded from the project boundary, and the study cited by the methodology is directly relevant to the scope of the methodology. Furthermore, the study referenced by the methodology does state the conclusion cited in the client's response, and the additional information provided in said response is sufficient to support the conclusions reached by the study. Therefore, this finding may be closed.**Closing Remarks:** The Client's response adequately addresses the finding.

NCR 2012.10 dated 01-24-2012

Standard Reference: VCS Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities, V1.0, Section 1.2(b)

Document Reference: proposed methodology (11/28/11), Section 6

Finding: Section 6 of the proposed methodology cites the use of the VCS Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities for determination of the most plausible baseline scenario. However, the outcome of the VCS Tool is the demonstration and assessment of assessment of additionality of a project, not the selection of the most plausible baseline scenario. In fact, the VCS Tool requires that "The use of this tool to determine additionality requires the baseline methodology to provide for a stepwise approach justifying the determination of the most plausible baseline scenario" (Section 1.2(b)) and "The baseline methodology that would use this tool shall provide for a stepwise approach justifying the selection and determination of the most plausible baseline scenario" (Section 2.2.3). The baseline methodology has not provided for a stepwise approach justifying the selection and determination of the most plausible baseline scenario. In addition, the VCS Standard requires that "The methodology shall establish criteria and procedures for identifying alternative baseline scenarios and determining the most plausible scenario, taking into account the following: (1) The identified GHG sources, sinks and reservoirs. (2) Existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project. (3) Data availability, reliability and limitations. (4) Other relevant information concerning present or future conditions, such as legislative, technical, economic, socio-cultural, environmental, geographic, site-specific and temporal assumptions or projections." The methodology has not established criteria and procedures for identifying alternative baseline scenarios and determining the most plausible scenario in accordance with the above requirements.

Client Response: Additional procedure for identification of the most plausible baseline scenario inserted in Ch 6.

Auditor Response: Sub-step 1c of the VCS Additionality Tool requires that "The baseline methodology that would use this tool shall provide for a stepwise approach justifying the selection and determination of the most plausible baseline scenario." Section 6 of the methodology then directs the user to go through one or more of the steps following sub-step 1c of the VCS Additionality Tool to determine the most plausible baseline scenario. This approach is strictly impossible for the user to implement, because it requires the user to complete steps that take place after sub-step 1c without first having implemented sub-step 1c. This creates a "circular reference" logical error. Therefore, the VCS Additionality Tool is not appropriately referenced by the methodology, and the NCR remains open.

Client Response 2: In Ch 7, Steps 2,3 and 4 are used for an assessment of the proposed project activity (not the baseline), to determine additionality. In Ch 6, procedures in the same steps are used for assessing which baseline scenario (not the project) is the most plausible one. We do not see how this leads to a circular reference. To avoid confusion, we have made small amendments to the text and added ""It is recommended to first apply the procedure for demonstrating additionality in Chapter 7, so that the list of potential baseline scenarios can be used in this section".

Auditor Response 2: The methodology continues to lack provision for a stepwise approach justifying the selection and determination of the most plausible baseline scenario. The procedure in Section 6.2 cannot be considered a stepwise approach. Furthermore, the VCS Additionality Tool does not appear to be appropriately referenced by the methodology. The intent of the VCS Additionality Tool is clearly that the methodology has its own procedure for determining the most plausible baseline scenario from the list of scenarios created as an outcome of sub-step 1b; the proposed methodology has not developed such a procedure. Finally, the statement "It is recommended to first apply the procedure for demonstrating additionality in Chapter 7, so that the list of potential baseline scenarios can be used in this section" creates a stronger potential for a circular reference error, as Section 7 of the proposed methodology (which requires the completion of the VCS Additionality Tool) cannot be completed until Chapter 6 of the proposed methodology (which must provide for a stepwise approach justifying the selection and determination of the most plausible baseline scenario) can be completed. Therefore, this finding must remain open.

In addition, the cited requirement of the VCS Standard has not been met. However, the assessor has determined to address the continued non-conformity to the requirement of the VCS Standard in a separate NCR 2011.56. Therefore, it will only be necessary to address the continued non-conformity to the VCS Additionality Tool in response to this finding.

Client Response 3: [The client responded indirectly to this finding by providing a revised version of the methodology.]

Auditor Response 3: The revised version of the methodology does not reference the VCS Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities. Therefore, this finding is no longer relevant and will be withdrawn.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.11 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.5.23(2)

Document Reference: proposed methodology (11/28/11), Section 9.3.4

Finding: The VCS AFOLU Requirements states that "The criteria and procedures for quantifying GHG emissions/removals in the baseline scenario shall... Estimate water levels or another justifiable proxy, as established in scientific literature, of GHG emissions projected throughout the project crediting period." The proposed methodology does not contain criteria and procedures for estimating water levels or another justifiable proxy of GHG emissions throughout the project crediting period. Section 9.3.4 of the proposed methodology does require that the methodology user "predict... for each stratum and for the entire Project Crediting Period, the development of GESTs over time by defining time series of GESTs, with time steps of e.g. 5 years to allow for the inherent discrete character of the GESTs." However, this does not constitute "criteria and procedures" for estimating a justifiable proxy of GHG emissions because the process for defining time series of GESTS is not described.

Client Response: Inserted text after 'Predict (ex ante)' in Section 9.3.4

Auditor Response: The proposed methodology now contains criteria and procedures for estimating "water levels or another justifiable proxy", as required by the VCS AFOLU Requirements.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.12 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Sections 5.3 and 5.4

Finding: The proposed methodology states "In addition, carbon pools may be deemed de minimis and do not have to be accounted for if together the omitted decrease in carbon stocks or increase in GHG emissions (Table 2) amounts to less than 5% of the total GHG benefit generated by the project" (Section 5.3) and "In addition, GHG sources may be deemed de minimis and do not have to be accounted for if together the omitted decrease in carbon stocks (Table 1) or increase in GHG emissions amounts to less than 5% of the total GHG benefit generated by the project" (Section 5.4). However, there is no Table 1 or Table 2 within the proposed methodology.

Client Response: Changed to 5.1 and 5.2

Auditor Response: Tables 1 and 2 have been re-named Tables 5.1 and 5.2, and are appropriately referenced throughout the proposed methodology.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.13 dated 01-24-2012**Standard Reference:** VCS AFOLU Requirements V3.1, Section 4.6.21**Document Reference:** proposed methodology (11/28/11), Section 8.4**Finding:** The VCS AFOLU Requirements states that "Where rewetting in the project area leads to higher water levels beyond the project boundary, the project shall be required to demonstrate that higher water levels caused by the project do not lead to increases in GHG emissions outside the project area. Otherwise, the affected areas shall be identified and the resulting leakage shall be quantified and accounted for in the GHG emissions."

The criteria and procedures of the proposed methodology do not guarantee that rewetting in the project area will not lead to higher water levels beyond the project boundary. The proposed methodology mentions that a buffer zone within the project boundary may be established, but does not lay out the criteria by which it can be guaranteed that a buffer zone will keep higher water levels from occurring beyond the project boundary. The proposed methodology must either ensure that ecological leakage will be avoided or provide a framework for quantifying and accounting for such leakage.

Client Response: A methodology can never guarantee such a thing. That is up to the project as it is a project design issue described in the PD. The applicability conditions state that ecological leakage may not occur. The project can choose to establish a buffer zone to avoid leakage and base the width of the buffer zone on quantitative hydrol. modelling or expert judgment. The project must justify all this in the PD. The procedure in 8.4 is pretty clear.

Auditor Response: The proposed methodology allows the user to avoid ecological leakage through the establishment of a dam or a buffer zone (the width of which "shall be determined on the basis of quantitative hydrological modeling, or expert judgment", but contains no criteria and procedures for monitoring areas outside the project boundary to ensure that the dam or buffer zone is actually effective in preventing leakage. As the methodology user is not required to monitor the extent to which rewetting in the project area leads to higher water levels beyond the project boundary, such ecological leakage could potentially go unnoticed and unreported. Therefore, the proposed methodology must establish criteria and procedures for monitoring potential ecological leakage.

Client Response 2: We added a procedure in Section 9.3.2

Auditor Response 2: As indicated, a procedure has been added to Section 9.3.2 for monitoring outside the project area to ensure the continued absence of ecological leakage. However, the first sentence of the procedure states that "The absence of water leakage to adjacent areas that may cause significant changes in water table depths in these areas (compared with the situation without the project intervention) can be demonstrated with water level gauges." It is not clear, from the use of the word "can" in the context of the sentence, whether or not the subsequent guidance is always required to be implemented. Therefore, the NCR remains open.

Client Response 3: We have changed the text to read "shall be demonstrated. This shall be done using water level gauges or vegetation assessments (see Section 9.3.4 for procedures), or a combination of these."

Additional procedures for using GESTs are inserted under a, b and c.

Auditor Response 3: Additional procedures have been added to Section 9.3.2 to resolve the nonconformity identified in this finding. However, additional discrepancies remain with respect to the monitoring of emissions from ecological leakage. Such discrepancies have required the issuance of additional findings.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.14 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.6.20

Document Reference: proposed methodology (11/28/11), Section 8.4

Finding: Section 4.6.20 of the VCS AFOLU Requirements states the "RDP projects involving rewetting of forested peatlands are likely to reduce the productivity of the forest or make harvesting more difficult, which could lead to fewer forest products and thus result in leakage (ie, GHG emissions from logging and/or drainage elsewhere). The requirements for leakage in REDD project activities shall be applied to deal with this type of leakage, accounting for both activity shifting and market leakage including, where applicable, the expected GHG emissions from drainage."

For RDP projects, involving rewetting of forested peatlands, the proposed methodology must apply the requirements of Sections 4.6.15 and 4.6.16 of the VCS AFOLU Requirements to demonstrate that activity shifting leakage and market leakage do not exist.

Client Response: 4.6.15: this is all addressed by stating there is no profitable forestry in the baseline. So there are no agents that extract timber from the forests in the baseline. 4.6.16: there is no illegal logging in the baseline.

Auditor Response: Section 4.6.16 of the VCS AFOLU Requirements only applies where there is illegal logging in the baseline, and as the proposed methodology does not allow the crediting of project activities to avoid illegal logging, it is not necessary to follow the guidance of that section. However, as Section 4.6.15 contains requirements for leakage in REDD project activities, it will be necessary for the proposed methodology to conform to the requirements of that section. The requirements of that section do not allow for leakage to be "assessed and managed" through the imposition of applicability conditions. Therefore, the NCR remains open.

Client Response 2: 4.6.20 mentions "which could lead to fewer forest products". The intent of this requirements is that if that is indeed the case, the REDD requirements must be followed. So there is a condition for applying this guidance or not. We argue that that under the applicability conditions there will be no fewer forest products. The REDD requirements therefore do not have to be applied here.

Auditor Response 2: Section 4(c) of the methodology indicates that the collection of firewood in the baseline scenario may occur. As firewood is considered a harvested forest product, the applicable REDD requirements do apply to the methodology. Therefore, the NCR remains open.

Client Response 3: Point taken but the firewood collection is for personal use, not commercial. We rephrased the applicability condition to read: "c. The collection of firewood for non-commercial use in the baseline scenario may occur but is conservatively not accounted for". And we added a 4th bullet point to the leakage procedure in Section 8.4: "- fuel wood extraction, the activity is non-commercial in nature".

Auditor Response 3: The proposed methodology now contains conditions that clearly limit the potential for activity shifting and market leakage attributable to project activities, and therefore the relevant requirements of the VCS AFOLU Requirements have been met and the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NIR 2012.15 dated 01-24-2012**Standard Reference:** VCS AFOLU Requirements V3.1, Section 4.6.20**Document Reference:** proposed methodology (11/28/11), Section 8.3

Finding: The VCS AFOLU Requirements states that "Methodologies for RDP projects explicitly addressing the frequency, intensity, and extent of anthropogenic peatland fires occurring in drained peatlands shall establish procedures for determining or conservatively estimating the baseline frequency and intensity of fire occurrence in the project area using defensible data (such as fire maps, historical databases on fires, and where appropriate, combined with temperature and precipitation data)." Please provide evidence to support the conservativeness of the following claim: "If in the baseline scenario at least 25% of the project area would burn at least once every 10 years and if rewetting and fire fighting in the project scenario would stop all C losses from microbial peat oxidation and all C losses from fire, the peat fire emission reduction would be 25% of the emission reduction from microbial peat oxidation." Please also justify why it is conservative to base the Fire Premium on cumulative area burned (allowing a given area to be counted twice) rather than total area burned).

Client Response: Conservativeness: Fire involves all kinds of GHG, we only take CO2 (first conservative step), $10/10\text{years}=1$, $1*25\%=25\%$. Instead of 25% we take 20% (second conservative step). This holds for each unit area burnt. Every time an area burns the same equation applies and thus the areas can be added up.

Auditor Response: The methodology developer has adequately responded to this NIR. However, upon review of the information provided in response to this NIR, it is the assessor's opinion that it is not conservative to base the fire premium on cumulative area burned. Therefore, NCR 2012.43 has been issued to the methodology developer.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.16 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.2.18(1)(c)

Document Reference: proposed methodology (11/28/11), Section 8.3

Finding: The VCS AFOLU Requirements states that "Rewetting projects may generate GHG credits from the reduction of GHG emissions associated with anthropogenic fires." While the VCS AFOLU Requirements only allows rewetting projects to generate GHG credits from the reduction of GHG emissions associated with anthropogenic fires, the "Fire Premium" approach awards credits on the basis of the total area burned during the fire reference period rather than restricting the scope of analysis to area burned by anthropogenic fires only.

