METHODOLOGY ASSESSMENT

Methodology Revisions to VM0007, v1.4: REDD+ Methodology Framework and REDD+ Modules

DNV·GL

One Bush Street, 12th Floor

San Francisco, CA 94104

Email: climatechange@DNV GL.com

http://www.DNV GL.com

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	Module	
	Tool	
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Client	Permian Global Research 7-10 Savoy Hill London WC2R 0BU Contact: Simon Koenig, email: simon.koenig@permianglobal.com

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Prepared By	DNV (U.S.A.), Inc. (DNV GL)
Contact	One Bush Street, 12th Floor San Francisco, CA 94104 Email: climatechange@DNV GL.com http://www.DNV GL.com
Approved By	Dave Knight
Work Carried Out By	Dr Misheck C Kapambwe, Lead Validator Dr Jason Keller, PRC Sector Expert Dr Marcelo Schmid, REDD Sector Expert Kyle Silon, Project Manager Edwin Aalders, Technical Reviewer

Summary:

Det Norske Veritas (U.S.A.), Inc. (DNV GL) has performed a second validation of revision to "VM0007 REDD Methodology Modules " to confirm that the methodology design, as documented, is sound and reasonable and meets the identified criteria. The validation was performed on the basis of VCSA requirements for VCS methodologies, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The validation was conducted by means of document review, follow-up interviews, and the resolution of outstanding issues. The review of the methodology documentation and the subsequent follow-up interviews has provided DNV GL with sufficient evidence to determine the fulfilment of stated criteria.

The VM0007 methodology provides the REDD+ Methodology Framework and a set of modules for various components of a methodology. The REDD+ Methodology Framework embodies the basic structure of a modular REDD+ methodology, provides the generic functionality of the methodology and frames pre-defined modules and tools for specific functions. The VM0007 methodology provides the REDD+ Methodology Framework and a set of modules for various components of a methodology. The revised modules and tools extend the functionality of the REDD modules and provide a framework for carbon accounting for project activities that avoid emissions from planned (APD); unplanned (AUDD) deforestation and forest degradation; afforestation, reforestation and revegetation activities (ARR); or combinations of these, as well as to any of these activities when they occur on peatland and are combined with peatland rewetting or conservation (which are sub-categories of wetland restoration and conservation - WRC). The REDD+ Methodology Framework, together with the modules and tools, constitute a complete REDD+ baseline and monitoring methodology and are used together to quantify GHG emission reductions and removals from eligible project activities.

In summary, it is DNV GL's opinion that the revision to VM0007 REDD Methodology Modules , version 20140904, meets all relevant VCSA requirements set out in the VCS Program, VCS Standard version 3.4 and AFOLU Requirements v3.4. Hence, DNV GL recommends the approval of the revisions to VM0007 REDD Methodology Modules.

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ABBREVIATIONS

A/R CDM or CDM A/R	Afforestation / Reforestation Clean Development Mechanism
AFOLU	Agriculture, Forestry and Other Land Use
ARR	Afforestation, Reforestation and Revegetation
APD	Avoiding Planned Deforestation and/or Degradation
AUDD	Avoiding Unplanned Deforestation and/or Degradation
CAR	Corrective Action Request
CIW	Conservation of Intact Wetlands
CL	Clarification Request
CUPP	Conservation of Undrained or Partially Drained Peatland
GHG	Greenhouse Gas
NERS	Net GHG Emission Reduction and Removals
REDD	Reduced Emissions from Deforestation and Degradation
RDP	Rewetting of Drained Peatland
RWE	Restoring Wetland Ecosystems
SOC	Soil Organic Carbon
VCSA / VCS	Verified Carbon Standard Association
VCU	Verified Carbon Unit
WRC	Wetlands Restoration and Conservation

1. INTRODUCTION

Permian Global Research has commissioned DNV *(U.S.A)* Inc. (DNV GL) to perform a second assessment of VM0007 REDD Methodology Modules . This report summarizes the findings of the validation of the revisions, performed on the basis of VCSA criteria for VCS methodologies, as well as criteria given to provide for consistent project operations, monitoring and reporting i.e. VCSA criteria refer to VCS Standard, Version 3.4 /2/ and AFOLU Requirements, Version 3.4. /3/. The methodological revision consists of extending the functionality of the methodological framework and modules to Afforestation, Reforestation and Revegetation activities (ARR) and REDD and ARR activities that occur on peatland and are combined with peatland rewetting or conservation (which are sub-categories of wetland restoration and conservation - WRC).

1.1 Objective

The purpose of a validation is to have an independent third party assess the methodology revisions and design. In particular, the methodology's new allowable baselines, carbon accounting methodologies, and compliance with relevant VCSA criteria are validated in order to confirm that the revisions, as documented, are sound and reasonable and meet the identified criteria. Validation is a requirement for all VCS methodology revisions and is necessary to provide assurance to stakeholders of the quality of the projects that use this methodology and their intended generation of the Verified Carbon Units (VCUs).

1.2 Summary Description of the Methodology

The VM0007 methodology provides the REDD+ Methodology Framework and a set of modules for various components of a methodology. The REDD+ Methodology Framework embodies the basic structure of a modular REDD+ methodology, provides the generic functionality of the methodology and frames pre-defined modules and tools for specific functions and provides. This framework also provides guidance on the identification of the most plausible VCS eligible activity as well as the emissions and carbon pools to be estimated. The REDD+ Methodology Framework, together with the modules and tools, constitute a complete REDD+ baseline and monitoring methodology. The revised modules and tools extend the functionality of the REDD modules and provide a framework for carbon accounting for project activities that avoid emissions from planned (APD); unplanned (AUDD) deforestation and forest degradation; afforestation, reforestation and revegetation activities (ARR); or combinations of these, as well as to any of these activities when they occur on peatland and are combined with peatland rewetting or conservation (which are sub-categories of wetland restoration and conservation - WRC). The modules, when used together, quantify GHG emission reductions and removals from eligible project activities

2 ASSESSMENT APPROACH

2.1 Method and Criteria

The validation consisted of the following three phases:

- A desk review of the new methodology against the VCSA requirements listed in Table 1 below.
- Follow-up interviews
- The resolution of outstanding issues and the issuance of the final assessment report and opinion.

2.2 Document Review

The following tables list the documentation that was reviewed during the validation.

Table 1: Standards, methodologies, and other guidance by the VCSA

/1/	VCSA: VCS Program Guide, Version 3.5, 8 October 2013
/2/	VCSA: VCS Standard, Version 3.4., 8 October 2013
/3/	VCSA: AFOLU Requirements, Version 3.4., 8 October 2013
/4/	VCSA: Program Definitions, Version 3.5., 8 October 2013
/5/	VCSA: AFOLU Guidance: Additional guidance for VCS Afforestation, Reforestation and Revegetation projects using CDM Afforestation/Reforestation Methodologies, 8 March 2011
/6/	VCSA: VCS Methodology Template, Version 3, 8 October 2013
/7/	T-ADD "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" – latest CDM-EB approved version
/8/	VCSA: VCS Module Template, Version 3.3, 8 October 2013

Table 2: Documentation provided by the project participants

/9/	REDD+ Methodology Modules: REDD+ Methodology Framework (REDD+-MF) _v20140904, dated: 04 November 2013.
/10/	Estimation of baseline carbon stock changes and greenhouse gas emissions in peatland rewetting and conservation project activities (BL-PEAT) _ v20140904, dated: 04 November 2013.
/11/	Estimation of baseline carbon stock changes and greenhouse gas emissions in ARR project activities on peat and mineral soil (BL-ARR) _v20140821, dated: 04 November 2013.
/12/	Methods for monitoring carbon stock changes and greenhouse gas emissions in WRC project activities (M-PEAT) _ v20140904, dated: 04 November 2013.
/13/	Methods of monitoring greenhouse gas emissions and removals in ARR project activities on peat and mineral soil (M-ARR) _v20140704, dated: 04 November 2013.
/14/	Estimation of emissions from market effects (LK-ME), _ v20140904, dated: 04 November 2013.
/15/	Estimation of emissions from activity shifting for avoided planned deforestation and planned degradation (LK-ASP) _ v20140904, dated: 04 November 2013.
/16/	Estimation of emissions from activity shifting from avoided unplanned deforestation (LK-ASU) _ v20140904, dated: 04 November 2013.
/17/	Estimation of emissions from ecological leakage (LK-ECO) _ v20140904, dated: 04 November 2013.
/18/	Estimation of emissions from displacement of pre-project agricultural activities (LK-ARR) _ v20140904, dated: 04 November 2013.
/19/	Estimation of greenhouse gas emissions from biomass burning (E-BPB) _v20140704, dated: 04 November 2013.

/20/	Methods for stratification of REDD and WRC project areas (X-STR) _v20140819, dated: 04 November 2013.
/21/	Estimation of uncertainty for REDD+ project activities (X-UNC) _ v20140904, dated: 04 November 2013.
/22/	Permian First Methodology Assessment Draft Report, dated 01 April 2014

2.3 Interviews

On April 30 and July 4, 2014 DNV GL held a conference call with Permian Global and VCSA and performed interviews with the methodology developers.

	Date	**Name**	**Organization**	**Topic**
/22/	April 30, 2014 July 4, 2014	Simon Koenig	Permian Global	Kick-off Meeting/Meth Revision
/23/	April 30, 2014 July 4, 2014	Igino Emmer	Silverstrum	Kick-off Meeting/Meth Revision
/24/	April 30, 2014 July 4, 2014	Paula Tassara, Andrew Beauchamp	VCSA	Meth Revision

2.4 Assessment Team

Listed below are the members of the assessment team, their roles, and the nature of their involvement.

Role/Qualification	***Last Name***	***First Name***	***Type of involvement***					
			Desk review	Interviews	Reporting	Supervision of work	Technical review	Expert input
Project Manager	Silon	Kyle (Rwanda)		√		√		
Lead Validator	Kapambwe C	Misheck (Australia)	√	√	√			√
VCS REDD & IFM Expert	Schmidt	Marcelo (Brazil)						√
PRC Sector Expert	Keller	Jason (USA)						√
Technical Reviewer	Aalders	Edwin (Norway)					√	

2.5 Resolution of Findings

The objective of this phase of the validation was to resolve any outstanding issues that needed to be clarified prior to DNV GL's positive conclusion on the methodology design. In order to ensure transparency, a validation protocol was customized for the project. The protocol shows in a transparent manner the criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a VCS project is expected to meet.
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

A corrective action request (CAR) is issued if one of the following occurs:

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions.
- The VCS requirements have not been met.
- There is a risk that emission reductions cannot be monitored or calculated.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

During the assessment the audit team raised 9 Corrective Action Requests and 19 Clarification Requests. In addition, there were 79 comments from VCSA. Details of the individual CARs, CLs and VCSA comments and the consequent close out information can be found in Appendix A of this report.

3 ASSESSMENT FINDINGS

The assessment process focused on the principles set forth by the VCS Program. In particular, the proposed revisions were found to be in full compliance with the principles set out in Section 2.4 of the VCS Standard /2/.

- The revised methodology element adheres to the principle of relevance by selecting the GHG sources, GHG sinks, GHG reservoirs, data and methodologies appropriate to the needs of the VCS Program.
- The revised methodology element adheres to the principle of completeness by including all relevant GHG emissions and removals, and including all relevant information to support criteria and procedures.
- The revised methodology element adheres to the principle of consistency by enabling meaningful comparisons in GHG-related information.
- The revised methodology element adheres to the principle of accuracy by reducing bias and uncertainties as far as is practical.
- The revised methodology element adheres to the principle of transparency by disclosing sufficient and appropriate GHG-related information (i.e. giving sufficient and appropriate justification of procedures and criteria) to allow intended users to make decisions with reasonable confidence.
- The revised methodology element adheres to the principle of conservativeness by using conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated.

3.1 Relationship to Approved or Pending Methodologies

This is an assessment of the revision to the previously approved methodology VM 0007 REDD-MF version 1.4

3.2 Stakeholder Comments

Not applicable.

3.3 Structure and Clarity of Methodology

The revised methodology framework and modules were assessed for compliance with the requirements in the methodology template, appropriate use of terminology and keywords, and clarity. After several amendments and revisions to the methodology as a result of CARs, CLs and comments from the assessment team, as shown in Appendix 1, the methodology framework and modules follow the instructions in the VCS methodology template as required by the VCS Standard /2/. The criteria and procedures are included in appropriate sections of the methodology modules. Terminology used in the methodology modules is consistent with the general requirements for GHG accounting and the specific requirements of the VCS program.

The methodology modules also use the standard language including definitions and keywords appropriately and consistently. VCS key terms such as *must*, *should* and *may* are used appropriately to distinguish mandatory requirements, recommendations (non-mandatory) and permissible or allowable options, respectively. The criteria and procedures are written in a manner that can be understood and applied readily and consistently by project proponents and would enable projects to be unambiguously audited against them.

Overall, DNV GL concludes that the methodology modules have been written in a clear manner and structured according to the requirements of the VCS Program.