Client Response: RDP projects are limited to drained areas, the premium is associated with rewetting. Drained areas are managed areas. The IPCC managed land proxy indicates that all emissions coming from managed land can be deemed anthropogenic. See: Revisiting the Use of Managed Land as a Proxy for Estimating National Anthropogenic Emissions and Removals, IPCC Expert Meeting Report, 5 -7 May, 2009, INPE, São José dos Campos, BRAZIL); moreover the size of the premium is not directly determined by fires, but by microbial oxidation.

Auditor Response: As far as the assessor is aware, the term "anthropogenic fire" refers strictly to fire that is ignited as a direct result of human activity, rather than to any fire that takes place in an environment that is in some way impacted by human activity (if the latter were the case, the vast majority of fires occurring on Earth could be termed "anthropogenic"). The interpretation of the term taken by the methodology developer is not consistent with the general usage of the term within the scientific community, and the approach taken by the methodology developer is likely to result in non-conservative crediting of individual projects. The NCR remains open.

Client Response 2: We follow the managed land proxy of IPCC, which *IS* the scientific community where emissions are concerned. The assessor's stance would thwart any project that wants to address fire emissions from Southeast Asian peatlands or from drained peatlands in European Russia, because these burn in association with droughts and are not strictly proven to be ignited on purpose.

Auditor Response 2: The NCR has not been adequately addressed, and remains open.

Client Response 3: Now adapted and in line with 4.2.19 of the VCS AFOLU requirements.

Auditor Response 3: This finding was made irrelevant by the release of the VCS AFOLU Requirements V3.3. Section 4.2.19(1)(b) of that document states "RWE projects may generate GHG credits from the reduction of GHG emissions associated with avoiding peat fires on drained or partially drained peatlands", and thus the qualifier of "anthropogenic" has been removed. Therefore the identified discrepancy has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.17 dated 01-24-2012**Standard Reference:** VCS AFOLU Requirements V3.1, Section 4.6.20**Document Reference:** proposed methodology (11/28/11), Section 8.3**Finding:** The VCS AFOLU Requirements states that "Methodologies for RDP projects explicitly addressing the frequency, intensity, and extent of anthropogenic peatland fires occurring in drained peatlands shall establish procedures for determining or conservatively estimating the baseline frequency and intensity of fire occurrence in the project area using defensible data (such as fire maps, historical databases on fires, and where appropriate, combined with temperature and precipitation data)." The VCS AFOLU Requirements mandates that the proposed methodology shall establish procedures for determining or conservatively estimating the baseline intensity of fire occurrence. However, the proposed methodology has not established such procedures, rather implicitly assuming that all fires burn at equivalent intensity.**Client Response:** 1) The studies referred to in the grey box do consider frequency, intensity and extent and the requirements allow for a default approach, which then obviously should simplify the assessment. 2) The proposed approach itself does NOT explicitly address frequency, intensity and extent; it is a default approach activated by fire extent exceeding a threshold.**Auditor Response:** If approved under the VCS, the proposed methodology would be a methodology "for RDP projects explicitly addressing the frequency, intensity, and extent of anthropogenic peatland fires occurring in drained peatlands", and therefore the proposed methodology must conform to the requirements of Section 4.5.32 of the VCS AFOLU Requirements. The proposed methodology has not established procedures for determining or conservatively estimating the baseline intensity of fire occurrence in the project area, rather assuming that all fires burn with equal intensity. Therefore, the NCR remains open.**Client Response 2:** This methodology is not for RDP projects explicitly addressing the frequency, intensity, and extent of anthropogenic peatland fires occurring in drained peatlands (our point 2). If you want to take requirement 4.5.32 literally, it does not apply to this methodology. The emission reductions are addressed by a default, which means they are taken as implicit when certain conditions are fulfilled.**Auditor Response 2:** The NCR has not been adequately addressed, and remains open.**Client Response 3:** Please elaborate how the NCR was not adequately addressed before. For one thing, the proposed premium is conservative by nature, which means that it adheres to the VCS requirement 4.5.32 of 'conservatively estimating the baseline intensity of fire occurrence in the project area'. Moreover, it is not explicitly addressing frequency, intensity and extent of anthropogenic peatland fires, meaning VCS requirement 4.5.32 actually does not apply. However, AFOLU v3.3 may have resolved this NCR with a different language for 4.5.34.**Auditor Response 3:** This finding was made irrelevant by the release of the VCS AFOLU Requirements V3.3. Section 4.5.34 of that document states "Methodologies for RWE projects on peatland explicitly addressing anthropogenic peatland fires occurring in drained peatlands shall establish procedures for determining or conservatively estimating the baseline emissions from peatland fire occurring in the project area using defensible data (such as fire maps, historical databases on fires, and where appropriate, combined with temperature and precipitation data)." As the specific requirement that procedures for estimating burn intensity be established has been removed from the updated VCS AFOLU Requirements document, the identified discrepancy has been resolved.**Closing Remarks:** The Client's response adequately addresses the finding.

NCR 2012.18 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.2.16

Document Reference: proposed methodology (11/28/11), Section 4

Finding: The VCS AFOLU Requirements states that "The project area shall meet an internationally accepted definition of peatland, such as from the IPCC, FAO, or those established in the scientific literature for specific countries or types of peatlands." The proposed methodology does contain a definition of peatland in Section 3, but does not contain a requirement that the project area meet an internationally accepted definition of peatland.

Client Response: We copied the definition from the VCS Program Definitions and in Chapter 4 we state: "The project area must meet the definition for peatland, as provided in Chapter 3."

Auditor Response: The proposed methodology has been modified to require that project areas meet the definition of peatland as set out in the VCS Program Definitions. Because the VCS definition for peatland requires that "an internationally accepted threshold (eg, host-country, FAO or IPCC) for the depth of the peat layer and the percentage of organic material composition" must be met, the requirement of the VCS AFOLU Requirements has been met.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.19 dated 01-24-2012

Standard Reference: VCS Standard V3.1, Section 4.5

Document Reference: proposed methodology (11/28/11), Section 8.1.2

Finding: The VCS Standard requires that "The methodology shall establish criteria and procedures for identifying alternative baseline scenarios and determining the most plausible scenario." The methodology has not established criteria and procedures for determining the most plausible baseline scenario with respect to tree growth.

Client Response: Inserted

Auditor Response: No substantive alteration of guidance with respect to the determination of the most plausible baseline scenario with respect to tree growth appears to have been made. Therefore, the NCR remains open.

Client Response 2: Additional procedure for identification of the most likely baseline scenario inserted in Ch 6. Together with Section 8.1.2 this fulfills the requirement.

Auditor Response 2: As set out in NCR 2011.10, Section 6 of the methodology does not provide sufficient criteria and procedures regarding the selection and determination of the most plausible baseline scenario. Therefore, this NCR remains open.

Client Response 3: See additions as per NCR No 10.

Auditor Response 3: Because several issues have merged into a single issue, the assessor has determined that it would be most helpful to close this NCR and open a new NCR (in the form of NCR 2011.56 to address the non-conformity.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.20 dated 01-24-2012**Standard Reference:** VCS Standard V3.1, Section 4.7**Document Reference:** proposed methodology (11/28/11), Section 8.3**Finding:** The VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." The Fire Premium approach does not fulfill the requirement that criteria and procedures be established separately for the project and baseline scenarios. Instead, it conflates the project and baseline scenarios by establishing a single approach that combines emissions due to peat oxidation in both the project and baseline scenarios, as Equation 44 demonstrates.

The methodology must establish separate approaches for quantifying GHG emissions due to peat burning in the baseline and project scenarios. These separate approaches must fulfill all applicable requirements of the VCS AFOLU Requirements and the VCS Standard.

Client Response: We argue that the proposed procedure does not undermine any of the VCS basic principles. There must be separate procedures rather than separate quantifications. We do not support the interpretation of the quoted requirement that in a wps procedure no bsl terms may occur. We should otherwise seek clarification from the VCS.**Auditor Response:** As requested by the client, and as allowed for by Section 3.5.3 of the Methodology Approval Process V3.4, this finding will be left open at this time, as it has not been possible to resolve it in a timely manner, due to a fundamental difference between the client and SCS regarding the manner in which the VCS Standard is to be interpreted. The decision to leave the finding open pending completion of the second assessment was supported by an email sent by Sam Hoffer of the VCSA, dated 24 April 2012, which states "... given that we seem to have reached a point where we cannot move forward with closing out these NCRs in a timely manner, I would recommend issuing a draft report that leaves these open and simply moving on to second assessment. In doing so, I will take responsibility for pointing out to the second assessor the issues that have been dealt with so far, along with the clarifications that have been issued by the VCS. Once we reach the conclusion of second assessment, we can revisit these issues during the report reconciliation process in light of the conclusions reached by the second assessor."**Client Response 2:****Auditor Response 2:****Closing Remarks:** This finding is left open at conclusion of the first assessment process, for the reasons stated above.

NCR 2012.21 dated 01-24-2012

Standard Reference: VCS Standard V3.1, Section 4.1; IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, Section 6.3

Document Reference: proposed methodology (11/28/11), Section 8.5.2

Finding: The VCS Standard states that "Methods used for estimating uncertainty shall be based on recognized statistical approaches such as those described in the IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories."

The IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, Section 6.3 states that Equation 6.3 is to be applied "Where uncertain quantities are to be combined by addition." However, Equation 56, which is used to quantify the total error in the RDP project activity, uses the equation form of Equation 6.4 to combine uncertainties. As the uncertain quantities (that is, the estimated emissions in the project and baseline scenarios) are combined by addition and not multiplication, the form of Equation 6.3 must be used to quantify the total error in the RDP project activity.

Client Response: This equation is used in various other approved methodologies and tools. If you have measured values for the quantities BSL and WPS, with uncertainties dDBS, dWPS, and your final result, NER, is the difference of these quantities, then the uncertainty dNER is as in Eq 56.

Auditor Response: The NCR has not been addressed, and therefore remains open.

Client Response 2: It has been addressed by explaining why the procedure is correct. This equation is used in various other approved methodologies and tools, which constitute 'recognized statistical approaches'.

Auditor Response 2: The NCR has not been adequately addressed, and remains open.

Client Response 3: Equation 56 adjusted.

Auditor Response 3: The equation has been modified so that the approach mandated by IPCC is adopted for quantification of uncertainty. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.22 dated 01-24-2012

Standard Reference: VCS Standard V3.1, Section 4.1

Document Reference: proposed methodology (11/28/11), Section 8.5.1

Finding: The VCS Standard states that "Where a methodology applies a 90 percent confidence interval and the width of the confidence interval exceeds 20%... an appropriate confidence deduction shall be applied." As is seen in Equation 51, the proposed methodology uses an uncertainty threshold of 10% rather than the prescribed uncertainty threshold of 20%. This is not in conformance with the requirements of the VCS Standard.

Client Response: Changed to 20%

Auditor Response: An uncertainty threshold of 20% is now clearly mandated in Section 8.5.1 of the proposed methodology. This is consistent with the guidance of Section 8.5.2, which requires that uncertainty be expressed as "90% confidence interval as a percentage of the mean where appropriate".

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.23 dated 01-24-2012

Standard Reference: VCS Standard V3.1, Section 4.1

Document Reference: proposed methodology (11/28/11), Section 8.5.2

Finding: The VCS Standard states that "Methodology elements shall be guided by the principles set out in Section 2.4. They shall clearly state the assumptions, parameters and procedures that have significant uncertainty, and describe how such uncertainty shall be addressed."

The proposed methodology states "Where uncertainty is not known it must be demonstrated that the value used is conservative."

Since it appears possible that the vast majority of emissions reductions and removals quantified by the proposed methodology will be based on non-sample data, for which uncertainty cannot be readily quantified, it is not adequate to simply indicate the the value used for such quantification must be conservative. Further guidance must be given to establish procedures and criteria for selecting conservative values. Alternatively, further guidance must be given regarding how uncertainty for values from literature sources and expert judgment can be quantified and incorporated into Equations 50-56 must be given.

Client Response: Is the 'vast majority' indeed based on non-sample data? GESTs and tree biomass are sampled. But then, the requirements ask for addressing uncertainties and allow for conservativeness to deal with uncertainty. This is what we do. Can you justify why the approach is "not adequate"? Procedure for GESTs: there may be uncertainty in identification so take the conservative 'GEST'; there may be uncertainty in EF: see matrix-approach and triangular cross-check between independent datasets in Hydrobiologia paper (i.e. uncertainty is addressed in peer-reviewed literature).

Auditor Response: Upon further review of the proposed methodology, it is the opinion of the assessor that Section 8.5.2 of the proposed methodology is in appropriate conformance with the requirements of the VCS Standard and with best practices among VCS methodologies, and this NCR is withdrawn.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.24 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Sections 8.5.1 and 8.5.2

Finding: The proposed methodology quantifies parameter $NER(RDP_ERROR)$ twice, in both Equations 50 and 56. This is redundant and confusing to the user.

Client Response: Eq 50 removed and text amended

Auditor Response: The proposed methodology now quantifies parameter $NER(RDP)$ only once, in Equation 50, with an uncertainty-adjusted version quantified in Equation 51. This should result in less confusion for the methodology user.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.25 dated 01-24-2012

Standard Reference: VCS Standard V3.1, Section 4.7

Document Reference: proposed methodology (11/28/11), Section 8.2.3.1

Finding: The VCS Standard requires that "The methodology shall establish criteria and procedures for quantifying GHG emissions and/or removals for the selected GHG sources, sinks and/or reservoirs, separately for the project (including leakage) and baseline scenarios." The "alternative procedure" described in Section 8.2.3.1 and Equation 49 conflates emissions in the project and baseline scenarios, and is therefore not in conformance with the stated requirement.

Client Response: See NCR 20. We argue that there must be separate procedures rather than separate quantifications plus that the alternative approach does not undermine basic VCS principles.