3.4 Definitions

Concise, clear and appropriate lists of definitions and acronyms are included under 'definitions' section at the beginning of each module and are used appropriately and consistently throughout the module. DNV GL concludes that the definitions are clear and appropriate enough to assist users to interpret and apply the methodology.

3.5 Applicability Conditions

The revised REDD+MF methodology has set out a number of applicability criteria which follow the same principles as those that were applied within the previous version of the methodology. However, the applicability criteria have been expanded to specifically allow ARR and WRC activities to be included while others have been aimed to restrict the overall scope of the REDD+MF to specific project types.

For the methodology to be applied, project activities must satisfy the following conditions:

Applicability Conditions	**Audit Team Findings**
General All land areas registered under the CDM or under any other carbon trading scheme (both voluntary and	This applicability condition ensures that projects occurring on land areas under other compliance and voluntary programs are not part of the project area both at the inception and during the project

compliance-oriented) must be transparently reported and excluded from the project area. The exclusion of land in the project area from any other carbon trading scheme must be monitored over time and reported in the monitoring reports.	lifetime. This is found to be in line with requirements set out in Section 3.11 of the VCS Standard /2/ and Section 3.5 of AFOLU Requirements /3/.
REDD	
(1) <u>All REDD Activity Types</u> (a) Land in the project area has qualified as forest (following the definition used by VCS) at least 10 years before the project start date.	This is found to be in line with the requirements set out in AFOLU Requirements, Section 4.2.5 /3/ as well as the intended scope of the methodology
(b) If land within the project area is peatland and emissions from the soil carbon pool are deemed significant, the relevant WRC modules (see Table 1) must be applied alongside other relevant modules.	This applicability condition is clear, precise and deemed appropriate as it ensures projects that generate net GHG emission reductions on land that includes peatland within its boundary also account for significant emissions from the peatland section of the project. This is especially the case for the REDD+ project activities that combine with WRC activities under AFOLU Requirements, Section 4.2.20 /3/ .
(c) Baseline deforestation and forest degradation in the project area fall within one or more of the following categories: • Unplanned deforestation (VCS category AUDD); • Planned deforestation/degradation (VCS category APD); • Degradation through extraction of wood for fuel (fuelwood and charcoal production) (VCS category AUDD).	The applicability condition is found to be in line with the requirements set out in AFOLU Requirements, Section 4.2.9 /3/.
(d) Leakage avoidance activities must not include: • Agricultural lands that are flooded to increase production (e.g., paddy rice); • Intensifying livestock production through use of “feed-lots” and/or manure lagoons	The applicability condition is sufficiently clear, precise and can be used to determine whether a project activity meets with the condition.

(2) <u>Unplanned Deforestation</u> (a) Baseline agents of deforestation must: (i) clear the land for settlements, crop production (agriculturalist) or ranching, where such clearing for crop production or ranching does not amount to large scale industrial agriculture activities; (ii) have no documented and uncontested legal right to deforest the land for these purposes; and (iii) be either residents in the Reference Region for Deforestation (cf. section 1 below) or immigrants. Under any other condition this framework must not be used.	The applicability condition is found to be in line with the requirements set out in AFOLU Requirements, Section 4.2.9 /3/
(b) If, in the baseline scenario of avoiding unplanned deforestation project activities, the post-deforestation land use constitutes reforestation, this methodology may not be used."	The language of this applicability condition is sufficiently clear and concise.
(3) <u>Planned deforestation/degradation</u> (a) Conversion of forest lands to a deforested condition must be legally permitted.	The applicability condition is found to be in line with the requirements set out in AFOLU Requirements, Section 4.2.9 /3/
(4) <u>Degradation (Fuelwood/Charcoal)</u> (a) Fuelwood collection and charcoal production must be "non-renewable" in the baseline period.	The applicability condition is found to be in line with the requirements set out in AFOLU Requirements, Section 4.2.8 /3/
(b) If degradation is caused by either illegal or legal tree extraction for timber, this framework cannot be used.	The applicability condition is sufficiently clear, precise and can be used to determine whether a project activity meets with the condition.
ARR	
(a) Where exclusion of project activities on wetlands exist in the applicability conditions of methodologies and tools, these can be neglected for the purpose of their use within this Methodology Framework, as accounting procedures for the peat soil are provided in BL-PEAT and M-PEAT (b) The project area is non-forest land or with	The applicability condition is sufficiently clear, precise and can be used to determine whether a project activity meets with the condition. It provides guidance on the use of REDD+MF in conjunction with other methodologies and tools that may exclude certain activities on wetlands. The applicability condition is also in line with the requirements set out in AFOLU Requirements,

degraded forest. (c) The project scenario does not involve the harvesting of trees. Therefore, procedures for the estimation of long-term average carbon stocks are not provided. (d) The project scenario does not involve the application of nitrogen fertilizers.	Section 4.2.20(1) /3/. As noted under this section, ARR activities that involve nitrogen fertilization, active peatland drainage or lowering of the water table depth, such as draining in order to harvest, are not eligible project activities, as they are likely to enhance net GHG emissions.
WRC	
(a) This methodology is applicable to RDP and CUPP activities on project areas that meet the VCS definition for peatland. The scope of this methodology is limited to domed peatlands in the tropical climate zone.	The applicability criterion is precise and clear and in line with requirements of AFOLU Requirements, Sections 4.2.16 and 4.1.19 /3/. Essentially, rewetting of drained peatland (RDP) and conservation of undrained or partially drained peatland (CUPP) activities are sub-categories of Restoration of Wetland Ecosystems (RWE) and Conservation of Intact Wetlands (CIW) of the overall Wetlands Restoration and Conservation (WRC) project category under AFOLU Requirements, Sections 4.2.16 and 4.2.19 /3/.
(b) Fire reduction projects on peatland that exclude rewetting as part of the project activity are not eligible.	The applicability condition is sufficiently clear and precise and in line with the requirements set out in AFOLU Requirements, Section 4.2.19(b) /3/, which states that fire-related activities on peatlands that exclude rewetting as part of the project are not eligible, because fire reduction activities on drained peatland are unlikely to be effective over the long term without rewetting.
(c) Rewetting of drained peatland and conservation of undrained or partially drained peatland may be implemented in combination with REDD project activities. REDD project activities on peatland must not increase drainage.	This applicability condition sufficiently clear is found to be in line with the requirements set out in AFOLU Requirements, Section 4.2.20 /3/.
(d) Rewetting of drained peatland may be implemented as a separate activity or in combination with ARR project activities. ARR activities must not enhance peat oxidation and therefore this activity requires at least some degree of rewetting.	The applicability condition is found to be in line with the requirements set out in AFOLU Requirements, Section 4.2.20 /3/ which allows combining other AFOLU activities with wetland restoration or conservation activities. However, ARR activities that do not include rewetting are not eligible as they would enhance peat oxidation.

Overall, DNV GL concludes that, after satisfactory corrections and revisions to the methodology framework and the modules as a response to respective CARS, CLs and comments given in Appendix 1, applicability conditions are written in a sufficiently clear and precise manner and can be used to determine whether a project activity meets with the condition. As written, applicability conditions will enable projects to demonstrate conformance at the time of project validation to ensure that projects do not fall out of line with applicability conditions.

3.6 Project Boundary

The VCS Standard requires that the methodology establish criteria and procedures for describing the project boundary and identifying and selecting optional carbon pools, i.e. sources, sinks and reservoirs relevant to the baseline and project scenarios. Procedures to quantify emissions need to be included for each of these pools and sources in project that can demonstrate significance in using the appropriate VCS tools.

The methodology framework and the modules have retained the principles in determining the project spatial, temporal and gaseous boundaries during the revision of the methodology and were necessarily expanded to address the inclusion of ARR and WRC within the carbon pools. They clearly require that each project category defines its spatial (geographic) and temporal boundaries (i.e., historical reference period, project crediting period, and monitoring period), carbon pools, and the sources and associated types of GHG emissions that the project would affect. Criteria and procedures for defining spatial and temporal boundaries for REDD, ARR and WRC project types are clearly stated including reference to relevant modules to assist projects in establishing these boundaries properly. This is deemed compliant to AFOLU Requirements section 4.2.14.

The carbon pools, sources and associated types of GHG emissions that the project type (i.e., REDD, ARR or WRC) would affect are clearly stated in the methodology framework and relevant modules. The methodology requires that projects include and account for all significant carbon pools and sources of gaseous emissions in project boundaries and to conservatively exclude the insignificant ones. AFOLU Requirements, Section 4.3.3 /3/ requires the methodology to establish the criteria and procedures by which a pool or GHG source may be determined to be *de minimis.* This methodology requires projects to use the latest CDM-EB approved version of “Tool for testing significance of GHG emissions in A/R CDM project activities” to determine the significance of a carbon pool or an emissions source and this is in compliant with this VCS requirement. Each carbon pool included in or excluded from the boundary of project activities in the baseline and project scenarios is clearly and appropriately indicated in tables in the methodology in line with Table 2 of the AFOLU Requirements /3/, including the appropriate modules/tools and when use of these (modules/tools) is mandatory or optional under each project activity type. Similarly, each baseline and project GHG emission source included in or excluded from the boundary of (and reasonably attributable to) each project type and activity is clearly stated and sufficiently justified and in compliance with AFOLU Requirements, Section 4.3.3 /3/.

Overall, DNV GL concludes that, after satisfactory amendments and revisions to the methodology as a result of CARs, CLs and Comments during the assessment, the criteria and procedures for describing the project boundary, identifying and selecting optional sources, sinks and reservoirs relevant to the baseline and project scenarios are sufficient, appropriate, and adequate for project scenarios and in compliance with the AFOLU Requirements, Section 4.3.3 and the VCS Standard, Section 4.4 and are appropriate to the project activities covered by the methodology.

3.7 Baseline Scenario

VCS Standard, Section 4.5.4 /2/ requires the methodology to identify alternative baseline scenarios and determine either the most plausible baseline scenario or an aggregate baseline scenario for the project activity, and that aggregate baseline scenarios be determined by combining likely scenarios on a probabilistic (i.e., likelihood) basis. AFOLU Requirements, Section 4.4.1 /3/ requires the methodology to follow an internationally accepted GHG inventory protocol, such as the *IPCC 2006 Guidelines for National GHG Inventories* when determining and establishing a baseline scenario.

The REDD+ methodology framework requires projects to use the T-ADD "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" – latest CDM-EB approved version /7/ to determine the most plausible baseline scenario for each of the project activities included. T-ADD is an internationally accepted GHG inventory protocol and its use in this methodology in compliance with AFOLU Requirements, Section 4.4. Although this tool is designed for use in A/R CDM project activities, the methodology provides guidance on the adaptation of the tool to this methodology especially in the translation of terminology. However, the methodology also adds a caveat that when there is a conflict between the CDM tool requirements and the VCS rules, then the VCS rules must take precedence, as outlined in AFOLU Guidance: "Additional guidance for VCS Afforestation, Reforestation and Revegetation projects using CDM Afforestation/Reforestation Methodologies"/5/, available on VCS website.

The translation of terminology between this methodology and the terminology in the tool is shown in Table 1 below.

Where the tool refers to	It must be understood as referring to
'A/R, afforestation, reforestation, or forestation'	'REDD, ARR or WRC project activity'
'Net greenhouse gas removals by sinks'	'Net greenhouse gas emission reductions'
'CDM'	'VCS'
'DOE'	'VVB'
'tCERs, lCERs'	'VCUs'

Table 1: Translation between this methodology and T-ADD terminology

The methodology also requires project activities to reassess and revise project baseline every 10 years. DNV GL deems the 10 year interval for baseline reassessment to be a reasonable and sufficient period that would enable projects to identify and explain patterns of change in land use or land management practices and can be used to make future projections of activities in the project area and/or proxy/reference areas. The purpose of baseline reassessments is to:

- Capture changes in the drivers and/or behavior of agents that cause the change in land use and/or land management practices and changes in carbon stocks. The new baseline scenario must be
- Incorporate the new baseline scenario into revised estimates of baseline emissions
- Evaluate the validity of proxies for GHG emissions

Ex ante baseline projections beyond a 10 year period is not required for REDD and WRC projects activities. However, the methodology appropriately requires project activities to reassess the baseline by extending the historical reference period to include the original reference period and all subsequent monitoring periods up to the beginning of the current monitoring period.

After satisfactory amendments and revisions to the procedure for determining the most plausible baseline scenario methodology as a result CARs, CLs and Comments during the assessment (see Appendix 1), DNV GL concludes that the criteria and procedures for identifying alternative baseline scenarios and determining the most plausible baseline scenario comply with VCS requirements and are appropriate for the AFOLU project categories covered by the methodology.

3.8 Additionality

The methodology continues to use the latest version of the T-ADD "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" – latest CDM-EB approved version /7/. The tool is appropriate for the project activities covered by the methodology because it provides procedure to determine project additionality through evaluation of credible alternative and proposed project scenarios. The methodology framework also requires that the default factors and standards used to ascertain GHG emission data and any supporting data for demonstrating additionality must be publicly available from a recognized, credible source, such as IPCC 2006 Guidelines for National GHG Inventories or the IPCC 2003 Good Practice Guidelines for Land Use, Land-Use Change and Forestry. This additional requirement is appropriate and augments the use of the tool and in line with the VCS program.

DNV GL concludes that the criteria and procedures for determining additionality are appropriate for the project activities covered by the methodology framework and modules, and are in compliance with the requirements of VCS Standard, Section 4.6 /2/, AFOLU Requirements, Section 4.1.2 /3/ and the VCS Methodology Template.

3.9 Quantification of GHG Emission Reductions and Removals

3.9.1 Baseline Emissions

The AFOLU Requirements, Section 4.5 /3/ and the VCS Standard, Section 4.7 /2/ requires methodologies to establish procedures to quantify the GHG emissions or removals for the selected GHG sources, sinks and/or reservoirs, separately for the project and baseline scenario. *The IPCC 2006 Guidelines for National GHG Inventories* or the *IPCC 2003 Good Practice Guidance for Land Use, Land-Use Change and Forestry* shall be used as guidance for quantifying increases or decreases in carbon stocks and GHG emissions.

The methodology framework has established procedures for quantifying baseline emissions in each project activity type (REDD, ARR and WRC) for the selected GHG sources, sinks and/or reservoirs. The relevant modules (when applied individually or in combination with other modules) provide procedures, equations and formulas, default factors and parameters appropriate to each project activity type covered by the methodology. For REDD activities, the methodology requires projects to use methods provided in BL-PL Module (for planned deforestation/degradation; BL-UP Module (for unplanned deforestation); and BL-DFW Module (for forest degradation from extraction of wood for fuel). Baseline GHG removals in ARR activities must be estimated using BL-ARR Module while baseline net emissions from soil (peat) carbon pool in combined project activities (i.e., ARR or REDD with a WRC component) must be estimated using BL-PEAT Module. For combined activities, the methodology require projects to develop, both *ex ante* and *ex post*, a unique baseline considering peat as the soil carbon pool and incorporating the resulting emission estimates to the calculation of emissions and carbon stock changes of the ARR and/or REDD activities.

Overall, DNV GL concludes that after satisfactory amendments and revisions to relevant sections of the methodology framework and modules as a result CARs, CLs and Comments (see Appendix 1), the procedure for quantifying baseline emissions is appropriate for the project activities covered by the methodology. The

equations and formulas used are appropriate and without error, and default factors and parameters used are appropriate and in conformance with VCS requirements.

3.9.2 Project Emissions

Project emissions (*ex ante* and *ex post*) for each monitoring period are quantified using procedures provided in the monitoring modules for each project activity type (REDD, ARR and WRC) for the selected GHG sources, sinks and/or reservoirs. The monitoring modules provide procedures for monitoring changes in project carbon stocks from both anthropogenic and/or natural causes relative to previous periods, and relevant equations and formulas, default factors and parameters for calculating project emissions. These are deemed appropriate for each project activity type covered by the methodology. For REDD activities, the methodology requires projects to use methods provided in M-REDD Module to estimate net carbon stock changes; M-ARR Module to estimate net GHG removals in the project scenario for ARR project activities; and M-PEAT Module to estimate net GHG emissions from soil (peat) carbon pool the project scenario in combined project activities. For parameters that will be monitored subsequent to project initiation, the methodology requires projects to refer to guidance provided in the parameter tables of the relevant modules for the values that must be used in *ex-ante* calculations.

Overall, DNV GL concludes that after satisfactory amendments and revisions to relevant sections of the methodology framework and modules as a result CARs, CLs and Comments (see Appendix 1), the procedures for quantifying project emissions in the monitoring modules are appropriate for the project activities covered by the methodology. The equations and formulas used are appropriate and without error, and default factors and parameters used are appropriate and in conformance with VCS requirements.

3.9.3 Leakage

According to the VCS Standard, Section 4.7 /2/ and AFOLU Requirements Section 4.6 /3/, methodologies are required to establish procedures to quantify all significant sources of leakage (i.e., any increase in GHG emissions that occurs outside the project boundary (but within the same country), and is measurable and attributable to the project activities).

The methodology provides procedures to quantify three types of leakage:

- Activity shifting leakage,
- Market Effects leakage and
- Ecological leakage.

All project types must consider activity shifting leakage and apply appropriate leakage modules when the actual agent of deforestation and/or forest or wetland degradation moves to an area outside of the project boundary and continues its deforestation or degradation activities elsewhere. Where activity shifting leakage occurs due to displacement of planned deforestation/degradation, the Module LK-ASP must be used. For leakage occurring due to displacement of unplanned deforestation, LK-ASU Module must be used while LK-DFW Module must be used for leakage due to displacement of fuel-wood/charcoal collection. Leakage due to displacement of pre-project agricultural activities must be quantified using LK-ARR Module.

Where the implementation of project activities significantly reduces the production of a commodity (e.g., timber, fuelwood, or charcoal) causing a change in the supply and market demand equilibrium that results in a shift of production elsewhere to make up for the lost supply, the methodology requires projects to use LK-ME Module to account for the market effects leakage. The methodology also requires projects to account for potential leakage using modules BL-DFW and LK-DFW in cases where, pre-project, unsustainable fuelwood

collection is occurring within the project boundaries. For project activities where leakage prevention leads to a significant increase in the use of fertilizers, module E-NA must be used

In REDD or ARR project activities not combined with WRC and where pre-project activities may be displaced to undrained or partially drained peatland areas, the methodology appropriately requires that procedures provided for activity shifting to peatland areas in Module LK-ASP (planned drainage of peatland) or in Module LK-ASU (unplanned drainage of peatland) must be used. For all other WRC project activities where a project activity causes changes in GHG emissions or fluxes of GHG emissions from ecosystems that are hydrologically connected to the project area, LK-ECO Module must be used to account for any significant ecological leakage.

The methodology requires projects to determine significance of leakage by using the CDM A/R methodological tool T-SIG "Tool for testing significance of GHG Emissions in A/R CDM Project Activities". This is in line with the AFOLU Requirements, Section 4.6.2 /3/

Overall, DNV GL concludes that methodology has identified all possible leakage sources relevant and appropriate for the project activities covered by the methodology. The methods provided by relevant leakage modules to quantify the three leakage types are mathematically correct and the procedures are adequate and in line with the AFOLU requirements 4.6.1, 4.6.2., 4.6.8, 4.6.15, 4.6.16, 4.6.18 and 4.6.19 /3/.

3.9.4 Net GHG Emission Reductions and Removals

Sections 8.4.1 to 8.4.4 of the methodology framework provide appropriate criteria and procedures for quantifying net GHG emission reductions and removals generated by each project activity type (REDD, ARR, WRC) and the total across all project types (REDD, ARR and WRC). For each monitoring period the methodology requires the quantification of net GHG emissions reductions and removals (NERs) by subtracting gross reductions and removals from the buffer amount allocation estimated using procedure in Section 8.4.5 of the methodology. The methodology requires projects to account for uncertainty through the use of weighted standard errors of estimates from the baseline emissions calculations and carbon stock measurements in the project estimated using Module X-UNC.

Overall, DNV GL concludes that the procedures for calculating net GHG emission reductions and removals are appropriate for the project activities covered by the methodology. The equations and formulas used are appropriate and without error; the uncertainties associated with the quantification of net GHG emission reductions and removals are addressed appropriately and in line with the VCS AFOLU requirements, Section 4.7 /3/.

3.10 Monitoring

The criteria for the monitoring plan and monitoring activities are based on the requirements set out in the previous version of the methodology and as such in line with the VCS AFOLU requirements, Section 4.8 /3/. The methodology framework has listed all parameters to be available and assessed validation in Section 9.1 of the methodology and those that need to be monitored as part of the project implementation are listed in Section 9.2

Available and monitored parameters are summarised below.

Data and Parameters Available at Validation

- $\Delta C_{BSL,degrad\text{-}FW/C,}$ which represents net greenhouse gas emissions in the baseline from degradation caused by fuelwood collection and charcoal making is calculated in Module BL-DFW and used to calculate baseline emissions in Equation [3] of the methodology. This parameter is properly justified in the source Module BL-DFW.
- $\Delta C_{BSL,planned}$, which represents net greenhouse gas emissions in the baseline from planned deforestation is calculated in Module BL-PL and used in Equation [3] of the methodology to calculate baseline emissions. This parameter is properly justified in the source Module BL-PL.
- $\Delta C_{BSL,unplanned}$, which represents net greenhouse gas emissions in the baseline from unplanned deforestation is calculated in Module BL-UP and used in Equation [3] of the methodology to calculate baseline emissions. This parameter is properly justified in the source Module BL-UP.
- $\Delta C_{BSL\text{-}ARR,}$ which represents baseline net GHG removals by sinks in year *t* is adapted from the VCS approved A/R CDM consolidated methodology AR-ACM0003 (Afforestation and reforestation of lands except wetlands) and derived in Module BL-ARR and used in Equation [5] of the methodology to calculate baseline emissions. This parameter is properly justified in the source Module the original AR-ACM0003 methodology.
- $GHG_{BSL\text{-}WRC}$, which represents net GHG emissions in the WRC baseline scenario up to year *t** is estimated in Module BL-PEAT and used in Equation [6] of the methodology to calculate baseline emissions.

Data and Parameters Monitored

- $GHG_{WPS\text{-}REDD}$, which represents net GHG emissions in the REDD project scenario up to year *t** is estimated in Module M-REDD and used in Equation [2] of the methodology to calculate project emissions.
- $\Delta C_{LK\text{-}AS,degrad\text{-}FW/C}$, which represents net GHG emissions due to activity-shifting leakage for degradation caused by extraction of wood for fuel and is estimated in Module LK-DFW and used in Equation [4] of the methodology to calculate leakage due to activity shifting
- $\Delta C_{LK\text{-}AS,planned}$, which represents net GHG emissions due to activity-shifting leakage for projects preventing planned deforestation and is estimated in Module LK-ASP and used in Equation [4] of the methodology to calculate leakage due to activity shifting.
- $\Delta C_{LK\text{-}AS,unplanned}$, which represents net GHG emissions due to activity-shifting leakage for projects preventing unplanned deforestation and is estimated in Module LK-ASU and used in Equation [4] of the methodology to calculate leakage due to activity shifting.
- $\Delta C_{LK\text{-}ME}$, which represents net GHG emissions due to market-effects leakage and is estimated in Module LK-ME and used in Equation [4] of the methodology to calculate leakage due to market effects leakage.
- $\Delta C_{WPS\text{-}ARR}$, which represents net GHG emissions in the ARR project scenario up to year *t** and is estimated in Module M-ARR and used in Equation [5] of the methodology to calculate project emissions.
- $\Delta C_{LK\text{-}ARR}$, which represents net GHG emissions due to leakage from the ARR project activity up to year *t** and is estimated in Module LK-ARR and used in Equation [5] of the methodology to calculate leakage.

- $GHG_{WPS\text{-}WRC}$, which represents net GHG emissions in the WRC project scenario up to year *t** and is estimated in Module M-PEAT and used in Equation [6] of the methodology to calculate project emissions.
- $GHG_{LK\text{-}ECO}$, which represents net GHG emissions due to ecological leakage from the WRC project activity up to year *t* and is estimated in Module LK-ECO and used in Equation [6] of the methodology to calculate ecological leakage.
- $E_{FC,i\,t}$, which represents emission from fossil fuel combustion in stratum *i* in year *t* and is estimated in Module E-FFC and used in Equations [8], [9] and [10] of the methodology to calculate project emissions.
- $N_2O_{direct\text{-}N,i,t}$, which represents direct N_2O emission as a result of nitrogen application on the alternative land use within the project boundary in stratum *i* in year *t* and is estimated in Module E-NA and used in Equations [8], [9] and [10] of the methodology to calculate project emissions.

Following satisfactory responses and amendments as requested by the assessment team, DNV GL concludes that data and parameters to be reported, including sources of data and units of measurement are clearly stated and their inclusion sufficiently justified in the methodology framework and relevant modules. In addition, the methodology framework includes requirements for the development of a project monitoring plan. Tasks to be addressed by the monitoring plan include revision of the baseline; monitoring of project implementation; monitoring of actual stock changes and GHG emissions; monitoring of leakage carbon stock changes and GHG emissions; and estimation of ex-post net carbon stock changes and GHG emissions. These monitoring tasks are deemed to be (a) compliant with the VCS requirements outlined in VCS Standard, Section 4.8.1 /2/ and AFOLU Requirements, Section 4.8 /3/ and, (b) sufficient to be used for monitoring projects covered by this methodology.

4 ASSESSMENT CONCLUSION

DNV *(U.S.A)* Inc. has performed a validation of the “VM0007 REDD Methodology Modules . The validation was performed on the basis of VCSA criteria for methodologies as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the methodology documentation, and the subsequent follow-up interviews, have provided DNV GL with sufficient evidence to determine the fulfilment of stated criteria.

The “VM0007 REDD Methodology Modules ”, correctly applies the requirements set out under the VCS Program Guide, version 3.5, VCS Standard, version 3.4, and AFOLU Requirements, version 3.4.