Auditor Response: As requested by the client, and as allowed for by Section 3.5.3 of the Methodology Approval Process V3.4, this finding will be left open at this time, as it has not been possible to resolve it in a timely manner, due to a fundamental difference between the client and SCS regarding the manner in which the VCS Standard is to be interpreted. The decision to leave the finding open pending completion of the second assessment was supported by an email sent by Sam Hoffer of the VCSA, dated 24 April 2012, which states "... given that we seem to have reached a point where we cannot move forward with closing out these NCRs in a timely manner, I would recommend issuing a draft report that leaves these open and simply moving on to second assessment. In doing so, I will take responsibility for pointing out to the second assessor the issues that have been dealt with so far, along with the clarifications that have been issued by the VCS. Once we reach the conclusion of second assessment, we can revisit these issues during the report reconciliation process in light of the conclusions reached by the second assessor."

Closing Remarks: This finding is left open at conclusion of the first assessment process, for the reasons stated above.

NCR 2012.26 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Sections 4.7.1 and 4.7.2

Document Reference: proposed methodology (11/28/11), Section 8.5.3

Finding: Section 4.7.1 of the VCS AFOLU Requirements states that "Methodologies shall also establish procedures for quantifying the net change in carbon stocks, so that the number of buffer credits withheld in the AFOLU pooled buffer account and market leakage emissions may be quantified for the project", and Section 4.7.2 describes an example for how this should be done. Equation 57 of the proposed methodology does not conform to the stated requirement. Although it is understood that the approach in Equation 57 may be more conservative (in terms of total VCUs issued), the requirement of the VCS AFOLU Requirements must be respected nonetheless.

Client Response: Procedure in 8.5.3 amended by referring to the NER_RDP as a proxy for changes in carbon stocks. After all, VCS and IPCC allow for the use of proxies and this avoids a complicated procedure for converting CO₂, CH₄ and fire emissions to carbon stock changes, while conservativeness is ensured.

Auditor Response: Section 8.5.3 of the methodology continues to not be in conformance with Section 4.7.1 and 4.7.2 of the VCS AFOLU Requirements.

The methodology continues to lack a procedure for quantifying the net change in carbon stocks. In addition, Section 4.7.2 does not permit the number of buffer credits withheld in the AFOLU pooled buffer account to be downwardly adjusted by the percent uncertainty (as quantified in parameter NER(RDP_ERROR)). Therefore, the NCR remains open.

Client Response 2: As to 4.7.1 we argue that the use of a proxy for carbon stock change is sufficient. Peatland methodologies not using carbon stock change but proxies for direct emissions should not be forced into an artificial construct just to translate results into carbon stocks. The AFOLU requirements are in this respect as to their language (not their intent) based on pre-PRC concepts and it would be good if the AFOLU requirement was interpreted with such flexibility.

As to 4.7.2 we have amended Part 3 of 8.5.3, and Equation 57 in line with procedures in VM0007 and module X-UNC.

Auditor Response 2: Section 4.1.8 of the VCS Standard, V3.3 (which was released subsequent to the issuance of this finding), states that "Where proxies are used, it shall be demonstrated that they are strongly correlated with the value of interest and that they can serve as an equivalent or better method (eg, in terms of reliability, consistency or practicality) to determine the value of interest than direct measurement of the value itself."

On the basis of the above, and given the arguments set out by the methodology development team, the assessor agrees that it may be appropriate to use the difference in CO₂ emissions between the baseline and project scenarios within the project area as a proxy for carbon stock change. However, the following non-conformities with respect to the VCS rules continue to be noted:

- The procedure set out in Section 8.5.1 deducts leakage emissions prior to quantification of the number of buffer credits. As careful study of Section 4.7.2 of the VCS AFOLU Requirements will confirm, leakage emissions must not be considered quantification of buffer credits.
- The procedure set out in Section 8.5.1 includes CH₄ emissions. While CO₂ emissions are a reasonable proxy for carbon stock change, as discussed above, an emission value that also includes CH₄ emissions does not conform to the criteria for a proxy, as set out above.
- While the layout of what is now Equation 60 has been modified, the equation continues to quantify the number of buffer credits as a function of the uncertainty-adjusted emission reductions. As previously indicated, the VCS AFOLU Requirements does not permit the deduction for uncertainty in quantifying the number of buffer credits, nor is it conservative to do so. Careful review of the VM0007 REDD-MF Methodology Framework, V1.2, will indicate that the VM0007 methodology does not use an uncertainty-deducted value in the quantification of buffer credits.

On the basis of the above discrepancies, the non-conformity must remain open.

Client Response 3: The first 2 bullet points have been addressed in an email exchange dated 5 and 10 July 2013. Based on the third bullet point and the email of 10 July, Equation 60 has been amended and is now deducting a buffer that is based on unadjusted NERs.

Auditor Response 3: This finding has been adequately addressed. If the applicability conditions of the methodology have been followed, there will be no leakage emissions, as agreed to in an email that was provided to the methodology developer in July 2013. In addition, the assessment team now agrees that, the net GHG emission reductions/removals, even including CH₄ methane emissions, are a reasonably proxy that is strongly correlated with the value of interest (carbon stock change) and represent a conservative quantitative approach, as the net GHG emission reductions/removals will always be greater than or equal to the carbon stock change. In response to the bullet point regarding uncertainty adjustment, the revised methodology has been updated to use the unadjusted GHG emission reductions/removals as the basis for the calculation of the buffer pool (see Equation 61). Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.27 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Sections 4 and 8.3

Finding: The proposed methodology states, as a applicability condition (d), "The burning of biomass within the project boundary in the with-project scenario does not occur. However, the methodology also explicitly allows for fire to occur in the project scenario, as laid out in Section 8.3. As a peat fire would almost certainly burn at least some biomass, it does not make sense to allow fire to occur but not allow biomass burning to occur. If the methodology developer wishes to exclude biomass burning as a GHG source, this should be laid out and justified within Sections 5.3 and 5.4 of the proposed methodology.

Client Response: Misunderstanding - biomass burning would be a project activity and is not allowed, burning peat is not a project activity and if it were it would not be allowed. Applicability conditions d and i amended.

Auditor Response: Applicability conditions d and i have been amended, as indicated, to clarify that biomass burning and peat burning are not allowed as a project activity, although they may occur within the project scenario. The proposed methodology is sufficiently clear on this point that this NCR can be closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.28 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.5.23(1)

Document Reference: proposed methodology (11/28/11)

Finding: In describing the peat depletion time (PDT), the VCS AFOLU Requirements states that "No GHG emissions reductions may be claimed for a given area of peatland for longer than the time it would have taken for the peat to be completely lost under baseline conditions." While the proposed methodology does establish procedures and criteria for estimation of the peat depletion time, the proposed methodology does not contain a mechanism for constraining the VCUs issued to a project on the basis of a PDT that is less than 100 years for a given stratum.

Client Response: Inserted a statement under equations 25 and 39.

Auditor Response: Formulae have been inserted under Equations 25 and 39, and these formulae now constitute an adequate mechanism for constraining the VCUs issued to a project on the basis of a PDT that is less than 100 years for a given stratum.

Client Response 2: THUS CLOSED?

Auditor Response 2: The NCR had been adequately resolved, and should have been closed on the last iteration. It is now closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.29 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Equations 2 and 3

Finding: Equations 2 and 3 of the proposed methodology calculate the peat depth at t=100 for the baseline and project scenarios as the difference between the peat depth at t=0 and the cumulative peat subsidence rate from t=0 to t=100. However, so doing actually deducts the peat subsidence rate for 101 years instead of 100 years, leading to an incorrect value. Equations 8-9 and 10-11 appropriately sum from t=1 to t=100.

Client Response: In Eqs 2 and 3: t=0 changed into t=1

Auditor Response: Equations 2 and 3 now appropriately sum from t=1 to 100.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.30 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11)

Finding: Throughout the proposed methodology, parameters GHG(drained,i,t) and GHG(rewetter,i,t) are defined as "Greenhouse gas emissions from soil, lower ground vegetation and litter within the project boundary" in the baseline and project scenarios, respectively, in stratum i at year t. This definition is not consistent with Section 5.3 of the proposed methodology, where the "above-ground non-tree biomass" and "litter" carbon pools are excluded from the project boundary.

Client Response: Table 5.1 amended

Auditor Response: Table 5.1 now indicates that both the above-ground non-tree and litter carbon pools are included in the project boundary, and therefore the discrepancy has been reconciled.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.31 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.2.3

Document Reference: proposed methodology (11/28/11), Section 8.2.2

Finding: Table 2 of the VCS AFOLU Requirements states that the "below-ground biomass" pool is optional for RDP projects. For optional pools, Table 2 states that "Where the pool is included in the methodology, the methodology shall establish criteria and procedures to set out when a project proponent shall or may include the pool." This requirement has not been fulfilled. Section 8.2.2 of the proposed methodology does state "Accounting for below-ground tree biomass in the with-project scenario may be conservatively omitted." However, this guidance is vague and does not constitute the "criteria and procedures" that are required. In addition, this guidance is in the wrong place, as Section 5.3 is the appropriate place for it.

Client Response: Added to the justification for B/G biomass:

Tree vegetation in the baseline scenario: must be included.

Tree vegetation in the with-project scenario: may be included or conservatively omitted.

Lower (herb) vegetation: included in the NEE (or NEP).

Auditor Response: Section 5.1 now contains criteria and procedures to set out when a project proponent shall or may include the belowground biomass carbon pool, and therefore the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.32 dated 01-24-2012

Standard Reference: VCS AFOLU Requirements V3.1, Section 4.2.3

Document Reference: proposed methodology (11/28/11), Section 8.2.2

Finding: The proposed methodology states "Not accounting for non-peat carbon pools in the with-project scenario is conservative." In context, this language could lead the methodology user to believe that it is acceptable not to include non-peat carbon pools within the project boundary in the with-project scenario. However, above-ground tree biomass is a mandatory pool for RDP projects. Please revise the cited language.

Client Response: Disagree. The principle remains that not accounting for carbon pools in the wps is conservative. The pool remains in the project boundary as it is accounted for in the bsl.

Auditor Response: The NCR has not been addressed, and therefore remains open.

Client Response 2: This literal interpretation of the requirements leads to an unnecessary procedure in the methodology. This is because it is undoubtedly conservative not to account for biomass carbon stocks in the with-project scenario in a PRC project activity focussing on emission reductions from peat rewetting. We cannot think of criteria to be applied, since the statement in the methodology is always true. We have amended the text to read: "Carbon stocks in tree biomass in the with-project scenario do not have to be accounted for if their exclusion leads to conservative estimates of the total GHG emission reductions or removals generated. This is always the case in RDP project activities." The last part is the criterion.

Auditor Response 2: The methodology now contains criteria and procedures by which the above-ground tree biomass pool may be conservatively omitted, and this NCR may be closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.33 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Equation 20

Finding: Equation 20 computes the product of parameters $A(i,t)$, $G(j,i,t)$ and $CF(j)$. The inclusion of parameter $A(i,t)$ in this equation is logically inconsistent with the stated units of the product, as well as the fact that carbon stock change on a per-hectare basis is already multiplied by parameter $A(i,t)$ in Equation 15.

Client Response: Removed A from Eq 20

Auditor Response: Parameter $A(i,t)$ has been removed from Equation 20, and therefore the units of parameter $ChangeC(G,j,i,t)$ are now consistent with the context of Equation 20.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.34 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Equation 23

Finding: Equation 23 includes parameter $A(i,t)$. The inclusion of parameter $A(i,t)$ in this equation is logically inconsistent with the stated units of parameter $ChangeC(BSL-tree-AB,j,i,t)$, as well as the fact that carbon stock change on a per-hectare basis is already multiplied by parameter $A(i,t)$ in Equation 15.

Client Response: Removed A from Eq 23

Auditor Response: Parameter $ChangeC(BSL-tree-AB,j,i,t)$ is now appropriately quantified on a per-hectare basis in Equation 23.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.35 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Section 8.2.2

Finding: The proposed methodology lacks a link between parameter ChangeC(WPS-NP,i,t) and parameter ChangeC(WPS-tree-AB,j,l,t).

Client Response: Equation inserted in 8.2.2 above Eq 29

Auditor Response: The proposed methodology now contains a link between parameters ChangeC(WPS-NP,i,t) and ChangeC(WPS-biomass,i,t).

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.36 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Section 8.2.2

Finding: The proposed methodology makes numerous references to "permanent sample plots" but does not provide any procedures or criteria regarding the establishment and maintenance of such plots.

Client Response: Inserted in Section 9.3.3

Auditor Response: The proposed methodology has now established criteria and procedures for establishing permanent sample plots.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.37 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Sections 5.2 and Section 9.3.4

Finding: The proposed methodology requires "adequate" spatial resolution in Section 5.2 and "high" spatial resolution in Section 9.3.4, but these terms are not strictly defined, and therefore cannot be audited against by a third party.

Client Response: Inserted in Section 9.3.4

Auditor Response: Section 9.3.4 of the proposed methodology now contains explicit guidance regarding spatial resolution that can be audited against by a third party. However, Section 5.2 continues to lack an explicit definition of "adequate" spatial resolution.

Client Response 2: We have removed "with adequate spatial resolution". No quality requirements are attached to other map sources.

Auditor Response 2: As indicated, the requirement of "adequate spatial resolution" has been removed from Section 5.2 of the proposed methodology. The omission of specific quality requirements in this case does not constitute a nonconformance to any of the VCS rules. The requirement to provide spatial information for the project boundary is handled in Section 3.11.1(3) of the VCS Standard, and, if certain spatial requirements were deemed to be important by the VCS Program, these requirements could be set out within the VCS Standard. It is not incumbent upon an individual methodology to contain requirements regarding the quality of spatial data for the project boundary. Therefore, the NCR may be closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.38 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Section 9.3.4

Finding: The proposed methodology does not include guidelines for accuracy assessment of the remote sensing classification described in Section 9.3.4. This is not in conformance with good practice guidelines for remote sensing.