Projects applying the methodology will result in reductions of CO_2 / CH_4 / N_2O emissions which are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that by applying the methodology projects are able to demonstrate that they are not likely to be the baseline scenario. Emission reductions attributable to the project applying and meeting the requirements of the methodology are hence additional to any that would occur in the absence of the project activity.

In summary, it is DNV GL’s opinion that the revisions proposed by “VM0007 REDD Methodology Modules ” in Version as described therein, meets all relevant VCSA requirements for the VCS Methodologies. Hence, DNV GL recommends the approval of the revision as the revised VM0007 REDD Methodology Modules

5 REPORT RECONCILIATION

Not Applicable as this is the first draft of the second validation.

6 EVIDENCE OF FULFILMENT OF VVB ELIGIBILITY REQUIREMENTS

DNV (U.S.A.), Inc. holds accreditation to perform validation for projects under Sectoral Scope 3 (agriculture, forestry, other land use) under the American National Standards Institute (ANSI). DNV GL, therefore, is eligible under the VCS Program to perform assessments for the MED, which falls under the Sectoral Scope 3.

7 SIGNATURE

Signed for and on behalf of:

Name of entity: *_DNV (U.S.A) Inc._____*

Signature: _ 

Name of signatory: *__David Knight_____*

Date: *__24th September 2014_____*

8 APPENDIX A

CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

Corrective action requests – REDD+FM

CAR/CL ID	Clarifications and Corrective action requests by verification team	Summary of response from Proponent	Verification team conclusion
	REDD+FM		
CAR 1	**Requirement**: VCS Standard v3.4, Section 4.7.1: *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.* **Non-Compliance**: Failure to include table that should provide additional guidance to account for any significant increases in emissions of CO_2 and N_2O **Objective evidence**: Last sentence of first paragraph of Section 5.4.1 refers to Table 4 to provide additional guidance to account for any significant increases in emissions of CO_2 and N_2O. However, Table 4 is not included. PP must include Table 4	Table numbering adjusted.	Checked, Ok. Table numbering adjusted and Table 4 is included under Section 5.3.3. **CAR 1 is closed.**
CL1	**Finding:** **Section 2: Summary description of the methodology** Identification of the most plausible VCS eligible activities The table (Additionality and Crediting method) appears 'orphaned' as it has no description that connects it to the rest of the section.	Added: "The additionality and crediting method are defined in the below table".	Checked, Ok. A preceding short sentence describing the table has been added. **CL 1 is closed.**

	PP must include either a table title and number or a preceding short sentence describing the table.		
CL2	**Finding:** **Section 4.4.4: WRC** According to Section 4 (Applicability Conditions} in the M-PEAT Module, *The project area must meet the VCS definition for peatland. This module is limited to domed peatlands in the tropical climate zone* This is not reflected here. As REDD+ MF provides the basic structure of a modular REDD+ methodology, PP must clarify why this applicability condition is not reflected here.	Applicability condition added.	Checked, Ok. Applicability condition now reflected in REDD+FM under Section 4.4. **CL2 is closed.**
CL3	**Finding:** **Section 8.4.5: Calculation of VCS buffer** It is not clear whether GHG emissions from biomass burning (pressumably estimated using E-BPB module) are included in the calculation of VCS buffer. PP must clarify this.	WIP; we currently seek clarification from the original authors as to why biomass burning was left out. <u>Follow-on Response (via email):</u> …Regarding the exclusion of biomass burning from the buffer equations we got the clarification from Tim Pearson (Winrock) that the idea behind that was that emissions from fossil fuels and fertilizer are permanent and non-reversible and that biomass burning is necessarily more complicated. Not including biomass burning generates a conservative estimation of the buffer withholding, which follows the same logic behind our simple equations for ARR and	CL3 still open

		WRC. **Permian:** We added to Section 8.4.5: "For REDD project activities, the calculation of the net change in carbon stocks applied in this methodology includes an adjustment for emissions from fossil fuel combustion and direct N_2O emissions and excludes emissions from biomass burning. Besides other GHG fluxes, biomass burning involves a carbon stock change. The procedure, therefore, provides a conservative (larger) estimate of the buffer withholding."	Checked and verified, OK. Addition made to Section 8.4.5 **CL 3 is now closed**
VCSA	**VCSA COMMENTS/QUESTIONS**		
[MR1]	**Section 1: Sources** This tool is no longer active under the CDM. Please provide justification for why this inactive tool is still appropriate to be used by this methodology.	The consolidation of methodologies and tools under CDM A/R has made the tool redundant, but the procedures are still valid and applicable in VM0007. Once we know the exact motivation we want to get in touch with the VCS for guidance on how to proceed, since the procedures in these tools are still valid under VCS rules. One option might be to provide the tools via the VCS website. Follow-on Response (via email): I have received confirmation by ARWG member Neil Bird that the significance tool has been abolished because an independent assessment of significance of pools and sources is not anymore necessary and that the CDM EB has deemed the N2O tool irrelevant	MR1 still open

	Round 2: VCS to clarify	because emissions from fertilizer use are usually not significant. This implies that the CDM website does not provide links to these tools anymore. This presents an issue for our methodology and the VCS AFOLU requirements as well. For example, requirement 4.3.3 refers to the significance tool. I suggest we get in touch with the VCS and suggest the tools be provided through the VCS, because they are still relevant despite the decisions of the CDM EB. **Permian** Confirmation from VCS/Paula Tassara dd 7 August 2014: "I'm currently working on an Error & Clarification to post under the current version of VM0007 to allow for use of these tools." Practically this implies we refer to the URL on the CDM website where the abolished tools are still available. https://cdm.unfccc.int/methodologies/ARmethodologies/tools	Checked. URL reference updated to to "https://cdm.unfccc.int/methodologies/ARmethodologies/tools" **MR 1 is closed**
[PT2]	**Section 2: Summary Description of the Methodology – Table 2** Wouldn't this be "Rewetting and avoided deforestation/degradation", and also right below, "Avoided drainage and deforestation/degradation"?	Correct. Degradation added.	PT2 still open

	Round 2: Correction made, but not clear why the abbreviation 'degr' has been used for 'degradation'. PP must clarify.	**Permian:** Changed to 'degradation'	Checked, Ok. Change made. **PT 2 is now closed**
[PT3]	**Section 2: Summary Description of the Methodology** Project category types (REDD, ARR, WRC, etc.), are different to project activity types… in REDD (AUDD, APD), ARR, in WRC (RWE, CIW). It would probably be more appropriate to use these more specific acronyms here so that readers can refer back to the AFOLU requirements that govern them.	Text amended as suggested.	Checked, Ok. Text has been amended. **PT3 is closed**
[PT4]	**Section 2: Summary Description of the Methodology** Seems there's a typo here, should be: "Avoiding unplanned deforestation / unplanned degradation (AUDD), avoiding planned deforestation (APD)."	See response to PT3.	Checked, Ok. Text has been amended. **PT4 is closed**
	Further, AUDD would include only forest degradation caused by extraction of wood for fuel. Thus it would be better to make clear that the second "D" in AUDD refers to this. Also, it is important to make this distinction here as this methodology is not applying the full VCS definition for forest degradation i.e., in its full range (AUDD in AFOLU Requirement 4.2.5) "Degradation is the persistent reduction of canopy cover and/or carbon stocks in a forest due to human activities such as animal grazing, fuelwood extraction, timber removal or other such activities" An idea of how this part here could read (and please add the acronyms for the project activities types):	See response to PT3.	

	"Avoiding unplanned deforestation / unplanned degradation due to collection of wood for fuel and production of charcoal (AUDD), avoiding planned deforestation (APD), forest rehabilitation (ARR), and peatland rewetting and conservation (RWE).		
[PT5]	**Section 2: Summary Description of the Methodology** "Any or all of these activity types" Does this mean forest rehabilitation, ARR could be implemented alone? From how the tables are presented above, ARR can be present as a combined category (e.g., REDD+ARR, WRC+ARR), but not alone. After reading through the MF and modules, I believe the full spectrum of single and combined categories are: REDD (APD, AUDD-*Degradation only due to fuel wood collection) REDD+ARR (*when part of the land is non-forest or degraded forest) REDD+WRC (CIW, RWE) REDD+ARR+WRC WRC alone (CIW and/or RWE) Please confirm if this is case. If so, it would be best to have the writing or tables express this more clearly at this stage	This is correct, except for WRC alone, which is not covered. Sentence under question replaced with "Projects can be REDD, REDD+ARR, WRC+ARR, WRC+REDD+ARR.".	Checked, Ok. Sentence has been replaced to improve clarity. **PT5 is closed**
[PT6]	**Section 3: Definitions** <u>Expert Judgment</u> Repetition of a VCS Program Definition, and is also inconsistent with the general methodology applicability condition "This methodology includes forest degradation caused only by extraction of wood for fuel". Please either modify the VCS definition to reflect what is eligible under	This comment does not occur under Expert Judgment but was related to the definition of degraded forest deleted by the VCS.	PP's response deemed adequate. The PT6 was a mistake as the comment is not connected to any definition presented in the section 3. **PT6 no longer valid.**

	this methodology or just remove.		
[PT8]	**Section 4.2.1: All REDD activity types** This is not an applicability condition. It belongs to modules with procedures for baseline determination, for each REDD activity type. Please remove.	Sentence removed.	Checked, Ok. The sentence "Baselines must be renewed every 10 years from the project start date" has been removed. **PT 8 is closed.**
[PT9]	**Section 4.2.2: Unplanned deforestation** This should be re-written as an applicability condition. As it is, it belongs in the module specifying procedures to determine baseline agents of deforestation. Thus, this needs to be rephrased, in non-procedural terms, to capture the concept or reality underlying the eligible unplanned deforestation (e.g., "This methodology is applicable to subsistence farming agents of deforestation in the baseline scenario, as further detailed in module XX).	Like MR we also believe this is written as an applicability condition.	DNV GL also deems the way the applicability condition is written to be OK. **PT 9 is closed**
[PT10]	**Section 4.2.2: Unplanned deforestation** Not an applicability condition, but an actual methodological requirement (procedure). Please remove and include in the appropriate module.	In 4.2.1: Moved to Section 8.3 In 4.2.2: We believe this is an applicability condition. If post-deforestation land use involves reforestation the methodology may not be applied as per VCS requirements. Moreover, project proponents are now alerted at an early stage because the applicability conditions are used to assess if the methodology can be used. Clarification from VCS sought by DNV	Checked, Ok. The sentence "Where, pre-project, unsustainable fuelwood collection is occurring within the project boundaries modules BL-DFW and LK-DFW must be used to determine potential leakage" has been moved to Section 8.3. **PT 10 is closed** The second part of PP's response applies to PT11.

[PT11]	**Section 4.2.2: Unplanned deforestation** This needs to be rephrased to become an applicability condition, e.g., "Avoiding unplanned deforestation is not applicable to reforestation as a post-deforestation land use". Please ensure that the need to demonstrate this is in fact included in the right module. **Round 2:** **Clarification from VCS:** My comment for "It shall be demonstrated that post-deforestation land use shall not constitute reforestation" acknowledges this is an applicability condition. The comment points at simply rephrasing so that the language is consistent as an applicability condition, e.g. "this methodology is not applicable to reforestation in the post-deforestation land use" or something similar. Full validation of BL-UP is not the intent of the comment… just to ensure if what is stated here is covered in the BL-UP, if not, please let us know. **DNV GL Team Conclusion:** DNV GL does not see why the proposed sentence couldn't be correct and included in the module.	The proposed sentence does not seem to be correct. We are not making changes to BL-UP to avoid a full re-validation of this module. Clarification from VCS sought by DNV **Permian:** Applicability condition rephrased to: "If, in the baseline scenario of avoiding unplanned deforestation project activities, the post-deforestation land use constitutes reforestation, this methodology may not be used."	PT 11 still open Checked and verified, OK. Applicability condition under Section 4.2.2 rephrased and deemed satisfactory. **PT11 is now closed**
[PT12]	**Section 4.2.3: Planned deforestation** Perhaps these modules would need to be re-stated for AUDD? **MR:** This is actually more of a procedural requirement than an applicability condition and is included in the relevant modules including a definition for sustainable fuelwood collection. We may want to just move this into the leakage	Moved to Section 8.3	Checked, OK. **PT 12 is closed.**

	section as I don't think it belongs here.		
[PT13]	**Section 4.2.4: Degradation (fuelwood/charcoal)** ARR Not a methodology applicability condition (belongs in the modules). Can the second part be rephrased as an applicability condition?	Removed the first sentence. The remaining text provides important information on applicability conditions and we see no reasons to amend this.	Checked, OK. The first sentence was removed and the remaining text is good to be an applicability condition. **PT13 is closed.**
[PT14]	**Section 5.1.1: General** Please state all the options here for clarity or refer to where all of these single or combined activities are listed.	"etc." removed because the only 2 combinations intended here are WRC+REDD and WRC+ARR. Note that this list is not the same as in Ch 2 under Table 2.	Checked, Ok. 'etc.' removed and the justification provided is deemed satisfactory. **PT 14 is closed**
[PT15]	**Section 5.1.3: ARR** I believe this is inaccurate. AFOLU Requirement 3.1.6 states: "*Such proof is not required where such clearing or conversion took place AT LEAST 10 years PRIOR to the proposed project start date*" Actually, since this VCS Requirement at the project level, this should not be restated at all. Given that how this is written right now could make projects incur in a major incompliance to VCS rules (i.e., making clearing acceptable within 10 years prior to project start date), we trust DNV can check thoroughly that this has no implications elsewhere, in any Tool or Module.	We suggest to leave the sentence but correct the error ('within' must be 'prior to'). This is more helpful to project proponents than assuming they will know all details for VCS requirements, given that the procedures requires them to make this assessment..	Checked, Ok. PP's response deemed satisfactory. The word 'within' replaced by 'prior' in Section 5.1.3. **PT 15 is closed.**
[PT17]	**Section 5.2.2: Start date and end date of the "project crediting period"** ARR This means commercial forestry taking place in the baseline scenario? Please edit so that it is clear that this is	This sentence has been dropped altogether because of the applicability condition.	Checked, OK. The sentence has been removed and is now consistent with the applicability condition that the project scenario does not involve the harvesting of trees.