Client Response: Inserted in Section 9.3.4

Auditor Response: Section 9.3.4 of the proposed methodology now contains guidelines for accuracy assessment of the remote sensing classification.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.39 dated 01-24-2012

Standard Reference: VCS Standard V3.1, Section 4.8.2

Document Reference: proposed methodology (11/28/11), Section 9.3.4

Finding: The VCS Standard requires that "The methodology shall establish criteria and procedures for monitoring, which shall cover the following:

- 1) Purpose of monitoring.
- 2) Monitoring procedures, including estimation, modeling, measurement or calculation approaches.
- 3) Procedures for managing data quality
- 4) Monitoring frequency and measurement procedures."

The methodology has not established the purpose of monitoring. Procedures for managing data quality have not been established. Some guidance is made with respect to monitoring frequency at the end of Section 9.3.4; however, this is in the form of a recommendation rather than the establishment of procedures and criteria.

Client Response: The methodology has not established the purpose of monitoring: Inserted Procedures for managing data quality have not been established: This is covered in Section 9.3.1, taken from VM0005. Some text added from VM0009

Monitoring frequency: text inserted in 9.3.3 and 9.3.4

Auditor Response: The proposed methodology has now established criteria and procedures for monitoring in conformance with Section 4.8.2 of the VCS Standard.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.40 dated 01-24-2012

Standard Reference: NA

Document Reference: proposed methodology (11/28/11), Section 9.3.4

Finding: It is unclear whether water level is required to be measured in all cases, or only in the case where the GEST approach cannot be applied.

Client Response: If vegetation GEST cannot be applied, then WL MUST be used, otherwise, WL CAN be used instead of GEST (actually WL is a type of GES, just not using vegetation but WL as the relevant site parameter). So, what is the problem with the current text (For areas for which the vegetation composition does not provide a clear indication of GHG emissions (bare peat, transient phases of vegetation development after rewetting) water level measurements shall be used as additional input to assess GHG fluxes. However, project proponents may also opt to choose water level as a proxy for the entire project area.)

Auditor Response: Multiple lines of Section 9.3.4 refer to the use of water level data in determination of GESTs. For example:

"Develop regression models between GHG fluxes and mean annual water level..."

"In case a distinguished vegetation type does not have sufficient similarity with vegetation described in GHG literature, use the mean annual water level data and the regression models..."

Therefore, it is unclear whether water level is required to be measured in all cases, or only in the case where the GEST approach cannot be applied. The NCR remains open.

Client Response 2: WT must not be measured in all cases. GESTs are defined based on meta-analysis of available flux data with data on site parameters, including WT; this meta-analysis of available data does not require WT measurement by the project proponent. GESTs provide a link between site characteristics and GHG fluxes; a GEST (GHG Emission Site Type) is a site characterization that is used as a proxy for GHG fluxes. As vegetation integrates many site parameters, it is the proxy of choice. If vegetation is absent, or if preferred by the proponent, WT can be used as an alternative proxy. If WT is used as proxy then that entails that WT is measured. Small tweaks are made to the text.

Auditor Response 2: The modifications to the text are helpful in allowing the user to fully understand the requirements of the methodology. The NCR can be closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.41 dated 03-21-2012

Standard Reference: VCS AFOLU Requirements V3.2, Section 4.3.1

Document Reference: proposed methodology (03/07/12), Section 5.3

Finding: The VCS AFOLU Requirements indicates that the above-ground non-tree biomass pool in PRC projects "is optional and may be excluded from the project boundary. Where the pool is included in the methodology, the methodology shall establish criteria and procedures to set out when a project proponent shall or may include the pool." The proposed methodology has not established criteria and procedures to set out when a project proponent shall or may include this pool.

Client Response: New text in Table 5.2 including a criterion for inclusion of lower vegetation: "This pool is optional (VCS AFOLU Requirements v3.2). This pool is only included if GESTs are based on vegetation cover. In such cases, changes in lower vegetation are included in the estimates of NEE (or NEP) represented by GESTs."

Auditor Response: The methodology now contains criteria and procedures to set out when a project proponent shall or may include the above-ground non-tree biomass pool, as required.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.42 dated 03-21-2012

Standard Reference: VCS Standard V3.2, Sections 4.1.4 and 2.4.1

Document Reference: proposed methodology (03/07/12), Section 9.3.3

Finding: Section 4.1.4 of the VCS Standard requires that "Methodology elements shall be guided by the principles set out in Section 2.4.1." Section 2.4.1 of the VCS Standard requires that bias and uncertainties be reduced as far as is practical.

The proposed methodology states "To avoid subjective choice of plot locations, the permanent sample plots shall be located either systematically with a random start or completely randomly inside each defined stratum... Remote areas and areas with poor accessibility may be excluded for the location of sampling plots, using a transparent and conservative procedure, such as creating a zone along roads, paths or navigable rivers that may be used for reaching the sampling plots." The first sentence quoted is not consistent with the second sentence, as a random or systematic-with-a-random-start location scheme is not consistent with the systematic exclusion of portions of the project area. In addition, the second quoted sentence violates the principle of accuracy in Section 2.4.1 of the VCS Standard. The systematic exclusion of some portions of the project area will result in a biased sample. While section 2.4.1 of the VCS Standard indicates that "conservativeness may serve as a moderator to accuracy", there is no guarantee that such bias will result in conservative crediting of projects. The suggested procedure of "creating a zone along roads, paths or navigable rivers that may be used for reaching the sampling plots" certainly does not guarantee conservative crediting of projects.

Client Response: The Standard states: "Reduce bias and uncertainties as far as is practical." This changes this principle of accuracy from absolute to relative and if correctly interpreted it allows for some bias and uncertainty. In case of peatlands one has to consider practical solutions concerning the accessibility of random sample plots. We amended the text to remove the inconsistency, by adding "However, remote areas and areas with poor accessibility may be excluded for the location of sampling plots. Such areas must be mapped as separate strata and for these strata accounting of carbon stocks in tree biomass in the with-project scenario is conservatively omitted (Section 8.2.2).".

Auditor Response: The methodology now contains a mechanism to ensure conservative estimates of GHG emission reductions and removals from non-peat carbon pools in the case that some areas cannot be easily sampled. Therefore, the NCR can be closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.43 dated 03-21-2012

Standard Reference: VCS Standard V3.2, Sections 4.1.4 and 2.4.1

Document Reference: proposed methodology (03/07/12), Section 8.3

Finding: Section 4.1.4 of the VCS Standard requires that "Methodology elements shall be guided by the principles set out in Section 2.4.1." Section 2.4.1 of the VCS Standard requires the use of "conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated".

The proposed methodology requires the methodology user to consider the cumulative area of peat burned "over the 10-year period ending 5 years before the project start date". The number of emission reductions and removals that can be claimed by the project due to the reduction of GHG emissions associated with anthropogenic fires is then a function of the cumulative area peat burned. By requiring the user to consider the cumulative area of peat burned, the proposed methodology allows areas that have been burned multiple times to be "double-counted" in the determination of the "Fire Reduction Premium". It is the assessor's opinion that to base the "Fire Reduction Premium" on cumulative area burned, rather than total area burned, is not in conformance with the VCS requirement to employ "conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated".

Client Response: This is not a matter of 'double counting'. Each time a peat area burns the fire scar deepens. Thus, an area adds to the cumulative area burnt each time it burns again.

Auditor Response: The NCR has not been adequately addressed, and therefore remains open.

Client Response 2: Maximum count in cumulatively burnt areas is now limited to 3.

Auditor Response 2: The audit team accepts that consecutive burns over the same area will likely deepen existing fire scars and result in increased emissions. The modified procedure places conservative bounds on the accounting of fire in the baseline scenario and limits the potential for double-counting. Therefore, the identified non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.44 dated 03-21-2012

Standard Reference: VCS Methodology Template V3.1, introductory text

Document Reference: proposed methodology (03/07/12), Equation 1

Finding: The VCS Methodology Template requires that "All sections must be completed using Arial 10pt, black, regular (non-italic) font". However, Equation 1 of the proposed methodology contains yellow highlighting. This is not in conformance with the requirement of the VCS Methodology Template.

Client Response: Highlight removed.

Auditor Response: The highlighting has been removed, and therefore this NCR can be closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.45 dated 05-16-2012

Standard Reference: NA

Document Reference: proposed methodology (05/09/12), Equations 5 and 6

Finding: This NCR is a repeat of NCR 2011.29.

Equations 5 and 6 of the proposed methodology calculate the peat depth at $t=100$ for the baseline and project scenarios as the difference between the peat depth at $t=0$ and the cumulative peat subsidence rate from $t=0$ to $t=100$. However, so doing actually deducts the peat subsidence rate for 101 years instead of 100 years, leading to an incorrect value.

Client Response: Equations 5 and 6 adjusted.

Auditor Response: No change has been made to Equations 5 and 6 as compared to the version of the proposed methodology that was previously submitted, and therefore this finding must remain open.

Client Response 2: The edits must have been undone somehow. I adjusted the equations again, using $t=1$.

Auditor Response 2: As indicated, Equations 5 and 6 have been corrected so that they sum over 100 years, rather than 101 years. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.46 dated 11-30-2012

Standard Reference: VCS Validation and Verification Manual V3.0, page 46

Document Reference: proposed methodology (11/6/12), Section 5.1

Finding: The VCS Validation and Verification Manual requires that "Methodologies must not restate VCS requirements". For example, VCS requirements on project crediting period should not be included in the methodology. The restating of VCS requirements regarding the project crediting period and project start date in Section 5.1 of the proposed methodology does not comply with the above requirement.

Client Response: Removed

Auditor Response: As indicated in the Client Response section, the specific instances of restatement of the VCS Rules that were noted in the text of the finding have been removed, and therefore the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.47 dated 11-30-2012

Standard Reference: VCS Validation and Verification Manual V3.0, page 46

Document Reference: proposed methodology (11/6/12), throughout

Finding: The VCS Validation and Verification Manual requires that "References to specific tools or VCS Program documents must not state specific versions but rather refer to the most recent version of the tool or document." The manner in which the VCS AFOLU Requirements document is referenced on pages 1, 4, 6, 12, 13, 14, 15 and 24 of the proposed methodology is not consistent with the above requirement. The manner in which the VCS Program Definitions document is referenced on pages 4 and 37 of the proposed methodology is not consistent with the above requirement.

Client Response: We had a discussion about this with VCS (Sam Hoffer) prior to delivery of the methodology to the first validator. We can refer to the latest version, but, in certain cases if definitions or requirements change this might affect the methodology as a whole. An approved methodology is always associated with the then valid version of requirements. Sam suggested to leave as is. We've now removed all references because referring to the latest version may not be correct either.

Auditor Response: As all references to the AFOLU Requirements have been removed from the methodology, this finding is no longer relevant and can be closed.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.48 dated 11-30-2012

Standard Reference: VCS AFOLU Requirements V3.3, Section 4.5.25(1)(a)

Document Reference: proposed methodology (11/6/12), throughout

Finding: The VCS AFOLU Requirements requires that "The PDT is considered part of the baseline and thus shall be reassessed with the baseline in accordance with Section 3.1.10." The proposed methodology states that " The PDT for a stratum in the baseline scenario ... is... estimated at the Project Start Date..." The text quoted above does not acknowledge that the peat depletion time must be reassessed at each time in which the baseline is required to be reassessed. Furthermore, the proposed methodology does not contain criteria and procedures to reassess the peat depletion time at each time in which the baseline is required to be reassessed.

Client Response: Text added to Section 6.2

Auditor Response: As indicated in the Client Response section, a new procedure has been added to Section 6.2 for re-assessment of the Peat Depletion Time. This procedure states that "The project proponent shall, for the duration of the project, re-determine the Peat Depletion Time every 10 years. This reassessment shall use the procedure provided in Section 5.1." However, this language is not consistent with the requirement of Section 5.1 that the Peat Depletion Time is "per stratum i, estimated at the Project Start Date" in accordance with Equation 1. While Section 6.2 appropriately points to Section 5.1, the procedures of Section 5.1 are not written in such a way that it is clear how they are to be applied at baseline re-assessment. Therefore, the non-conformity has not been resolved.

Client Response 2: To "estimated at the Project Start Date" in Section 5.1 under PDT we have now added "and at each reassessment of the baseline scenario as outlined in Section 6.2".

Auditor Response 2: As indicated in the Client Response, Section 5.1 has been revised to indicate that the peat depletion time must be assessed each time the baseline scenario is reassessed, and the guidance of Section 6.2 has been invoked for this purpose. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.49 dated 11-30-2012

Standard Reference: VCS AFOLU Requirements V3.3, Section 4.4.10

Document Reference: proposed methodology (11/6/12), Section 6.1

Finding: The VCS AFOLU Requirements states that "The criteria and procedures for identifying alternative RWE baseline scenarios shall take into account the following: 1) The current and historic hydrological characteristics of the watershed or coastal plain, and the drainage system in which the project occurs. 2) The long-term average climate variables influencing water table depths and the timing and quantity of water flow. The long-term average climate variables shall be determined using data from climate stations that are representative of the project area and shall include at least 20 years of data. 3) Planned water management activities (such as dam construction)."

The proposed methodology does not contain any criteria and procedures to indicate how the information required for consideration above is to be taken into account in the identification of alternative baseline scenarios. A requirement that such accounting be done "on the basis of expert judgment" does not constitute the criteria and procedures required by the VCS AFOLU Requirements.

Client Response: This procedure is now shifted to Section 8.1.2.1 in anticipation of the new AFOLU requirements (Sept/Oct 2013) where the reference to alternative baseline scenarios is likely to be removed. The requirement will then apply only to the GHG quantification in selected baseline scenario. We suggest to keep this NCR open as suggested by the VCS and as discussed in email.

In point 1 there is additional guidance on how to deal with the drainage layout.

Auditor Response: Since the issuance of this finding, a new version (V3.4) of the VCS AFOLU Requirements was released. In the new version, "criteria and procedures for identifying alternative RWE baseline scenarios" has been replaced with "criteria and procedures for establishing the RWE baseline scenario". Thus, the language in the finding relating to "alternative RWE baseline scenarios" is no longer relevant.

The revised methodology does contain criteria and procedures for establishing the RWE baseline scenario that take into account the information required by the VCS AFOLU Requirements. Specific guidance is provided regarding how "The current and historic hydrological characteristics of the watershed or coastal plain, and the drainage system in which the project occurs" and "The long-term average climate variables influencing water table depths and the timing and quantity of water flow" is to be considered in determining the baseline scenario. In addition, Section 9.3.3 of the methodology (which was added subsequent to the issuance of this finding) provides guidance for the provision of expert judgment. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.50 dated 11-30-2012

Standard Reference: VCS AFOLU Requirements V3.3, Section 4.4.11(1)

Document Reference: proposed methodology (11/6/12), Section 6.1

Finding: The VCS AFOLU Requirements requires that "The criteria and procedures for identifying alternative RWE baseline scenarios shall also consider the relevant non-human induced rewetting brought about by... Collapsing dikes or ditches that would have naturally failed over time without their continued maintenance."

The proposed methodology does not contain any criteria and procedures to indicate how non-human induced rewetting is to be considered in the identification of alternative RWE scenarios. The proposed methodology does state "In case of abandonment of pre-project land use in the baseline scenario, alternative baseline scenarios shall also consider - based on expert judgment taking account of verifiable local experience and/or studies and/or scientific literature and in a conservative way - non-human induced rewetting brought about by collapsing dikes or ditches that would have naturally closed over time, and progressive subsidence, leading to raising relative water levels, increasingly thinner aerobic layers and reduced CO2 emission rates." However, such does not constitute the specific criteria and procedures required by the VCS AFOLU Requirements.

Client Response: This procedure is now shifted to Section 8.1.2.1 and 8.1.3.1 in anticipation of the new AFOLU requirements (Sept/Oct 2013) where the reference to alternative baseline scenarios is likely to be removed. The requirement will then apply only to the GHG quantification in selected baseline scenario. We suggest to keep this NCR open as suggested by the VCS and as discussed in email.

In point 2 in 8.1.3.1 there is in fact guidance coming with the reference to expert judgement: "...leading to raising relative water levels, increasingly thinner aerobic layers and reduced CO2 emission rates. Unless alternative evidence is provided, annual subsidence (as derived from subsidence - water table observations or models) shall be assumed to result in a 1:1 proportional rise the water table relative to the surface in the area between ditches."

Moreover, additional procedures for the use of expert judgement have been added in Section 9.3.2 Expert judgment:

"Expert judgment on methodological choice and choice of input data and to fill gaps in the available data, to select data from a range of possible values or on uncertainty ranges is well established in the IPCC 2006 good practice guidance. Obtaining well-informed judgments from domain experts regarding best estimates and uncertainties of inputs to the quantification of emission reductions is an important aspect in various procedures throughout this methodology. Project proponents shall use the guidance provided in Chapter 2, Volume 1 (Approaches to Data Collection), in particular, Section 2.2 and Annex 2A.1 of the IPCC 2006 Guidelines for National Greenhouse Gas Inventories."

Auditor Response: Since the issuance of this finding, a new version (V3.4) of the VCS AFOLU Requirements was released. In the new version, "criteria and procedures for identifying alternative RWE baseline scenarios" has been replaced with "criteria and procedures for establishing the RWE baseline scenario". In addition, Section 9.3.3 of the methodology (which was added subsequent to the issuance of this finding) provides guidance for the provision of expert judgment. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.51 dated 11-30-2012**Standard Reference:** VCS AFOLU Requirements V3.3, Section 4.5.29**Document Reference:** proposed methodology (11/6/12), Section 5.2**Finding:** The VCS AFOLU Requirements states that "Projects with a PDT or SDT in the project scenario of less than 100 years or unable to establish and demonstrate a significant difference in the net GHG benefit between the baseline and project for at least 100 years are not eligible for crediting of the soil carbon pool." While the proposed methodology does contain procedures to establish and demonstrate a significant difference in the net GHG benefit between the baseline and project for at least 100 years, the proposed methodology does not contain procedures to establish that the peat depletion time (PDT) in the project scenario is less than 100 years.**Client Response:** As it turns out there were 2 conflicting additions to the 3.3 requirements. The addition to 4.5.25 is essential as it improves the definition of PDT. With this amendment, the amendment to 4.5.29 ('with a PDT or SDT in the project scenario of less than 100 years or') should have been dropped. This is because if a rewetting project elevates the soil water depth, the PDT in the with-project scenario is reduced (should in fact not be applied to the project scenario) as a result and is likely to be less than 100 years, even zero. Only in case PDT is associated with a complete loss of peat does the current requirement in 4.5.29 work properly. We notified VCS and this resulted in the VCB Board issuing a letter providing new language for the said requirement.**Auditor Response:** On 20 June 2013, the assessment team received a letter from the VCSA indicating that a forthcoming modification to the AFOLU Requirements would remove the language "...with a PDT or SDT in the project scenario of less than 100 years..." from the last sentence of Section 4.5.29 of the AFOLU Requirements. As the AFOLU Requirements will be revised to remove the language against which there is currently a non-conformity, the non-conformity has been resolved.**Closing Remarks:** The Client's response adequately addresses the finding.

NCR 2012.52 dated 11-30-2012**Standard Reference:** VCS AFOLU Requirements V3.3, Section 4.5.29**Document Reference:** proposed methodology (11/6/12), pages 9-11**Finding:** The VCS AFOLU Requirements states that "With respect to the soil carbon pool, the maximum quantity of GHG emission reductions that may be claimed by the project shall not exceed the net GHG benefit generated by the project 100 years after its start date... To determine this long-term net GHG benefit, projects shall estimate the remaining soil carbon stock adjusted for any project emissions and leakage emissions in both the baseline and project scenarios at the 100-year mark, taking into account uncertainties in modeling and using verifiable assumptions."

The proposed methodology contains procedures for the above, and in all cases requires "conservative" values. However, the term conservative has a different meaning in different contexts, and the methodology lacks consistency in interpretation of the term.

On page 9 of the methodology, in description of the "total stock approach", it is stated that "a conservative (high) value may be applied" for parameter $\text{Rate}(\text{peatloss-BSL},i,t)$, while "a conservative (low) value may be applied" for parameter $\text{Rate}(\text{peatloss-WPS},i,t)$. However, on page 10 of the methodology, in description of the "stock loss approach", it is stated that "a conservative (low) value may be applied" for parameter $\text{Rate}(\text{peatloss-BSL},i,t)$, while "a conservative (high) value may be applied" for parameter $\text{Rate}(\text{peatloss-WPS},i,t)$.

In addition to the inconsistency noted above, it appears that the meaning of the term "consistent", as applied to the rate of peat loss in the baseline, differs depending on whether the peat depletion time in the baseline is calculated (in which case a higher depletion rate in the baseline is more conservative) or the GHG emission reductions at the 100-year mark are calculated (in which case a lower depletion rate in the baseline is more conservative). However, the procedures of the methodology do not differentiate between the above contexts, thus leading to a potential for confusion and the inclusion of values that are actually not conservative in terms of a given application.

Client Response: We swapped high and low in the Total stock approach to make this consistent. A lower value for Rate_peatloss_bsl now gives a lower value for C_wps-bsl . In addition, we added to the table in Section 9.1 a note that the procedures for PDT and $t=100$ require different values for Rate_peatloss if conservative values are used, rather than one value with an uncertainty attached to it.

Auditor Response: As indicated in the Client Response section, the descriptions of the parameters in question have been appropriately modified, in several locations, to clarify the meaning of "conservative" in the given context. However, Section 5.2 states that "The procedure assumes a variable rate of peat loss in the baseline and with-project scenarios, or, alternatively, a conservative (high) value that remains constant over time, based on expert judgment, datasets and/or literature (see Section 9.1)." The option to use "a conservative (high) value that remains constant over time" may be confusing to the user, given that a conservative value may be high or low, depending on whether the project or baseline scenario is being referred to. Also, while it is helpful that a clarifying note has been added to the parameter table for parameter $\text{Rate}(\text{peatloss-BSL},i)$, the note only references "Equations 1 and 5" and thus omits any reference to the "stock loss approach". Therefore, the finding remains open.

Client Response 2: The word "high" in "or, alternatively, a conservative – high – value" is now replaced with "as explained in footnote 9" and footnote 9 reads "Note that the use of a relatively low value for a constant rate of peat loss may not be confused with a relatively high value when determining the need for stratification of peat depth (p7)".

Auditor Response 2: While the noted change has been made in the updated version of the methodology, it is important to note that footnote 9 does not contain the text referred to in the Client Response. Rather, this text is contained within footnote 7. While the text of footnote 7 contains helpful clarification, the reference to footnote 9 within Section 5.2 of the methodology is likely to lead to confusion, as footnote 9 reads "IPCC default value = 0.5".

In addition, no amendment has been made to the text of the parameter table for parameter $\text{Rate}(\text{peatloss-BSL},i)$ which states that "If a conservative value is used, different values are required for $\text{Rate}(\text{peatloss-BSL},i)$ in Equations 1 and 5." The guidance provided here is relevant only where the total stock approach is used, and no corresponding guidance has been provided for the case where the stock loss approach is being used. Therefore, the finding remains open.

Client Response 3: "footnote 9" has been changed to "footnote 7". The text in the table has been made consistent with the procedure.

Auditor Response 3: As indicated, the text now refers to the appropriate footnote, and the inappropriate text has been removed from the parameter tables. Therefore, the non-conformity has been resolved.
Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.53 dated 11-30-2012

Standard Reference: VCS AFOLU Requirements V3.3, Section 4.5.29

Document Reference: proposed methodology (11/6/12), Section 5.2

Finding: This NCR is a follow-up to NCR 2011.8.

The VCS AFOLU Requirements states that "To determine this long-term net GHG benefit, projects shall estimate the remaining soil carbon stock adjusted for any project emissions and leakage emissions in both the baseline and project scenarios at the 100-year mark, taking into account uncertainties in modeling and using verifiable assumptions." The proposed methodology contains procedures for conducting such an analysis, but does not contain any criteria to require the use of verifiable assumptions.

Client Response: The procedure implicitly refers to verifiable assumptions regarding Rate, Depth, VC and GHG. These are defined in Ch 9. We have added text for the most relevant one - rate of peatloss - for explicit reference: "The procedure assumes a variable rate of peat loss in the baseline and with-project scenarios, or, alternatively, a conservative (high) value that remains constant over time, based on expert judgment, datasets or literature (see Section 9.1)." In Section 9.1 in the tables for the rate of peatloss in bsl and wps a statement has been added that the information used shall be verifiable.

Auditor Response: As indicated in the Client Response section, the methodology has been revised to explicitly require the use of verifiable assumptions in determining the rates of peat loss in the baseline and project scenarios. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.54 dated 11-30-2012

Standard Reference: VCS AFOLU Requirements V3.3, Section 4.5.29

Document Reference: proposed methodology (11/6/12), Section 9.1

Finding: In a description of the source of data for parameter Rate(peatloss-WPS,i), the parameter table for that parameter states "The rate of peat loss due to subsidence in the project scenario shall be derived as described for the rate of peat loss due to subsidence in the baseline scenario." However, certain procedures in the description of the source of data for the rate of peat loss due to subsidence in the baseline scenario are not appropriate to the project scenario (for example, there is a procedure for deducting the depth of peat assumed to burn in the baseline scenario).

Client Response: Procedure now adjusted for suitability for the with-project scenario. No reference to historic conditions, reference to 8.2.3 and based on ex-ante scenario definitions, no procedure for burn depth.

Auditor Response: The specific language that was quoted in the text of the finding has been removed from the methodology, and the parameter table for parameter Rate(peatloss-WPS,i) now contains stand-alone quantification guidance. The quantification guidance is appropriate, as it is generally consistent with the guidance for parameter Rate(peatloss-BSL,i) but omits references to burn depth. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.55 dated 11-30-2012

Standard Reference: VCS AFOLU Requirements V3.3, Sections 4.3.1 and 4.3.4

Document Reference: proposed methodology (11/6/12), Section 8.2.2

Finding: This NCR is a follow-up to NCR 2011.32.

The VCS AFOLU Requirements states that the aboveground tree biomass carbon pool "shall be included in the project boundary" for WRC projects (Section 4.3.1), although it is also stated that "Specific carbon pools and GHG sources do not have to be accounted for if their exclusion leads to conservative estimates of the total GHG emission reductions or removals generated." The proposed methodology claims that "Carbon stocks in tree biomass in the with-project scenario do not have to be accounted for if their exclusion leads to conservative estimates of the total GHG emission reductions or removals generated. This is always the case in RDP project activities."

The claim made above by the proposed methodology appears to not be true, as rewetting activities in the project scenario may indeed lead to the death of trees and thus the transfer of carbon from the aboveground tree biomass carbon pool to other pools. For example, the Couwenberg et al. (2011) study, which is cited throughout the proposed methodology as a relevant source, states, with respect to the "Ostrovskoe" site, that "Upon rewetting, most trees that have established after abandonment on the peat extraction site are likely to die, except on ridges along the drainage ditches where excavated material, partly mixed with mineral subsoil, was deposited."