	consistent with applicability condition for ARR (above) i.e., stating that no tree harvesting can take place in the project scenario Also, will VCUs also be issued only for 10-year periods fixed baselines? Please try to make writing/reading consistent.		**PT 17 is closed.**
[PT18]	**Section 5.2.2: Start date and end date of the "project crediting period"** WRC – Peat Depletion Time Would this then result in a crediting period different to the one for REDD stated above (between 20-100 years)? Then this should probably be noted in "a. General".	The PDT does not necessarily determine the crediting period. If the PDT is reached with the CP the project cannot claim emission reductions from peat-related processes as of that date, but other emission reductions or removal may continue.	PP's response deemed satisfactory. **PT 18 is closed.**
[PT19]	**Section 5.3.2: REDD** Where is Table 1? Seems to be missing. Also it wouldn't be Table 1. Please add and number all Tables accordingly.	Table 1 was renumbered by MR. The intended table is #3. Corrected.	Checked and verified that Table numbering was corrected. **PT 19 is closed**
[PT20]	**Section 5.3.3: ARR – Table 5** This section here needs clearer language throughout to state whether pools are mandatory, optional, or mandatory when conditions apply (or similar). Some have been revised based on the justification provided but please check all pools.	Litter is now optional with the justification as follows: "Given the applicability conditions that the project area for ARR is non-forest land or with degraded forest and that the project scenario does not involve the harvesting of trees, the litter carbon pool will increase due to project implementation. It is therefore conservative not to include litter. If included, litter must be accounted for using procedures in Modules CP-L, BL-ARR and M-ARR." For peatland we add for clarity: " This pool is not mandatory on peatland but may be included." Similar for dead wood. This meets the requirement (4.3.1) that "the	Checked, Ok. Inclusion and/or exclusion of carbon pools now clearly indicated with satisfactory justifications. **PT 20 is closed**

		methodology shall establish criteria and procedures to set out when a project proponent shall or may include the pool".	
[PT21]	**Section 5.3.3: ARR – Table 5** Even though this is an excluded pool due to the applicability condition regarding harvesting, this table must include all pools including the excluded pools. Please provide justification for why the wood products pool has been excluded.	Justification added: "This pool is optional as per VCS requirements". We excluded the pool because it is optional in table 2 of the AFOLU requirements. (Similar to ARR MR3)	Checked, Ok. Wood products carbon pool now included in Table 4 with justification. **PT 25 is closed.**
[PT22]	**Section 5.3.4: WRC** A Table must still be included for carbon pools under WRC in this section. Also please clarify how the carbon pools required by the AFOLU requirements are being accounted for as the BL-PEAT and M-PEAT modules do not contain any procedures for accounting for aboveground biomass and soil carbon stocks (although we understand this may partially be due to how the emissions from soils are being accounted for).	Table added. See response to MR9 (PRC). From the decision trees in Chapter 2 it follows that WRC is subordinate to REDD and ARR. In this methodology WRC cannot stand on its own (see under 'Combined categories'). Therefore, the use of CP-AB is already determined in the first 3 columns in Table 3. 'Terrestrial' REDD uses the CP modules as specified in these three columns. REDD on peatland uses these modules as specified under WRC.	Checked, Ok. Table 4 is added to Section 5.3.4. PP's clarifications on how the carbon pools are accounted for are deemed satisfactory. **PT 22 is closed.**
[PT25]	**Section 5.4.4: WRC – Table 8** Included or excluded? Unclear… An applicability condition for REDD suggests that agricultural intensification such as paddy rice are not allowed in the project scenario… Please briefly mention IF this is the app condition referred to.	Excluded. This was a typo. The applicability condition is stated in Module BL-PEAT. This is added to the table.	Checked, Ok. Typo corrected. **PT 25 is closed.**

[PT26]	**Section 6.2: Reassessing the baseline scenario** What about for ARR?	The periodic reassessment of the baseline does not apply to ARR (requirement 3.1.10)	Checked, Ok. According to AFOLU requirement 3.1.10, periodic reassessment of the baseline applies to IFM, REDD, WRC and ACoGS. **PT 26 is closed.**
[MR27]	**Section 8.4.5: Calculation of VCS Buffer** <u>Equation (8)</u> The AFOLU requirements state that the non-permanence risk rating (NPRR) should be applied to the net change in carbon stock. All of these equations below do deduct the emissions from fuel consumption and fertilizers but do not deduct emissions from biomass burning. Please revise all of these equations so that the NPRR is only applied to the net change in carbon stock from the relevant REDD activity **<u>Round 2:</u>** The explanation (whether burning emissions were included and why) must be included in the text.	See the response to CL3 above Permian: See response to CL3 on p3 above. **<u>Permian:</u>** We added to Section 8.4.5: "For REDD project activities, the calculation of the net change in carbon stocks applied in this methodology includes an adjustment for emissions from fossil fuel combustion and direct N_2O emissions and excludes emissions from biomass burning. Besides other GHG fluxes, biomass burning involves a carbon stock change. The procedure, therefore, provides a conservative (larger) estimate of the buffer withholding."	MR27 is still open Checked and verified, OK. Addition checked and it now explains and justifies exclusion of biomass burning from buffer calculation. Revision deemed satisfactory. **MR27 is now closed.**

[MR28]	**Section 8.4.5: Calculation of VCS Buffer** Equation (11) The AFOLU requirements state that the non-permanence risk rating (NPRR) should be applied to the net change in carbon stock. NGR_{ARR} includes the change in carbon stock but may also include emissions from biomass burning and leakage. Please revise this equation so that the NPRR is only applied to the net change in carbon stock from ARR activities.	The CDM methodology produces the baseline and the project term, which we sum up as NGR_ARR. Calculating a buffer according to VCS guidelines would involve transferring parameters from ACM0003 into the REDD-MF document and this undermines the simplicity we wanted to employ when introducing ARR into VM7. Not deducting the emission terms yields a larger value over which a buffer is calculated, and therefore this is conservative (a relatively large buffer). We also argue that NGR_ARR is a proxy that is strongly correlated with the value of interest (carbon stock change), which is acceptable under VCS rules.	PP's response deemed satisfactory. **MR 28 is closed.**
[MR29]	**Section 8.4.5: Calculation of VCS Buffer** Equation (12) The AFOLU requirements state that the non-permanence risk rating (NPRR) should be applied to the net change in carbon stock. NER_{WRC} includes the change in carbon stock but also includes a number of emission sources and leakage. Please revise this equation so that the NPRR is only applied to the net change in carbon stock from WRC activities.	We follow a similar logic (MR28 above) for the WRC buffer. Here the additional argument is that in WRC we do not estimate stocks, only emissions. 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. Back calculation to stocks would be an inappropriate thing to do. The AFOLU requirements are in this respect as to their language (not their intent) based on pre-WRC concepts and it would be good if the AFOLU requirement was interpreted with such flexibility.	PP's response deemed satisfactory. **MR 29 is closed.**
[MR31]	**Section 9.1: Data and Parameters Available at Validation** Table for parameter $E_{FC,i\,t}$ This is already included as a monitored parameter. It is unclear why this table is provided here in the parameters	Table deleted.	Checked, Ok. Table for parameter $E_{FC,i\,t}$ deleted from the tables of parameters available at validation. **MR 31 is closed.**

	available at validation. Please provide a justification or remove.		
[MR32]	**Section 9.1: Data and Parameters Available at Validation** Table for parameter $N_2O_{direct\text{-}N,i,t}$ This is already included as a monitored parameter. It is unclear why this table is provided here in the parameters available at validation. Please provide a justification or remove.	Table deleted.	Checked, Ok. Table for parameter $N_2O_{direct\text{-}N,i,t}$ deleted from the tables of parameters available at validation. **MR 32 is closed.**
[PT34]	**Section 9.3.2: Ex-post Monitoring** ARR This needs further detail for clarity, or should point out the right module for further information	Entire text deleted as it was a left-over and does not have any relevance to the current procedures for ARR.	Checked, Ok. Text deleted from Section 9.3.2. **PT 34 is closed**
	LK-ARR		
	Findings same as for PRC Findings List		
VCSA	**VCSA COMMENTS/QUESTIONS**		
	No comments		
	LK-ASP		
	No findings		
VCSA	**VCSA COMMENTS/QUESTIONS**		
[PT1]	**Table of Contents** Please make the formatting of this table of contents	Done	Checked, Ok. Formatting done. **PT 1 is closed**

	consistent with the same in other modules.		
[PT2]	**PART 3: THE SPECIAL CASE OF PEATLAND** Are there any provisions to avoid this leakage elsewhere in the methodology? Please mention what modules would provide further details on leakage prevention measures	Sentence deleted. Should be part of the discussions of deforestation ethics. It is likely to be very difficult to avoid leakage by manipulating deforestation agents this way.	PP's response satisfactory. Checked, Ok. Sentence deleted. **PT 2 is closed**
	LK-ME		
CAR 1	**Requirement**: VCS Methodology Template v3.3, Section 8.1: *… Use the example format for specifying equations and defining the associated parameters and variables, including the unit of measure. Ensure all equations are numbered using captions to specify the equation number and enable cross-referencing. Ensure that parameters and variables are consistently applied throughout the equations in the methodology...* **Non-Compliance**: Failure to include parameter A_i in Equation (8). **Objective evidence**: Equation (8) is incorrect as it does not include the area of the stratum A_i in which fuelwood harvesting and/or charcoal production is anticipated. Parameter A_i defined in the parameter list is not actually part of Equation (8). PP must revise the equation so that the parameter A_i is included in the equation.	Term *Ai* removed from the descriptions of parameters. Including it in the equation would make units inconsistent.	Checked, Ok. *Ai* was excluded, **CAR 1 is closed.**
CAR 2	**Requirement**: VCS Methodology Template v3.3, Section 8.1: *… Use the example format for specifying equations and defining the associated parameters and variables, including the unit of measure. Ensure all equations are numbered using captions to specify the equation number and enable*	All parameters made consistent.	Checked, Ok. Corrections made to Equation (9) parameters and are now consistent. **CAR 2 is closed**

	cross-referencing. Ensure that parameters and variables are consistently applied throughout the equations in the methodology... **Non-Compliance**: Inconsistence between the parameter ($FG_{P,j,t}$) in the equation and in the parameter list ($FG_{LP,t}$) of Equation (9). **Objective evidence**: The parameter $FG_{LP,t}$ defined in the parameter list is not consistent with the parameter $FG_{P,j,t}$ in Equation (9). PP must correct this inconsistency		
CAR 3	**Requirement**: VCS Methodology Template v3.3, Section 8.1: *… Use the example format for specifying equations and defining the associated parameters and variables, including the unit of measure. Ensure all equations are numbered using captions to specify the equation number and enable cross-referencing. Ensure that parameters and variables are consistently applied throughout the equations in the methodology...* **Non-Compliance**: Referencing incorrect equation number. **Objective evidence**: Last paragraph of Equation (9) states "If $C_{BSL,XBFWC,i,t}$ as calculated in equation 7 is <0 then $C_{BSL,XBFWC,i,t}$ shall be set equal to 0 (this prevents positive leakage)". Equation (7) does not calculate $C_{BSL,XBFWC,i,t.}$. PP must correct this **<u>Round 2:</u>** Response is incorrect. Equation (7) does not calculate	Parameter in Eqn 7 corrected to include time *t*. **Permian:** Corrected to 'Equation 9'	CAR 3 is still open Checked, OK. Correction made.

	$C_{BSL,XBFWC,i,t.}$. This parameter is calculated in Equation (9). Equation (7) calculates fuelwood/charcoal leakage management adjustment factor PP must correct this.		**CAR 3 is closed**
VCSA	**VCSA COMMENTS/QUESTIONS**		
[PT1]	**Section 5: Procedures:** Market-Effects Leakage Through Decreased Timber, Fuelwood and Charcoal Harvest Resulting in Increased Peatland Drainage What sources or kinds of data are acceptable for this?	Added: "official data, where available, or recent (i.e. less than 5-year old) remote sensing products".	Checked, Ok. The sentence "using official data, where available, or recent (i.e., less than 5-year old) remote sensing products" added to Step 1 of Section 5. **PT 1 is closed**
	LK-ASU		
CAR 1	**Requirement**: VCS Methodology Template v3.3, Section 8.1: *… Use the example format for specifying equations and defining the associated parameters and variables, including the unit of measure. Ensure all equations are numbered using captions to specify the equation number and enable cross-referencing. Ensure that parameters and variables are consistently applied throughout the equations in the methodology...* **Non-Compliance**: (a) Failure to define the parameter included in Equation (12) (b) Two different definitions applied to parameter $LK_{PEAT-EF-LB}$ in the parameter list. **Objective evidence**: (a) The parameter $LK_{PEAT-EF-OLB}$ in	$LK_{PEAT-EF-LB}$ in the parameter list corrected to $LK_{PEAT-EF-OLB}$	Checked, Ok. Corrections made to Equation (12) **CAR 1 is closed**

	Equation (12) is not defined in the parameter list. (b) Parameter $LK_{PEAT\text{-}EF\text{-}LB}$ is defined as "*Emission factor from peat loss at Peat Depletion Time in the Leakage Belt, t CO_2-e ha^{-1}*" and as "*Emission factor from peat loss at Peat Depletion Time in the area outside the Leakage Belt and project area, t CO_2-e ha^{-1}*" PP must correct these.		
CAR 2	**Requirement**: VCS Methodology Template v3.3, Section 8.1: *… Use the example format for specifying equations and defining the associated parameters and variables, including the unit of measure. Ensure all equations are numbered using captions to specify the equation number and enable cross-referencing. Ensure that parameters and variables are consistently applied throughout the equations in the methodology...* **Non-Compliance**: Omission of parameter from the Equation (15). **Objective evidence**: While parameter $E_{FC,i,t}$ (CO_2 emission from fossil fuel combustion in stratum *i* in year *t*; t CO_2-e) is defined in the parameter list, it is not included in Equation (15) PP must correct this omission.	Parameter E_{FC} removed from the parameter list. Now consistent with text above equation.	Checked, Ok. Parameter E_{FC} deleted from the parameter list of Equation (15) **CAR is closed**

VCSA	VCSA COMMENTS/QUESTIONS		
[PT1]	**Table of Contents** Please format this table consistently with other tables throughout the methodology	Done	Checked, Ok. Formatting done. **PT1 is closed**
[PT2]	**STEP 5. Emissions from activity shifting resulting in peatland drainage** Please state what data sources are acceptable to determine the area of undrained peatland within total available national forest area.	Added: "official data, where available, or recent (i.e. less than 5-year old) remote sensing products".	Checked, Ok. The sentence "to be determined using official data, where available, or recent (i.e. less than 5-year old) remote sensing products" added to Step 5. **PT2 is closed**
[PT3]	**STEP 5. Emissions from activity shifting resulting in peatland drainage** Please detail how this analysis should be presented in a consistent manner with the approaches contained in this module.	The first case (where the areas are not suitable for baseline deforestation activities) is automatically assessed when determining AVFOR – if AVFOR does not contain peatland, it may be assumed that peatland areas in the country are not suitable for baseline deforestation (and drainage) activities. In the second case, most of the information needed to demonstrate that the agents do not move to peatlands should be available already, as it is used to construct the deforestation baseline. We added "(ie, that AVFOR does not contain peatland areas)", and "(ie, that the historical data used to construct the deforestation baseline can demonstrate that the identified deforestation agents have never carried out their activities on drained peatland, or that such activities cannot by their nature be developed on drained peatland)".	Checked, Ok. The added explanation answers the revision request. **PT3 is closed.**

	X_UNC		
	Same findings as in PRC Findings List		
VCSA	**VCSA COMMENTS/QUESTIONS**		
	Same comments as in PRC Findings List		
	X-STR		
CL1	**Finding:** **Table of Contents** Formatting of Table of Contents must be consistent for all Modules.	Done	Checked, Ok. **CL1 is closed.**
CL2	**Finding:** **Section 5: Procedure** <u>3 Stratification of the peatland area in discrete units of relatively homogenous emission characteristics</u> The terms 'management practices' and 'management handbooks' are too general to be used here. Is 'land management practices' and 'land management handbooks', respectively, implied here? Please clarify these terms wherever they are used.	'land' added.	Checked, Ok. 'Land' has been added to 'management practices' and 'management handbooks' **CL2 is closed.**
CL3	**Finding:** **Section 5: Procedure** <u>4 Stratification of the peatland area based on peat thickness – (b)</u> The sentence, "When, using a conservative (high) value for subsidence rates, in the project scenario in more than 5% of the project area less peat is available at *t*=100 years than	The sentence now reads: "When, using a conservative (high) value for subsidence rates, in more than 5% of the project area less peat is available at t=100 years in the project scenario than in the same strata in the baseline scenario, the peat thickness map only needs to distinguish these strata."	Checked, Ok. The sentence was revised and now it is clearer. **CL3 is closed.**

	in the same strata in the baseline scenario; the peat thickness map only needs to distinguish where this criterion is fulfilled" is not readily easy to follow. Please consider revising.		
VCSA	**VCSA COMMENTS/QUESTIONS**		
[PT1]	**Section 5: Procedure** 2 Differentiation of peatland from non peatland In what cases would this need to be used? Where are the guiding procedures for this? **Round 2:** Reference to Module X-STR is made in Section 5.1.2 of BL-PEAT. However, the numbering sequence of Module X-STR is inconsistent with the added reference in Section 5.1.2 of BL-PEAT. That is, there is no Section 5.1 in Module X-STR. PP must correct this inconsistence	The VCS comment pertains to proxy areas. With respect to proxy areas, in Section 5.1.2 of BL-PEAT we now refer to X-STR as follows: "for the delineation of peat soil see Section 5.1 of Module X-STR)". **Permian:** Reference is corrected to read 'Section 5.2'. Section numbers in X-STR adjusted according to VCS template.	. PT1 is still open Checked, OK. Reference corrected and Section numbers in X-STR adjusted accordingly. **PT1 is closed**
[PT2]	**Section 5: Procedure** 3 Stratification of the peatland area in discrete units of relatively homogenous emission characteristics As in BL-PEAT and M-PEAT, text and procedures must be added here to make the use of proxies compliant to VCS Standard Requirement 4.1.8.	Sentence deleted here as it is already in BL-PEAT. See response to PT14 on BL-PEAT.	Checked, Ok. Sentence deleted. **PT2 is closed**

Corrective action requests – PRC

CAR/CL ID	Clarifications and Corrective action requests by verification team	Summary of response from Proponent	Verification team conclusion
	BL-PEAT		
CL1	**Finding:** **Section 5.2: Assessing GHG emissions in the baseline scenario of the PRC/CUPP project activity** The acronym PRC is not defined under Acronyms. PP must include the definition of PRC under Acronyms Typo – Equation 1 missing a space between the + and the $E_{peatburn-BSL,i,t}$	Acronym PRC added to section 3.2 The space between the + and the E in equation 1 cannot be added with the equation editor in Word. This seems to be a bug.	Checked. This response does not seem to be accurate. In the revised version (REV_BL_PEAT 20140704) the acronym PRC has been removed from Section 5.2. There is therefore no need to define this term in the acronym section. **CL1 is closed.**
CL2	**Finding:** **Section 5.3: Assessing baseline greenhouse gas emissions due to peat drainage ($E_{peatsoil,BSL,i,t}$)** The term 'management handbooks' is very generic and can be taken to refer to any management handbook. Does the term refer to relevant 'land management handbooks'? If so please revise the term. Equally the term 'expert judgement' is vague. Whose expert judgement do project participants use? PP must clarify the two terms in question.	'land' added to management handbooks Expert judgment was defined in REDD-MF but we copied the definition into this BL-PEAT module as well. We added: "Expert judgment in this module refers to expertise on hydrology or GHG dynamics of peatland, where relevant".	

	Round 2: (a) Checked, Not Ok. In the revised version (REV_BL_PEAT 20140704), the word 'land' has not been added to Section 5.3. 'Management handbook' still exists in 2 places in this section. 'Management handbook' also occurs in Section 5.5. This aspect of CL2 is still open. (b) The definition for expert judgment has been added to section 3.1. This is deemed satisfactory This aspect of CL2 is closed.	**Permian:** 'Land' added in various locations	(a) Checked, OK. The word 'Land' now added. **Both aspects of CL2 are now closed**
CL3	**Finding:** **Section 5.5 - Assessing baseline greenhouse gas emissions due to peat fire ($E_{peatburn-BSL,i,t}$)** Re-assessment of the fire baseline It is not clear what the sentence "Using published literature?" implies. PP must revise the sentence	"Published literature" seems a well-established term and means that the source of information is available to the general public and hence ready for verification. In Section 5.5 we suggest not to amend the text. However, in 5.3 the occurrence of 'published literature' actually intends to refer to peer-reviewed literature, since the proxies need to have a sound scientific basis. We therefore changed to 'peer-reviewed' literature there.	Checked, Ok. All places using 'published literature' in Section 5.5 have been removed in REV_BL_PEAT 20140704. No longer relevant issue. Inclusion of 'peer-reviewed' in Section 5.3 is appropriate. **CL3 is closed**.
VCSA	**VCSA COMMENTS/QUESTIONS**		
[PT1]	**Section 2: Summary Description of the Module** To be completely drained, partially drained and/or remain drained? Please specify	The difference is inconsequential – we added 'partly' in parentheses. See also response to CL1 below.	Checked, Ok. Addressed in CL1 below. **PT1 is closed.**

[PT2]	**Section 3: Definitions; Reference Region** For what specific project activity is this term used? E.g. AUDD? Avoided planned wetland degradation? APWD? Please make that link below. **<u>Round 2:</u>** Checked and verified that proxy area has replaced Reference Region. Also, text defining reference region has been deleted from Sections 3 and 5.5, and replaced by proxy area. However, there is no language defining what is necessary to be an appropriate proxy area – e.g., -how does one demonstrate that the proxy area is comparable to the project area? Requirements and procedures to demonstrate comparability of proxy areas and project areas must be included to ensure that similarity of the proxy area to the project area can be validated (to ensure an accurate and conservative estimation of emissions)	Reference region has become Proxy area for consistency with module BL-PL (not part of this validation but for the application of VM0007 reference regions and proxy areas must be used consistently). We added "In this module" and "the occurrence and extent of fires or patterns in emission proxies" and deleted "spatial patterns and other relevant project data (e.g., occurrence of fires)" to make clear to what the proxy area refers. **Permian:** Section 3 only contains definitions and should not include procedures. Section 5.1.2 provides procedure for establishing proxy areas and refers to BL-PL for detailed instructions. Section 5.5 refers to 5.1.2. This is to clarify that language defining what is necessary to be an appropriate proxy area is provided.	PT2 is still open. PP's response deemed adequate. **PT2 is now closed**
[MR3]	**Section 3: Definitions; Reference Region** These are procedural requirements for determining the reference region and must be included in the procedures below.	The procedural part is moved to Section 5.5.	Checked. Procedural part moved to Section 5.5 **MR3 is closed.**

[PT4]	**Section 4: Applicability Conditions** Please also state this in the REDD-MF general applicability conditions for WRC, as it would in fact limit the applicability of the general WRC component of this methodology to that geographical area and specific type of peatland.	Done	Checked, Ok. DNV GL verified that the applicability condition "This methodology is applicable to RDP and CUPP activities on project areas that meet the VCS definition for peatland[1]. The scope of this methodology is limited to domed peatlands in the tropical climate zone" is also stated under section 4.4 WRC in revised REDD-MF. **PT 4 is closed**
[PT5]	**Section 4: Applicability Conditions** What´s the acronym with which this Tool would operate among all the other Tools and Modules – for consistency? Also please state that the latest version shall be used	"T-SIG" added.	'T-SIG' and 'latest version' both show up in the first bullet point under applicability conditions. **PT5 is closed**.
[PT6]	**Section 4: Applicability Conditions** If this is the case, then CIW for undrained peat would be not eligible...In REDD-MF, CIW of undrained peat is stated to be an eligible activity...Was the intent here to state that peatlands are fully or partially drained in the baseline? Please clarify this here and also in M-PEAT	There should be no concern here. The statement does not refer to the situation at project start but to the baseline scenario. While at project start the peat may be undrained, it will eventually be drained or partially drained. Therefore, CIW for undrained peat (at t_0) would be eligible, if it can be demonstrated that it will be drained within the crediting period.	PP's response deemed appropriate. **PT6 is closed**

[1] RDP (Rewetting of Drained Peatland) and CUPP (Conservation of Undrained or Partially Drained Peatland) project activities are both sub-categories of Restoration of Wetland Ecosystems (RWE) and Conservation of Intact Wetlands (CIW) of the Wetlands Restoration and Conservation (WRC) project category.