Given that rewetting may result in a decrease in the aboveground tree biomass carbon pool in the project scenario, it is not conservative to exclude said pool from monitoring in all cases. Therefore, it is not appropriate to state that the aboveground tree biomass carbon pool can always be conservatively excluded in the project scenario.

Client Response: Added: "... if biomass is accounted for as per Section 8.1.2" to "This is always the case in RDP project activities." This way the situation is avoided where biomass in both the bsl and wps are not accounting for (and which is deemed not to be conservative although it gives a safe result).

Auditor Response: The language that has been added to the methodology is not sufficient to resolve the non-conformity. As indicated in the text of the finding, it is not necessarily conservative to exclude carbon stock change in aboveground biomass from accounting in the project scenario even where such biomass has been included in baseline accounting. For example, in the case of the "Ostrovskoe" site described in the text of this finding, aboveground biomass may remain at a steady state or show some increase in the baseline scenario, while dropping precipitously in the project scenario. To omit aboveground biomass from accounting in the project scenario would lead to an overestimate of the GHG emission reductions generated by the project, even if the aboveground biomass pool were to be accounted in the baseline scenario. Therefore, the statement of the methodology that the exclusion of aboveground biomass in the project scenario leads to conservative estimates of the total GHG emission reductions generated "in RDP project activities if biomass is accounted for as per Section 8.1.2" does not appear to be true, and the non-conformity has not been resolved.

Client Response 2: If biomass is not monitored in the project scenario, this would imply that parameter $CWPS-tree-AB_{j,i,t}$ has to be set to zero. If $CWPS-tree-AB_{j,i,(t-T)}$, which at $t=0$ is the same as for the baseline scenario, has a positive value (biomass exists at $t=0$), the equation yields a negative result, which is the same as an increased emission and which reduces the VCU to be claimed by the project. NB The equation is: $\Delta CWPS-tree-AB_{j,i,t} = A_{i,t} \times (CWPS-tree-AB_{j,i,t} - CWPS-tree-AB_{j,i,(t-T)}) / T$

So actually $\Delta CWPS-biomass_{i,t}$ is accounted for and, if this makes things clearer, we removed the language "Carbon stocks in tree biomass in the with-project scenario do not have to be accounted for if their exclusion leads to conservative estimates of the total GHG emission reductions or removals generated. This is always the case in RDP project activities if biomass is accounted for as per Section 8.1.2."

and in stead added to the equation that "CWPS-tree-AB_{j,i,t} may conservatively be set to zero."

Auditor Response 2: As indicated in the Client Response, Section 8.2.2 has been revised to remove language indicating that above-ground biomass does not have to be accounted for, and adding language to indicate that aboveground carbon stocks may be assumed to be zero at the end of any particular monitoring period. The assessment team agrees that this is an indisputably conservative approach, as (if followed throughout the lifetime of a project) it assumes that all carbon stocks in the aboveground biomass carbon pool have been emitted in the first monitoring period, and that no re-growth has occurred in subsequent monitoring periods. Thus, the emissions from the aboveground biomass carbon pool in the project scenario would be conservatively assumed to be greater than anything that can occur in reality. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.56 dated 11-30-2012**Standard Reference:** VCS Standard V3.3, Section 4.5.1**Document Reference:** proposed methodology (11/6/12), Section 6**Finding:** The VCS Standard requires that "Methodologies using a project method shall establish criteria and procedures for identifying alternative baseline scenarios and determining the most plausible scenario, taking into account the following: 1) The identified GHG sources, sinks and reservoirs. 2) Existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project. 3) Data availability, reliability and limitations. 4) Other relevant information concerning present or future conditions, such as legislative, technical, economic, socio-cultural, environmental, geographic, site-specific and temporal assumptions or projections."

The methodology does not establish procedures for identifying alternative baseline scenarios that take into account the items required by the VCS Standard. The specific non-conformities with respect to each item are further described below.

1) The identified GHG sources, sinks and reservoirs: The methodology does not provide procedures that can be used to determine the most likely baseline scenario and the change in GHG sources, sinks and reservoirs that can be expected as part of that scenario. For example, where trees exist in the project area, the methodology does not establish procedures for determining the most likely trend with respect to change in stocking in the above-ground tree biomass carbon pool. For the soil, above-ground non-tree biomass, below-ground non-tree biomass and tree litter carbon pools, some criteria (in terms of aspects that are required to be taken into account) are provided in Section 6. In addition, some minimal guidance is provided in Section 9.3.4 regarding the task "Deriving time series of GEST development for each stratum for the entire Project Crediting Period", which states "Predict (ex ante), based on vegetation succession schemes in drained and rewetted peatlands from scientific literature or expert judgment... for each stratum and for the entire Project Crediting Period, the development of GESTs over time by defining time series of GESTs, with time steps of e.g. 5 years to allow for the inherent discrete character of the GESTs." However, such guidance does not constitute an adequate procedure for determining the most likely baseline scenario with respect to the above carbon pools. Without clearly defined procedures for the sourcing of data and the validation of results, references to scientific literature and "expert judgment" are not adequate for determination of an aspect of project design with such major implications for the crediting of projects. Misidentification of the baseline pattern of successional development, with corresponding errors in quantified baseline emissions, can potentially result in major errors in the crediting of each project. Because the baseline scenario is determined ex ante and, by nature, never actually realized if the project activities are successful, it is very important that rigorous, verifiable procedures for determining the baseline pattern of successional development be in place.

2) Existing and alternative project types, activities and technologies providing equivalent type and level of activity of products or services to the project: The methodology does not contain procedures to determine what sort of land-use scenarios are most plausible in the absence of the project activity.

4) Other relevant information concerning present or future conditions, such as legislative, technical, economic, socio-cultural, environmental, geographic, site-specific and temporal assumptions or projections: The methodology does not contain procedures that take into account the impact of legislation, economic drivers, or other relevant factors for determination of the baseline scenario.

Client Response: The methodology now uses the CDM combined tool for baseline and additionality which covers the VCS Standard requirements for assessing alternative bsl scenario and selecting the most likely one. The approach is taken from VM0021 which was approved last year. VM0021 uses module VMD0019 with procedures for the quantification of future changes in parameters.

Auditor Response: The revised methodology makes use of the CDM A/R methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" to identify the baseline scenario. The revised methodology also makes use of the VCS module VMD0019 to project change in the aboveground biomass, belowground biomass and soil carbon pools under the baseline scenario. Taken together, these resources resolve many of the high-level concerns expressed in the text of the finding. The tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" includes procedures to determine what sort of land-use scenarios are most plausible in the absence of the project activity. It also contains procedures that take into account the impact of legislation, economic drivers, or other relevant factors for determination of the baseline scenario. The VCS module VM0019, as supplemented by guidance provided by the methodology, contains procedures for projecting change in carbon pools. The guidance provided in Section 8.1.2.2 of the methodology (for tree biomass) and the additional guidance provided in Section 8.1.3.1 of the methodology (for all other pools) is also very helpful for this purpose. Finally, additional guidance has been provided for eliciting expert judgment in Section 9.3.2 of the methodology. Therefore, the revised methodology generally satisfies the high-level concerns noted in the text of the finding. Lower-level concerns have been addressed through additional findings.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.57 dated 06-04-2013

Standard Reference: A/R methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities", Sub-step 2b

Document Reference: proposed methodology (5/27/13), Section 6.1

Finding: The methodology references the CDM A/R methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" to identify the baseline scenario. In so doing, the methodology provides a helpful table indicating how several of the terms used by the tool are to be understood within the context of the methodology. However, the methodology does not indicate how the term "forest" is to be understood within the context of the methodology. Therefore, it is not clear how the following requirement, from Sub-step 2b of the tool, is to be understood in the context of the methodology: "If the land within the boundary of the proposed of the A/R CDM project activity was at least partially forested since 31 December 1989 and the land is not a forest at the project start, identify reasons/actions/incentives that allowed for the past forestation and demonstrate that the current legal/financial or other applicable regulations or socio-economical or ecological or other local conditions have changed to the extent that allows for conclusion that repetition of the forestation performed without being registered as the A/R CDM project activity is not possible."

Client Response: Since this requirement is specific to A/R CDM and has no relevance for the VCS or WRC, we added a note that this requirement can be omitted. "Sub-step 2b – 15 regarding forested areas since 31 December 1989 shall be omitted."

Auditor Response: As indicated, further guidance has been added to the methodology to indicate that the clause in question within the CDM A/R methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" must be ignored. The assessment team agrees that the clause in question is not directly relevant to WRC project activities and can be ignored without threatening the overall integrity of the usage of the tool by the methodology. In addition, it should be noted that Sections 3.1.6 and 3.1.7 of the AFOLU Requirements contain similar requirements for WRC projects, and projects will be assessed against those rules as well. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NIR 2012.58 dated 06-04-2013

Standard Reference: NA

Document Reference: proposed methodology (5/27/13), Section 9.2

Finding: Please explain why parameter A(i,t) is located in Section 9.2, entitled "Data and Parameters Monitored", when the "frequency of monitoring/recording" for this parameter is stated as "Determined at project validation".

Client Response: As this is for project strata, the description and the frequency have been amended.

Auditor Response: The updated description of this parameter clarifies its definition as "Area of stratum i in year t" and further states that it is "Determined at each monitoring period". Therefore, the discrepancy has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.59 dated 06-04-2013

Standard Reference: NA

Document Reference: proposed methodology (5/27/13), Sections 6.2 and 8.1.2.1

Finding: Section 8.1.2.1 of the methodology requires the user to "derive time series of tree biomass development for each stratum for the entire Project Crediting Period" and "determine annual GHG removals per stratum for the entire Project Crediting Period". This does not appear to be consistent with Section 6.2 of the methodology, which states that "ex-ante baseline projections beyond a 10-year period are not required".

Client Response: "for the entire Project Crediting Period" was amended to "as per Section 6.2, ex-ante baseline projections beyond a 10-year period are not required". This was also done in Section 8.1.3.1.

Auditor Response: As indicated, Section 8.1.2.1 and 8.1.3.1 have been modified to clarify that baseline projections beyond a 10-year period are not required. Therefore, the discrepancy has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.60 dated 06-04-2013**Standard Reference:** NA**Document Reference:** proposed methodology (5/27/13), Sections 6 and 8.1.3.1**Finding:** Section 8.1.3.1 of the methodology contains the following references to the baseline scenario:

"To derive trends and developments in water table management, the baseline scenario shall take into account the current and historic layout of the drainage system..."

"Alternative baseline scenarios may furthermore include re-activation of collapsed ditches."

" In case of abandonment of pre-project land use in the baseline scenario, the baseline scenario shall also consider - based on expert judgment taking account of verifiable local experience..."

However, Section 6 of the methodology, which contains procedures for determination of the baseline scenario, does not make any reference to Section 8.1.3.1. Therefore, it is not clear how the user of the methodology is intended to take the guidance of Section 8 into account when determining the baseline in accordance with the guidance of Section 6. The user of the methodology, as written, would determine the baseline scenario using the procedures outlined in Section 6 and likely be confused to then find additional criteria for determining the baseline in Section 8.

Client Response: As per our discussion on 11 September 2013 this NCR remains open.

This relates to the already addressed issue with VCS AFOLU requirements 4.4.10 and 4.4.11. The next version of the AFOLU requirements is expected to resolve this matter.

Auditor Response: While the updates within Sections 4.4.10 and 4.4.11 within V3.4 of the VCS AFOLU Requirements have been duly noted, the basic discrepancy that has been noted in this finding has not been resolved. The basic discrepancy is that the user of the methodology will determine "the baseline scenario" using the guidance in Section 6 and then, having determined the baseline scenario, be surprised to find additional guidance related to the determination of the baseline scenario in Section 8.1.3.1. Section 8.1.3.1 contains many references to "the baseline scenario" and (even more confusing) "alternative baseline scenarios". Thus, the finding remains open.**Client Response 2:** "Alternative baseline scenarios" replaced with "The baseline scenario". This was a left over. The difference between Ch6 and Ch8 is that in the former the scenario needs to be defined in terms of land use while the latter focusses on the quantification of emissions (the intention of 4.4.10 and 4.4.11). AFOLU v3.4 clarifies "that certain requirements in Section 4.4 are relevant to the most plausible baseline scenario and not for all alternative baseline scenarios (Section 4.4)".**Auditor Response 2:** The assessment team has reviewed the revised methodology and confirmed that all references to "alternative baseline scenarios" have been removed. In addition, upon further consideration agrees that it is appropriate to provide criteria and procedures for determining the general baseline scenario (in terms of land use) in Chapter 6 and to more specifically define the baseline scenario (in terms of water table depths, GESTs and emissions) in Chapter 8. The assessment team agrees that this presentation is consistent with Version 3.4 of the AFOLU Requirements. Therefore, the non-conformity has been resolved.**Closing Remarks:** The Client's response adequately addresses the finding.**NCR 2012.61 dated 09-23-2013****Standard Reference:** NA**Document Reference:** proposed methodology (9/16/13), Section 8.1.2.2**Finding:** In discussion of Method 1 (Gain-loss method) for quantifying above-ground biomass, the methodology contains references to "Equation 22" and "Equation 19" that do not match up with the equations being referenced.**Client Response:** Changed to 21 and 18, respectively.**Auditor Response:** A review of the revised methodology confirms that the correct equations are now referenced in the text. Therefore, the non-conformity has been resolved.**Closing Remarks:** The Client's response adequately addresses the finding.