		We added "At project start the peatland may still be undrained." Is this more convenient?	
[PT7]	**Section 4: Applicability Conditions** Please state the module where further details for this can be found.	This entire applicability condition was deleted by VCS and the comment was a left-over in the side bar.	PP's response deemed satisfactory. Comment no longer valid. PT7 is closed
[MR8]	**Section 4: Applicability Conditions** This is not an applicability condition as there are procedures to account for fire for both projects that apply fire management and ones that don't.	Applicability condition already removed by VCS.	PP's response deemed satisfactory. Comment no longer valid. **MR 8 is closed**
[MR9]	**Section 5.1: General Procedures and Assumption** It is unclear within the methodology framework document which pools are required and which pools are optional from project areas that qualify as wetlands. Please clarify this within REDD+-MF and ensure that this module contains a clear description of how each pool including optional pools must be accounted for in WRC projects	From the decision trees in Chapter 2 it follows that WRC is subordinate to REDD and ARR. In this methodology WRC cannot stand on its own (see under 'Combined categories'). Therefore, the use of CP-AB is already determined in the first 3 columns in Table 3. 'Terrestrial' REDD uses the CP modules as specified in these three columns. REDD on peatland uses these modules as specified under WRC. To make this clearer we changed the caption from "WRC" to "REDD or ARR on peatland" and we added "← See instructions under REDD and ARR categories".	PP's response deemed satisfactory. **MR 9 is closed**
	Section 5.1: General Procedures and Assumption This module does not appear to quantify removals from any carbon pool including aboveground biomass, belowground biomass, litter, deadwood, soil or wood products. Please provide clear instructions for how each pool must be accounted for if the	$GHG_{BSL\text{-}WRC}$ does not capture these pools as they will be covered by other modules and eventually in NER_{REDD} in REDD-MF (Eq. 2). See also previous response.	PP's response deemed satisfactory. **MR 9 is closed**

	pool is included or optional and how this value is factored into $GHG_{BSL-WRC}$.		
	Section 5.1: General Procedures and Assumption Note that the AFOLU Requirement requires aboveground biomass to be accounted for in all WRC projects. It is unclear how the baseline for aboveground biomass would be determine for a rewetting project that did not involve WRC+REDD or WRC+ARR. The module must at least include procedure to account for this pool where the project area is only WRC or explicitly exclude such projects in REDD+-MF.	See responses to MR9 above.	PP's response deemed satisfactory. **MR 9 is closed**
[PT10]	**Section 5.1: General Procedures and Assumption** Please include further detail of how fire management can be deemed best practice, i.e. include references. **Round 2:** Checked Section 5.1 in REV_BL_PEAT 20140704. No changes have been made to include either the new definition of best practice fire management 'as determined by relevant authorities' or the footnote that this must be supported with verifiable evidence.	Best practice fire management is now defined "as determined by the relevant authorities", with the footnote that this must be supported with verifiable evidence. **Permian:** Definition of best practice fire management now also added to BL-PEAT.	PT 10 is still open Checked and verified, OK. The definition of best practice fire management is added to Section 5.1 and a footnote stating that "Verifiable evidence must be provided in the PD" is now included. **PT10 is now closed**
[PT11]	**Section 5.1: General Procedures and Assumption** This is NOT always the case...it can take several years from project start for rewetting to have this effect, therefore peat fires can still easily occur in the project scenario. This should be re-written, in fact, to alert that during the period of time before a raised water table stabilizes in the case of rewetting, procedures	The whole idea is NOT to include procedures. Any fire occurring in the early years after rewetting would have occurred in the baseline as well. While the emissions may be equal in the transition period (only a few years max) they will be lower in the	While it makes sense to assume that it can take time following rewetting before fire is maintained, it is equally a plausible assumption that project activities (re-wetting) would

	are included to account for GHG emissions for fires that may happen **Round 2:** Awaiting VCS view	project case during the main part of the crediting period. Therefore, emissions from peat fires can conservatively be neglected. **Permian** VCS PENDING	reduce occurrence of fires (which could have occurred in the baseline anyway). DNV GL is satisfied that the text in Section 5.1.1 now includes language about "best-practice fire management" that includes fire control. DNV GL equally assumes that if these best-management practices are implemented as required by the methodology, they would be effective to reduce or avoid periodic fire outbreaks or at least control the fires before they get to be catastrophic. On this basis, DNV GL agrees that emissions from peat fires in the project scenario would be lower compared to the baseline emissions. PT 11 should be closed
[MR12]	**Section 5.1: General Procedures and Assumption** Please reference the procedures projects must apply to separately account for belowground biomass carbon stocks where forests occur on shallow peat.	In Ch 3 in X-STR we now refer to Ch 4 (a) at the first occurrence of 'shallow peat'. Section 4 (a) defines how 'shallow' is defined. In BL-PEAT we now refer to X-STR for the definition of 'shallow' peat' and refer to CP-AB when peat is shallow.	Checked, Ok. This change is present in the revised version **MR 12 is closed.**
[PT13]	**Section 5.3: Assessing baseline GHG due to peat drainage** In 5.1. above, the use of IPCC default factors is also allowed. If this is the case for drained peat, then please include here	Land use type / mgmt practices are in fact the proxies used to derive IPCC default factors. But we added "or IPCC default factors".	Checked, Ok. IPCC default factors now added. **PT13 is closed.**

[PT14]	**Section 5.3: Assessing baseline GHG emissions due to peat drainage** It is not clear how this would comply with VCS Standard Requirement 4.1.8: "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". Demonstrating strong correlations is not made clear here	This is now added to the tables in Section 9.1.	Checked, Ok. The sentence "Proxies must comply with the VCS Standard Requirement 4.1.8. It must be demonstrated that the proxy used is strongly correlated with CO_2 emissions by referring to IPCC, literature or own data. When referring to own data, comparison with literature values must be made" PP wrongly refers to Section 9.1. Tables are in Section 6.1 of the module. Even so, this addition satisfies the VCS Standard Requirement 4.1.8 **PT 14 is closed**.
[PT15]	**Section 5.3: Assessing baseline GHG due to peat drainage** How would this be considering the impact of vegetation on CH4 emissions? Transient methane (peaks) due to the presence of vegetation must be carefully accounted for in this methodology. **Round 2:** **VCS response:** Could you please explain how the use of proxies will capture transient methane peaks in the project scenario due to rewetting over vegetation in the project scenario? This part is rather key, that's why I'm a bit stringent on asking for an explanation on how this is effectively covered in project	"Water table depth (classes) may similarly be used as a proxy for CH_4 emissions." is now deleted, as it has no relevance for the baseline. The comment thus becomes redundant. **Permian:** The statement (in the appropriate context, i.e. the project scenario) only relates to the relationship between water table depth and CH4 emissions. If this relationship is not used for quantification, alternative procedures are provided. This is captured by	PT 15 still open See DNV's conclusion in PT 6 under M-Peat. **PT 15 is now closed**

	scenario accounting.	"The project may establish project-specific values for $E_{proxy\text{-}CO2}$ and $E_{proxy\text{-}CH4}$ (see Module M-PEAT for procedures). Also values from appropriate literature sources pertaining to land use type, management practices, vegetation cover, water table depths or water table depth classes, ditch densities and similar circumstances may be used as well as appropriate IPCC default factors" under Eq 6. The transient methane peaks are dealt with in PT6 on p37, which was closed by the assessor as per email dd 13 August 2014. We suggest not to wait for further guidance by the VCSA.	
[MR16]	**Section 5.4: Assessing baseline GHG emissions from ditches and other open water bodies** What requirement within the module ensures this will always be the case and that there wouldn't be scenarios where these emission could increase over time? The assessment report must provide justification that this exclusion is conservative for all projects applying this module.	In the procedures we refer to Couwenberg et al 2011, which states that this is the case.	The following literature could also be relevant to this issue: "Emissions from ditches can be substantial (Vanden Pol-Van Dasselaar et al., 1999 ; Schrier-Uijl et al., 2008 ; Maljanen et al., 2010) but were neglected, as the ditches cover only small areas (1.8% of the total area in Ostrovskoe and 1.1% in Vygonoshanskoe). Moreover, 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 (cf. NFCCC, 2005; VCS, 2011)"

			There could be reasons why CH4 flux from a ditch might be high post restoration/re-wetting, but they are highly speculative. The argument in play here - that emissions would be at worst comparable to baseline and at best lower than baseline because of filling - seems well supported in the literature. **MR16 is closed.**
[MR17]	**Section 5.5: Assessing baseline GHG emissions due to peat fire** This seems quite open ended and would allow for projects to easily justify burning of peat during site preparation is common practice. The assessment report must justify how these procedures ensure a conservative estimation of emission reductions and the developers should consider additional requirements to help ensure conservativeness in determining common practice. **Round 2:** Checked, OK but consider adding 'land' to 'management handbook' as suggested in CL2 above. Otherwise, the amendment seems to give a number of guidelines on how to better define common practice	We have amended the procedure as follows: "Common practice with respect to the use of fire in initial and rotational clearance must be based on at least two of the following: 1) management handbooks, 2) proxy areas, 3) (preferably local) expert judgment or 4) field observations or remote sensing data concerning the baseline agent. Applicability must be justified and conservativeness must be demonstrated." **Permian:** 'Land' added	MR 17 still open. Checked, OK. The word 'Land' now added. **MR17 is now closed**

[MR18]	**Section 5.5: Assessing baseline GHG emissions due to peat fire** The requirements contained within the definition of the reference region must be move to this section. These requirements for determining the reference region are very open ended and do not provide much criteria for an auditor to push back regarding the similarity of the reference region. The assessment report must justify how these requirements and procedures ensure that similarity of the reference region to the project area can be validated to ensure an accurate and conservative estimation of emissions from peat burning in the baseline. This section may also want to provide guidance in how a reference region should be determined for a REDD+WRC project that must also determine a reference region for the REDD component.	The procedure for establishing proxy areas is now consistent with BL-PL and BL-PEAT refers to that module, noting a few additional requirements.	PP's response deemed adequate. The procedure for establishing proxy areas is now consistent with BL-PL to which BL-PEAT refers. **MR 18 is closed**
[PT19]	**Section 6.1: Data and Parameters Available at Validation** (related to Parameter Table for $E_{proxy\text{-}CO2,i,t}$) Here it should be added that a correlation must be demonstrated between proxies and GHG emissions, and must be in compliance with VCS Standard Requirement 4.1.8.	Done. See also response to PT14 above.	Checked, Ok. Verified that this change is present. **PT 19 is closed.**
	M-PEAT		
CL1	**Finding:** **Section 4: Applicability conditions** The applicability condition "In the baseline scenario the peatland must be (partially) drained" is vague and seems to leave the door pretty open. For example, if a site was drained to -10 cm and then drained further to -30 cm, would it be eligible under this	The difference between drained and partially drained is inconsequential. The VCS provides the definition of drained peatland (A peatland having a lower than natural average annual water level due to accelerated water loss or decreased water supply resulting from human activities and	The VCS definition of drained provided does seem to include peats that are partially drained. The inclusion of "(partially)" in the document may not then be necessary. The argument that the VCS definition helps to clarify

	condition? PP must clarify this applicability condition	constructions, both on- and off-site). The word 'partially' was added to the VCS requirements to make clear that not entirely drained peats are treated as drained peats, although one might wonder if this has not introduced confusion. According to the definition drained and partially drained are the same. Therefore, the applicability conditions, when considering the definition of drained peatland, does not leave any doubt as to its intention.	the applicability condition. For example, if the water level following the first drainage to -10 cm was then considered the "natural average annual water level" then the second draining to -30 cm would count as a drainage activity under this definition. Water levels can vary pretty dramatically from year to year, and we assume that this temporal variability is somehow captured by using an average annual water level. **CL1 is closed**
CL3	**Finding:** **Section 5.5: Assessing GHG emission reductions from peat combustion, using the Fire Reduction Premium** <u>The 20% Fire Reduction Premium</u> It is not clear why 25% has been used in the assumption to justify the conservativeness of 20% default for Fire Reduction Premium. The 25% of burned project area in the baseline requirement appears arbitrary – is this a standard cutoff for fire intensity or fire prone or fire impacted? Let's assume that microbial oxidation of peat releases 100 t CO2 / ha / y. This means that a burn would release 2000 t CO2 / ha / y. If fire frequency is every 10 years that means that fire would release on average 20 t CO2 / ha / y. Following rewetting fire frequency goes to 0 (no fires). Let's assume that microbial oxidation drops dramatically to 1 t CO2 / ha / y. The reduced CO2 emission from microbial oxidation is	Commenting on "The 25% of burned project area in the baseline requirement appears arbitrary": The 25% is not arbitrary because, given the 10 times larger emissions from fire compared to microbial oxidation (we did not use the 20 times that is reported for tropical, thus conservative), this would yield a 25% emission reduction when 25% of the area burns once in 10 years. Calculation: 10 times larger emission from fire compared to microbial; once every 10 years yields 10/10= 1 times; 25% of the area then yields 1x0.25=0.25=25% fire emissions compared to microbial. To make this even more conservative we use 20% instead of 25%. If we use 20% of the area burnt this results in 20% emission compared to microbial; 15% results in 15%, etc.	PP's response adds clarity to the application of 20% fire reduction premium. DNV GL deems the logic to be appropriate. **CL3 is closed**