NCR 2012.62 dated 11-25-2013**Standard Reference:** NA**Document Reference:** proposed methodology (10/22/13), throughout**Finding:** The methodology intends to reference the CDM A/R methodological tool "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" to identify the baseline scenario. However, the methodology mistakenly references the tool "Combined tool to identify the baseline scenario and demonstrate additionality for A/R CDM project activities", which does not exist.**Client Response:** Corrected**Auditor Response:** The audit team can confirm, through review of the updated methodology element, that the required correction has been made in Section 6. Therefore, the non-conformity has been resolved.**Closing Remarks:** The Client's response adequately addresses the finding.

NCR 2012.63 dated 11-25-2013

Standard Reference: VCS AFOLU Requirements V3.4, Section 4.3.4

Document Reference: proposed methodology (10/22/13), Section 8.2.2

Finding: The AFOLU Requirements state that "Specific carbon pools and GHG sources do not have to be accounted for if their exclusion leads to conservative estimates of the total GHG emission reductions or removals generated. The methodology shall establish criteria and procedures by which a project proponent may determine a carbon pool or GHG source to be conservatively excluded."

Section 8.2.2 of the version of the methodology dated 22 October 2013 contains two added sentences:

"Accounting for tree vegetation in the with-project scenario may be included or conservatively omitted" and "Accounting for below-ground biomass in the with-project scenario may be conservatively omitted".

While the intended interpretation of this added guidance is unclear, said guidance could be read as indicated that the user of the methodology may opt not to account for carbon stock changes in aboveground and belowground biomass in the project scenario, and that it would be inherently "conservative" not to account for such carbon stock changes. As documented in NCR 2012.55, it is not always conservative to not account for carbon stock changes in these pools. If the methodology is going to allow for conservative omission of accounting for carbon stock changes in the aboveground and belowground biomass pools, the AFOLU Requirements dictate that the methodology must establish criteria and procedures by which a project proponent may determine that these pools can be conservatively excluded.

Client Response: This sounds like almost a repetition of NCR 55 but with an emphasis on the required 'criteria and procedures'. Fact is that for the principle of conservatively omitting the accounting of carbon stocks in the with-project scenario there are no criteria and procedures. We merely apply this principle and the way it works was explained in NCR 55. If the wording of our procedures trigger this new NCR and if this is what you are pointing at we have now removed the sentences you refer to and only the sentence "CWPS-tree-AB,j,i,t may conservatively be set to zero" remains. This implies that the pool is accounted for but may be set to zero.

Auditor Response: The references to belowground biomass, in this finding, were incorrect, as Section 4.3.1 of the AFOLU Requirements indicates that pool to be optional. Therefore, all references to belowground biomass should be considered stricken.

It is helpful that the sentence in question pertaining to aboveground biomass has been removed.

However, the other locations where the methodology contains reference to the possibility of "conservatively" omitting aboveground live carbon accounting in the project scenario. In Table 5.1 it is stated, for the "Above-ground tree biomass" pool, that "Tree vegetation in the project scenario: may be included or conservatively omitted."

The assessment team agrees that it is always conservative to set parameter C(WPS-tree-AB,j,i,t) to zero, as was confirmed in resolution to NCR 2012.55, but the audit team is conservative that the above language may lead a user of the methodology to believe that, without the need to necessarily justify the action as conservative, they have carte blanche to somehow not account for aboveground biomass at all in the project scenario (including in circumstances where this may not be conservative). Although Equations 30 through 34 do provide a mandatory framework for accounting of aboveground biomass, this framework may be ignored by a user of the methodology with the justification that there is apparently contradictory language in the above language. The assessment team understands that the current intent is to require accounting of aboveground biomass but to allow parameter C(WPS-tree-AB,j,i,t) to conservatively be set to zero. However, this intent is not made unequivocally clear throughout the methodology.

Client Response 2: We understand that only the last sentence includes the non-conformancy. We removed "included or" from the row for A/G biomass in table 5.1. We believe there are no circumstances where setting the parameter to zero may not be conservative as in fact confirmed by the assessor saying that "it is always conservative to set parameter C_WPS to zero". This part of the comment is not clear to us, but nevertheless we believe we resolved the issue.

Auditor Response 2: It is true that it is always conservative to set parameter C(WPS-tree-AB,j,i,t) to zero in Equation 35. However, depending on how the methodology is interpreted, there may be a perceived difference between setting parameter C(WPS-tree-AB,j,i,t) to zero in Equation 35 and "conservatively omitting" aboveground and belowground biomass. Some interpretations of "conservatively omit" may include not including the change in carbon stocks in the aboveground and belowground carbon pools in the quantification of GHG emission reductions. This is primarily a matter of making the language sufficiently clear. Because references to "conservatively omit" remain in Table 5.1, and because the methodology does not contain additional language to guard against the interpretation described above, the non-conformity has not been resolved.

Client Response 3: We suggest to make all occurrences read as follows:

Table 5.1: Tree vegetation in the project scenario: may be conservatively set to zero.

Eq 35: CWPS-tree-AB,j,i,t may be conservatively be set to zero.

Eq 38: The below-ground tree biomass in the project scenario may be conservatively set to zero.

Auditor Response 3: The changes made to the updated version of the methodology ("PRC RDP GEST methodology 20140730") are appropriate, as they ensure conservative treatment of aboveground and belowground biomass. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.64 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (10/22/13), Section 9.1

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

The VCS Methodology Template requires that the row labeled "Justification of choice of data or description of measurement methods and procedures applied" in the table for each parameter available at validation must contain the following information: "Where values will be based on measurement, include a description of the appropriate measurement methods and procedures that must be applied (eg, what standards or protocols must be followed)."

For parameters Depth(peat-BSL,i), Depth(peat-WPS,i), Rate(peatloss-BSL,i) and Rate(peatloss-WPS,i) the methodology allows for "surface height measurements relative to a fixed reference point in m asl, e.g. using poles fixed in the underlying mineral soil or rock". However, the methodology does not include a description of the appropriate measurement methods and procedures that must be applied.

Client Response: Regarding peat depth measurements there is not much to say. Measuring lengths is quite a well-known thing. The instruction to use a pole that reaches the mineral subsoil or rock is essential. We however amended text to read: "Own measurements (using peat corers, ground penetrating radar or other techniques laid out in scientific literature or handbooks)".

Auditor Response: The additional guidance that has been provided within the updated methodology ("PRC RDP GEST methodology 20140512") is sufficient to constitute "a description of the appropriate measurement methods and procedures that must be applied". While the guidance provided is brief and not highly prescriptive, it is agreed that the guidance is sufficient for the measurement task in question, which is a common task that is widely practiced. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.65 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (10/22/13), Section 9.1

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

The VCS Methodology Template requires that the row labeled "Justification of choice of data or description of measurement methods and procedures applied" in the table for each parameter available at validation must contain the following information: "Justify the choice of data source, providing references where applicable."

None of the tables for the parameters described within Section 9.1 contain a justification of the choice of data source.

Client Response: See the email of Sam Hoffer of 11 December 2013 for additional guidance: "within the title, "Justification of choice of data or description of measurement methods and procedures applied", the "or" is meant to signify that the information provided within that box is dependent on the parameter being provided/measured. Specifically, where the parameter is something that's monitored directly, we expect the box to "include a description of the appropriate measurement methods and procedures that must be applied (eg, what standards or protocols must be followed)", and a "justification of choice of data" is not required. The "justification of choice of data" is more appropriate where a particular value is being given upfront for that parameter (eg, a default factor)".

Auditor Response: The email described in the Client Response was provided to SCS. The guidance provided via email indicates that justification of the choice of data source is "more appropriate where a particular value is being given upfront for that parameter (eg, a default factor)". Since the methodology does not specify default factors for any of the parameters described in Section 9.1, it is agreed that the finding was inappropriately issued. It will therefore be withdrawn.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.66 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (10/22/13), Section 9.1

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

The VCS Methodology Template requires that the row labeled "Justification of choice of data or description of measurement methods and procedures applied" in the table for each parameter available at validation must contain the following information: "Where values will be based on measurement, include a description of the appropriate measurement methods and procedures that must be applied (eg, what standards or protocols must be followed)."

For parameters Rate(peatloss-BSL,i) and Rate(peatloss-WPS,i), the methodology allows for measurements taken using "remote sensing (following methods described in Ballhorn et al. 2009)". However, a description of the appropriate measurement methods and procedures that must be applied has not been provided. The manuscript of Ballhorn et al. (2009) is not a "standard or protocol", but is rather a peer-reviewed journal article. While the methods described in Ballhorn et al. (2009) are likely appropriate, they are not described in a clear, prescriptive format, as would be expected of a standard or protocol, and therefore Ballhorn et al. (2009) has limited use in serving as a standard or protocol for collection and analysis of remotely sensed data.

Client Response: The requirement clearly says "eg". The requirement is about providing a description of a measurement method. Our referenced document is sufficient as a description of a measurement method, although it is not formulated as a protocol.

Auditor Response: It is agreed that the requirement states "e.g.", and does not, therefore, specifically require that a standard or protocol be followed. However, the example of "standards or protocols" should be seen as indicative of the level of prescription required. Given that procedures used to determine the rate of peat loss through remote sensing are less common, the requirement to follow "methods described in Ballhorn et al. 2009" does not appear to provide a level of guidance equivalent to a "description of the appropriate measurement methods and procedures that must be applied", as required by the VCS Methodology Template.

Client Response 2: There is no complexity in the procedures for peatloss when it is based on surface height measurements. The principle is very simple: measure height difference and translate into carbon in peat lost in the equations provided in the methodology. We added the Ballhorn reference to illustrate a method that uses LiDAR for determining absolute surface height. LiDAR is an established method (since 10-15 years). We propose to refer to LiDAR in stead of Ballhorn and use the Ballhorn article only for illustration of the use of LiDAR in a relevant context. LiDAR data are provided by professional companies specialized in its application.

Auditor Response 2: It is agreed that field measurement procedures are sufficiently simple that not much explanation is required. However, use of LiDAR data is not such a simple matter. While it is obviously beyond the scope of the methodology to describe the process for acquisition of LiDAR data, the derivation of peat surface measurements from LiDAR data (once acquired) is a task of some complexity that is within the scope of the methodology. Therefore, it is the understanding of the assessment team that "a description of the appropriate measurement methods and procedures" needs to be applied with respect to the use of LiDAR data. This description has not been provided. For reasons previously described, the Ballhorn article is not considered sufficient for this purpose.

Client Response 3: In the relevant table in section 9.1 we propose to change "(e.g. following methods described in Ballhorn et al. 2009)" into

"When using LiDAR data, projects must use a scientifically robust approach, referring to pertinent scientific literature, ensuring a horizontal accuracy in the meter and a vertical accuracy in the centimeter range. In case of tree cover, scientifically accepted methods must be used to distinguish ground points from non-ground points reflected by the vegetation. Projects may, for example, use the procedures described in Ballhorn et al. (2009). Projects may deviate from these procedures provided that the accuracy requirements above are met."

With this we require the project to use scientific literature for procedures, but add the requirement on accuracy, which in the end is the essential requirement whatever method is employed. Ballhorn is an example framing the generally applied method in the appropriate context.

Given the fact that nobody will invest in LiDAR without making sure that the results are usable - thus hiring companies with relevant expertise - the acquisition of data will not be an issue. The right use of the data is now ascertained by the accuracy requirements.

Auditor Response 3: The additional criteria and procedures provided with respect to the use of LiDAR data within the updated version of the methodology ("PRC RDP GEST methodology 20140730") are sufficient to constitute a "description of the appropriate measurement methods and procedures that must be applied", as required by the VCS Methodology Template. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.67 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (10/22/13), Section 9.1

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

The VCS Methodology Template requires that the row labeled "Equations" in the table for each parameter available at validation must contain the following information: "List the equation(s) that use this data/parameter."

Section 9.1 of the methodology indicates that parameters Rate(peatloss-BSL,i) and Rate(peatloss-WPS,i) are used in Equation 8. However, Equation 8 of the methodology does not use either parameter.

Client Response: Corrected

Auditor Response: The assessment team can confirm that, as indicated, the mistaken reference has been removed. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.68 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (10/22/13), Section 9.1

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

The VCS Methodology Template requires that the row labeled "Justification of choice of data or description of measurement methods and procedures applied" in the table for each parameter available at validation must contain the following information: "Where values will be based on measurement, include a description of the appropriate measurement methods and procedures that must be applied (eg, what standards or protocols must be followed)."

The methodology allows the parameter VC(peat) to be quantified using "own measurements". However, the methodology does not include a description of the appropriate measurement methods and procedures that must be applied.

Client Response: This is a common measurement in soil science. We added: "Applied techniques shall follow international standards of application or local standards as laid out in pertinent scientific literature or handbooks".

Auditor Response: The additional guidance that has been provided within the updated methodology ("PRC RDP GEST methodology 20140512") is sufficient to constitute "a description of the appropriate measurement methods and procedures that must be applied". While the guidance provided is brief and not highly prescriptive, it is agreed that the guidance is sufficient for the measurement task in question, which is a common task that is widely practiced. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.69 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (10/22/13), Section 9.1

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

The VCS Methodology Template requires that the row labeled "Equations" in the table for each parameter available at validation must contain the following information: "List the equation(s) that use this data/parameter." The parameter table for parameter A(i,t) correctly indicates that The VCS Methodology Template requires that the row labeled "Equations" in the table for each parameter available at validation must contain the following information: "List the equation(s) that use this data/parameter." is used in Equation 14. However, it does not indicate that parameter A(i,t) is also used in Equation 31.

The VCS Methodology Template requires that the row labeled "Justification of choice of data or description of measurement methods and procedures applied" in the table for each parameter available at validation must contain the following information: "Where values will be based on measurement, include a description of the appropriate measurement methods and procedures that must be applied (eg, what standards or protocols must be followed)." The parameter table for parameter A(i,t) contains some information regarding "preferable" technologies to be used for the measurement of this parameter. However, the information provided is not sufficient to constitute "a description of the appropriate measurement methods and procedures that must be applied".

Client Response: This is a common procedure in mapping and land surveys. We added: "Applied techniques shall follow international standards of application or local standards as laid out in pertinent scientific literature or handbooks".

The use of Area A(i,t) has been changed as indicated in the response to NCR 71.

Auditor Response: Since the issuance of this finding, parameter A(i,t) was changed to parameters A(BSL,i,t) (for the baseline scenario) and A(WPS,i,t) (for the project scenario). Therefore, the specific comments made regarding equation references are not necessarily applicable. However, it is confirmed that all equation references in the parameter tables for parameters A(BSL,i,t) and A(WPS,i,t) correctly refer to all equations using each respective parameter.

The additional guidance that has been provided, for parameters A(BSL,i,t) and A(WPS,i,t), within the updated methodology ("PRC RDP GEST methodology 20140512") is sufficient to constitute "a description of the appropriate measurement methods and procedures that must be applied". While the guidance provided is brief and not highly prescriptive, it is agreed that the guidance is sufficient for the measurement task in question, which is a common task that is widely practiced. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.70 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Sections 9.1 and 9.2

Document Reference: proposed methodology (10/22/13), Section 9.1

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

The VCS Methodology Template requires that "all data and parameters that will be determined or available at validation, and remain fixed throughout the project crediting period" must be listed in Section 9.1, while "all data and parameters that will be monitored during the project crediting period" must be listed in Section 9.2. The following parameters are listed under Section 9.1, or under both Section 9.1 and 9.2, where the VCS rules require that they be listed only under Section 9.2:

Depth(BSL,i) and Rate(Ratepeatloss-BSL,i)--these parameters are used in the determination of the peat depletion time, which must be re-assessed, in accordance with Section 4.5.25 of the AFOLU Requirements, on the schedule indicated in Section 3.1.10 of the AFOLU Requirements

A(i,t)--Section 9.3.5 of the methodology states that "The number and boundaries of the strata defined ex ante may change during the Crediting Period (ex post)."

GHG(GESTbsl-CO2,i,t), GHG(WLbsl-CO2,i,t), GHG(GESTbsl-CH4,i,t), GHG(WLbsl-CH4,i,t) --these parameters stem from "baseline projections for... wetland hydrological changes", and thus must be re-assessed on the schedule indicated in Section 3.1.10 of the AFOLU Requirements

Client Response: For baseline parameters that must be re-assessed the requirement is not unambiguous. The problem lies in the additional guidance for both tables - not the section headings: 9.1: "...and remain fixed throughout the project crediting period".

9.2: "...monitored during the project crediting period".

Re-assessed baseline parameters are not necessarily monitored and they should be known at validation, but they are not fixed throughout the crediting period either. We believe that the main distinction is "known at validation" versus "monitored".

We added to the comments fields: "This parameter must be re-assessed together with the re-assessment of the baseline scenario".

Our point is supported by an email of the VCS dated 4 April 2014.

Auditor Response: The willingness of the methodology developer to add the indicated clarifying text to the "Comments" fields is noted and appreciated. In addition, the assessment team was provided with guidance from the VCSA (dated 26 May 2014 and sent as a follow-up to email guidance sent 4 April 2014) indicating that "Any baseline parameters that must re-assessed with the baseline every 10 years belong in Section 9.1, and it would be appropriate to state this is case in the methodology". Therefore, the assessment team agrees that it is correct for parameters that are reassessed with the baseline to be described in Section 9.1. As this finding was incorrectly issued, it is withdrawn.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.71 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (10/22/13), Sections 9.1 and 9.2

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

Section 9.1 of the VCS Methodology Template requires the user to "Ensure that all data and parameters used in the equations for quantification of GHG emission reductions and removals in the methodology are included in this section (Data and Parameters Available at Validation) or the following section (Data and Parameters Monitored)." The following spatial parameters, which are used in the equations for quantification of GHG emission reductions and removals, are not described within Sections 9.1 or 9.2:

A(WPS,i)

A(BSL,i)

A(i)

Client Response: Ai and Ai,t replaced with A_BSL,i,t and A_WPS,i,t, as appropriate

Eqs 2, 7, 8, 11 amended to included these parameters at t=100

Description of Ait, (was Ai) in Eq 44 amended to refer to A_BSL,i,t and A_WPS,i,t

A_BSL,i,t included in Section 9.1, replacing Ai,t

A_WPS,i,t included in Section 9.2, replacing Ai,t

Auditor Response: The finding did not require the replacement of parameters A(i) and A(I,t) with parameters A(BSL,i,t) and A(WPS,I,t). Regardless, the assessment team confirmed that the parameters A(WPS,I,t) and A(BSL,i,t) are now described in Sections 9.1 and 9.2 of the methodology, respectively, as required. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.72 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (10/22/13), Section 9.1

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

The VCS Methodology Template requires that the row labeled "Justification of choice of data or description of measurement methods and procedures applied" in the table for each parameter available at validation must contain the following information: "Justify the choice of data source, providing references where applicable. Where values will be based on measurement, include a description of the appropriate measurement methods and procedures that must be applied (eg, what standards or protocols must be followed). Where values will be based on measurement, include a description of the appropriate measurement methods and procedures that must be applied (eg, what standards or protocols must be followed). Where the data/parameter value is established in the methodology (eg, a default factor established from primary sources) provide justification for the method used, using an appendix where necessary."

The following parameters do not contain any information in the row labeled "Justification of choice of data or description of measurement methods and procedures applied":

- Rate(peatloss-BSL,i)
- Rate(peatloss-WPS,i)
- VC(peat)
- A(i,t)
- R(i)
- CF(i)
- R(1,j)
- I(v,j,i,t)
- D(j)
- BEF(1,j)
- K(ph)
- BEF(2j)
- nTR(j,i,t)
- fj(X, Y, ...)
- A(peatburn)
- A(P)

Client Response: Information added.

Auditor Response: Through review of the revised methodology, the assessment team can confirm that information has been provided for all of the parameters indicated within the finding (or, in the case of parameter A(l,t), that information has been provided for the equivalent parameter). Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.73 dated 11-25-2013

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 4

Document Reference: proposed methodology (10/22/13), Section 4

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed." The VCS Methodology Template requires that "Applicability conditions must not contain procedures or obligations upon the project proponent. Rather, they must be conditions against which project eligibility can be determined at the time of validation and must not require the project proponent to undertake ongoing actions to ensure continued eligibility." The following applicability conditions constitute "obligations upon the project proponent":

- a. "Post-rewetting land use is limited to forestry, agriculture, nature conservation/recreation, or activities limited to those aiming at GHG emission reductions, or a combination of these activities. Peat extraction does not occur."
- d. "The burning of biomass as a project activity does not occur."
- i. "If the project intends to claim emission reduction from peat fires, the with-project scenario must involve a combination of peatland rewetting and fire management."
- l. "N-fertilizers are not used in the with-project scenario."

Client Response: We largely disagree with this NCR and we have sought guidance from the VCS. See email with VCS' response of 3 April 2014. As recommended by the VCS we have amended appl conditions a and i.

Auditor Response: SCS was provided with an email from VCSA personnel, dated 4 April 2014, in which specific guidance was provided pertaining to the applicability conditions in question. The guidance indicated that conditions (d) and (l) were acceptable, and provided suggestions for modification of conditions (a), (i) and (n). The updated methodology ("PRC RDP GEST methodology 20140512") was reviewed for conformance to the guidance provided by VCSA.

For condition (a), it was suggested that "If post-rewetting activities are limited to forestry and agriculture, it will be necessary to specify the types of activities that would apply". No such specification has been added for condition (a).

For condition (i), the following guidance was provided:

"Moreover 'i' [sic] requires some rewording so that it is phrased as an actual applicability condition (as it is right now it would fall more under quantification procedures):

"If the project intends to claim emission reduction from peat fires, the with-project scenario must involve a combination of peatland rewetting and fire management."

It will be necessary to state differently, for example "This methodology is applicable to project activities that aim at rewetting of peatlands and may be combined with fire management".

Condition (i) is not substantively reworded in the updated methodology in the manner requested in the above guidance. The change made to condition (i) essentially involved a change in the order of the statements, from "If the project intends to claim emission reduction from peat fires, the with-project scenario shall involve a combination of peatland rewetting and fire management" to "The project may only claim emission reduction from peat fires, if the project scenario involves a combination of peatland rewetting and fire management", which did not change the meaning of the condition at all. The wording suggested by the VCSA (particularly, the suggested introductory language of "This methodology is applicable to project activities that..." is consistent with the example language in Section 4 of the VCS Methodology Template, so it appears that this wording is consistently expected by the VCS rules, as interpreted through the specific guidance provided by VCSA personnel.

Because conditions (a) and (i) have not been fully amended to comply with the VCS rules, as interpreted through the guidance provided by VCSA personnel, this finding remains open.

Client Response 2: Re appl. cond. 'a': See email response dd 12 June 2014 to the VCS. Our methodology can be used for a single RWE project or a combined RWE-ARR one, but not for combined RWE-REDD/ALM/IFM because it does not cover those 3 activities. Allowing agriculture in the project scenario does not make it ALM. We specify forestry to include biomass production (which has great opportunities in combination with rewetting), but excluding IFM and REDD. We also exclude ALM. Based on earlier comments we already dropped "activities limited to those aiming at GHG emission reductions". The last sentence of the applicability condition now read as follows: "Post-rewetting land use is limited to forestry (including biomass production but excluding IFM and REDD activities), agriculture (excluding ALM activities), nature conservation/recreation, or a combination of these activities. Peat extraction does not occur."

Re 'i': This condition is now limited to the last sentence "The burning of peat as a project activity in the project scenario does not occur." The conditions that rewetting be combined with firemanagement is now added to condition 'j', as point (B).

Auditor Response 2: The applicability conditions, as specified in the updated methodology, are no longer flatly inconsistent with the guidance provided by VCS personnel. In addition, the applicability conditions appear to comply with the less restrictive interpretation of the rules of the VCS Methodology Template that appears to be favored by VCS personnel. Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.74 dated 06-25-2014

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3

Document Reference: proposed methodology (05/12/14), Section 5.2

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed." The VCS Methodology Template requires that "The methodology must be written in a clear, logical, concise and precise manner, to aid readability and ensure consistent application by intended users."

The parameters $A(WPS,i,t100)$ and $A(BSL,i,t100)$ are defined, with respect to the "Total stock approach", as "Area of project stratum i at $t=100$; ha" and "Area of baseline stratum i at $t=100$; ha", respectively. However, the same parameters are defined, with respect to the "Stock loss approach", as "Area of project stratum i ; ha" and "Area of baseline stratum i ; ha", respectively. The differences in how these parameters are defined could cause confusion and/or inconsistent application by intended users.

Client Response: "at $t=100$ " added to both description under Equation 10.

Auditor Response: As indicated, the description of parameters is now consistent between the "total stock approach" and the "stock loss approach" in the updated methodology ("PRC RDP GEST methodology 20140709"). Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.75 dated 06-25-2014

Standard Reference: VCS Methodology Approval Process V3.5, Section 3.2.2; VCS Methodology Template V3.3, Section 9.1

Document Reference: proposed methodology (05/12/14)

Finding: The Methodology Approval Process states that "Methodologies and methodology revisions shall be prepared using the VCS Methodology Template and modules and tools shall be prepared using the VCS Module Template. All instructions in the templates must be followed."

Section 9.1 of the VCS Methodology Template requires the user to "Ensure that all data and parameters used in the equations for quantification of GHG emission reductions and removals in the methodology are included in this section (Data and Parameters Available at Validation) or the following section (Data and Parameters Monitored)." The following parameters, which are used in the equations for quantification of GHG emission reductions and removals, are not described within Sections 9.1 or 9.2:

$V(j,i,t)$, as used in Equation 23

$V(l,j,sp,t)$, as used in Equation 36

Client Response: $V(j,i,t)$ added to Section 9.1 and the note under the description of Eq 23 moved to the parameter table.

$V(l,i,j,sp,t)$ added to Section 9.1 and part of the description of Step 2 moved to the parameter table.

Auditor Response: As noted, the parameters in question are included in Section 9.1 of the updated methodology ("PRC RDP GEST methodology 20140709"). Therefore, the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012.76 dated 08-15-2014

Standard Reference: VCS Standard V3.4, Sections 2.1.4 and 4.1.4

Document Reference: proposed methodology (07/30/14)

Finding: Section 4.1.4 of the VCS Standard requires that "Methodology elements shall be guided by the principles set out in Section 2.4.1". The principle of "accuracy", as set out in Section 2.4.1, is defined as "Reduce bias and uncertainties as far as is practical".

The methodology contains a procedure, in Equation 17, for calculating the "Change in carbon stock in below-ground tree biomass in the baseline scenario for species j in stratum i in year t ". However, when the "gain-loss method" is implemented, the methodology contains a separate procedure, in Equation 20, for calculating ("Average annual increment of total biomass of living trees for species j in stratum i in year t "). Taken together, these procedures lead to double-counting of carbon in the belowground biomass pool. Thus, bias has not been reduced as far as is practical.

Client Response: [This finding was conveyed to the client outside the cover of the findings workbook, and a response was likewise provided outside the cover of the workbook.]

$V(l,i,j,sp,t)$ added to Section 9.1 and part of the description of Step 2 moved to the parameter table.

Auditor Response: In response to this finding, the client provided an updated version of the methodology, entitled "PRC RDP GEST methodology 20140817", wherein the previously existing Equation 20 has been deleted and all other equations have been appropriately adjusted to account for this. Therefore, belowground biomass is no longer double-counted in the methodology, and the non-conformity has been resolved.

Closing Remarks: The Client's response adequately addresses the finding.