	99. If we follow the Fire Reduction Premium correctly then the project would receive 20% of this value or 19.8 t CO2 / ha / y. This is a bit conservative, but pretty close. This seems to be really sensitive to the ratio of fire released carbon to microbial oxidation – is it really 20X greater in all cases? Fire frequency also seems really important here and we don't know that you could accurately capture these long-term patterns. PP must clarify this.	Therefore, the methodology says: "*If peat fires in the baseline are more frequent than once per 10 years or more extensive than 25% of the project area (in case of rewetting projects) or reference region (in case of conservation projects), the awarded premium is more conservative. If peat fires are less frequent or extensive, the premium is smaller accordingly. If peat fires in the baseline are less extensive than 10% of the project area (in case of rewetting projects) or reference region (in case of conservation projects), the premium is not awarded*". Commenting on " fire would release on average 20 t CO2 / ha / y": this is in fact 200 (2000/10). But note we use 10 times not 20 times in our calculation to be conservative – the result would be 100 t CO2/ha/yr. Commenting on" If we follow the Fire Reduction Premium correctly then the project would receive 20% of this value or 19.8 t CO2 / ha / y. This is a bit conservative, but pretty close.": 19.8 is a lot less than 100 and results from the (conservative) 25% of the area burnt (made to 20% to be conservative). Note we cap the fire emission at 25% of the project area. If more is burnt, no extra premium. Hope this clarifies the logic we adopted.	
CL4	**Finding:** **Section 5.5: Assessing GHG emission reductions from peat combustion, using the Fire Reduction Premium**	A fire is deemed catastrophic if rewetting and fire management are executed. A fire is not catastrophic if rewetting and/or fire management have not been executed, as	In this approach a best management practice effectively says "if you do X than you'll stop all non-catastrophic fires." There

	Procedure for calculating Fire Reduction Premium (two paragraphs immediately before Equation 9) "*If a) peatland rewetting or conservation and b) a best-practices fire management have been implemented, peat fires occurring…*" and "*Although rewetting and fire management are aimed at stopping fire in the project scenario, rewetting and fire management may fail, causing…"* needs clarification. For example, if a peatland is re-wet and best practices are in place, it seems like the first paragraph here defines all fires as catastrophic. The second paragraph seems to allow for non-catastrophic fires that should be accounted for. How is a catastrophic fire distinguished from non-catastrophic fire event? Furthermore, what would be acceptable 'Best-practices fire management' under this and other associated Modules and how would these (best-practices fire management) be verified? PP must clarify this.	follows from the procedure. Peatland fires must be monitored in all cases but only if they are deemed not catastrophic, the fire reduction premium cannot be claimed. Best practice fire management is now defined "as determined by the relevant authorities", with the footnote that this must be supported with verifiable evidence.	can still be fires but by definition they all become catastrophic as long as you do X. If the project can truly verify that X is the industry standard best management practice that has been documented to reduce fire frequency in other similar systems that this makes sense. The bar to verify that X is really an effective management practice should be set pretty high here. Although the inclusion of "relevant authorities" does not inherently achieve that, the inclusion of "verifiable evidence" seems to help raise the bar in the revision. DNV GL deems this response adequate. **CL4 is closed**
VCSA	**VCSA COMMENTS/QUESTIONS**		
[PT1]	**Section 3.1: Defined Terms** For what specific project activity is this term used? E.g. AUDD? Avoided planned wetland degradation? APWD? Please make that link **Round 2:** Checked and verified that proxy area has replaced Reference Region.	See response to PT2 above. **Permian:** See response to PT2 on p24 above, repeated below	PT1 is still open.

	Also, text defining reference region has been deleted from Sections 3 and 5.5, and replaced by proxy area. However, there is no language defining what is necessary to be an appropriate proxy area – e.g., -how does one demonstrate that the proxy area is comparable to the project area? Requirements and procedures to demonstrate comparability of proxy areas and project areas must be included to ensure that similarity of the proxy area to the project area can be validated (to ensure an accurate and conservative estimation of emissions)	**Permian:** Section 3 only contains definitions and should not include procedures. Section 5.1.2 provides procedure for establishing proxy areas and refers to BL-PL for detailed instructions. Section 5.5 refers to 5.1.2. This is to clarify that language defining what is necessary to be an appropriate proxy area is provided.	PP's response deemed adequate. **PT1 is now closed**
[PT2]	**Section 4: Applicability Conditions** This should also be stated under general WRC applicability conditions in REDD-MF.	Done. See also response to PT4 above.	Checked, Ok. DNV GL verified that the applicability condition "This methodology is applicable to RDP and CUPP activities on project areas that meet the VCS definition for peatland[2]. The scope of this methodology is limited to domed peatlands in the tropical climate zone" is also stated under section 4.4 WRC in revised REDD-MF. **PT 2 is closed**
[PT3]	**Section 4: Applicability Conditions** If this is so then CIW in undrained peatlands (Avoided Planned or Unplanned Drainage) would not be eligible project activities?	See response to PT6 above.	Comments for PT 6 apply here. PP's response deemed appropriate.

[2] RDP (Rewetting of Drained Peatland) and CUPP (Conservation of Undrained or Partially Drained Peatland) project activities are both sub-categories of Restoration of Wetland Ecosystems (RWE) and Conservation of Intact Wetlands (CIW) of the Wetlands Restoration and Conservation (WRC) project category.

	This is unclear, please clarify and if necessary modify all modules accordingly.		**PT 3 is closed**
[PT4]	**Section 4: Applicability Conditions** This is not an applicability condition as there are procedures to account for fire for both projects that apply fire management and ones that don't. Please move these requirements, which are simply procedures, to section 5.5 where the *Fire Reduction Premium* can be applied.	Done	Checked and verified that the paragraph "The Fire Reduction Premium approach is only applicable if human-induced peat fires do not occur in the project scenario. The use of fire as a management tool (non-catastrophic fires or human induced fires) in the project scenario is not allowed in the case that the Fire Reduction Premium approach is used to estimate emissions from peat fire" was moved to Section 5.5 of the revised M-PEAT module as suggested. **PT 4 is closed**
[MR5]	**Section 5: Procedures** Section 5.1 of the BL-PEAT module contains many important details that are missing here in the M-PEAT module. Most importantly this module only appears to account for GHG emissions but does not account for any of the soil carbon pools as required by the AFOLU requirements. This module must include procedures to account for all pools included or optional in the methodology framework document for WRC projects	We do account for soil carbon pools. It is the very first thing mentioned: GHG emissions from the peat soil due to microbial decomposition. Changes in pools are only a proxy for the real issue of interest: GHG fluxes See further response to MR9 (above).	Checked and verified that soil carbon pool is accounted for under Section 5.1 following the logic that the loss of soil C is only important to the extent that it is lost as GHG emissions. PP's response deemed satisfactory. **MR 5 is closed**

	It is unclear within the methodology framework document which pools are required and which pools are optional from project areas that qualify as wetlands. Please clarify this within REDD+-MF and ensure that this module contains a clear description of how each pool including optional pools must be accounted for in WRC projects	See response to MR9 (above).	Checked and verified that mandatory and optional pools are clearly stated in Tables 4 and 5 in REDD+MF PP's response deemed satisfactory. **MR 5 is closed**
	Note that the AFOLU Requirements require aboveground biomass to be accounted for in all WRC projects. It is unclear how the baseline for aboveground biomass would be determine for a rewetting project that did not involve WRC+REDD or WRC+ARR. The module must at least include procedure to account for this pool where the project area is only WRC or explicitly exclude such projects in REDD+-MF.	See response to MR9.	Above conclusions for MR5 apply here
[PT6]	**Section 5.2: Assessing project greenhouse gas emissions from the peat soil** The presence of vegetation may result in significant project scenario emissions caused by transient methane (with peaks). The methodology should be more stringent on this, at least specifying that these MUST be assessed for their significance, and clear references to measurement procedures or protocols must be included or referred to. **Round 2:** The response "If a transient period of high CH4 emissions occurs, CH4 emissions must be accounted for" is vague. How would high CH4 flux be accounted for?	We added: "If a transient period of high CH_4 emissions occurs, CH_4 emissions must be accounted for". **Permian:** Comment closed by assessor as per email dd 13 August 2014. However, to improve readability we suggest to amend the language as follows: "During a transient period directly after	PT 6 is still open The question here is how to account for transient CH4 fluxes and under what conditions do they need to be measured. Section 5.2 of the revised M-

		rewetting, soil CH_4 emissions may be higher or lower before they stabilize to levels found in undrained sites. Unless it can be demonstrated that transient CH_4 emissions will not be higher, CH_4 emissions must be accounted for. Transient CH_4 emissions can be assessed by direct measurements (see Section 5.6.3) or by referring to literature values. Applicability of values must be justified and conservativeness demonstrated."	PEAT document states that: *"During a transient period directly after rewetting, soil CH_4 emissions may be higher or lower before they stabilize to levels found in undrained sites. Unless it can be demonstrated that transient CH_4 emissions will not be higher, CH_4 emissions must be accounted for. Transient CH_4 emissions can be assessed by direct measurements (see Section 5.6.3) or by referring to literature values. Applicability of values must be justified and conservativeness demonstrated."* We interpret this as implying that the transient flux needs to be either measured directly or described conservatively based on the literature. We appreciate the fact that CH_4 fluxes tend to be a bit more of a challenge because they are really variable and, apart from eddy flux towers, you run the risk of missing transient CH_4 event through vegetative flux or ebullition. This would apply to all similar methodologies and the key seems to be making sure that estimates are conservative, which seems to be stressed in the text. The added text in Section 5.2

			however gives little detail about how frequently measurements need to be made or how long a transient period could last, but we assume that putting the burden of proof on the project to demonstrate that they've seen a transient period through to completion and that their estimates are conservative and appropriate is both standard and satisfactory in similar protocols. We deem this methodology requirement to be sufficient and avoids being overly prescriptive in terms of how to go about making these measurements. **PT6 is now closed**
[MR7]	**Section 5.5: Assessing GHG emission reductions from peat combustion, using the Fire Reduction Premium** It is very unclear how the Fire Reduction Premium is incorporated into the final quantification of emission reductions and removals for the project. This factor is not included in equation 1 or in any of the equations in REDD+-MF. Is this an alternative way to determine $E_{peatburnWPS,i,t}$ to avoid applying Module E-BPB? Please clarify how this is to be used within the methodology framework.	This was an omission. In Eq 6 in REDD+-MF we added the term *Fire Reduction Premium*.	Checked, Ok. The term *Fire Reduction Premium* added. **MR 7 is closed.**
[MR9]	**Section 5.5: Assessing GHG emission reductions from peat combustion, using the Fire Reduction Premium** The module should include guidance as to what would qualify as	This is now indicated by "as determined by the relevant authorities", with the footnote that this must be supported with verifiable	Checked Section 5.5 of REV_M_PEAT 20140704. Changes have been made to

	best practice available with respect to fire prevention and control	evidence. See also PT10 above.	include the new definition of best practice fire management 'as determined by relevant authorities' and the footnote that this must be supported with verifiable evidence. **MR 9 is closed**
[PT10]	**Section 5.6: Monitoring Procedures** This is inconsistent with Section 5.3 in BL-PEAT where a wider range of proxies is presented. Please ensure that procedures are in place to demonstrate the appropriateness of proxies (as per VCS Standard Requirement 4.1.8), and also, if applicable there are monitoring requirements for these	The range of proxies is wider in BL-PEAT as it is dealing with a much wider array of systems; here we are dealing with wet peatlands only.	Response deemed logical and satisfactory. **PT 10 is closed.**
[PT11]	**Section 6.2: Data and Parameters Monitored** (Table for parameter $E_{proxy\text{-}CO2,i,t}$) As mentioned in BL-PEAT, the choice of proxies must comply with VCS Standard Requirement 4.1.8.	Done. See also responses to PT14 and PT19 (above).	Checked, Ok. **PT 11 is closed**
	E-BPB		
CL1	**Finding:** **Table of Contents** Formatting of Table of Contents is inconsistent among modules. PP must maintain consistent formatting of Table of Contents and other content in all modules	Font changed to Arial 10pt not bold.	Checked, font is now consistent among modules. **CL1 is closed**
VCSA	**VCSA COMMENTS/QUESTIONS**		
[PT1]	**Section 4: Applicability Conditions** Is this module applicable to all eligible project activities? If so,	Applicability condition reads: "This module is applicable to Avoided Unplanned	Checked, Ok. The eligible activities to which the module is

	this should be stated.	Deforestation or Degradation, Avoided Planned Deforestation, and Avoided Degradation, whether or not situated on peatland." This implies that E-BPB is not used in combination with ARR. This is consistent with Table 1 in REDD+-MF.	applicable is now clear **PT1 is closed.**
[PT2]	**Section 6.2: Data and Parameters Monitored** Please solve the table formatting	Empty columns removed.	Checked, Ok. Formatting done. **PT2 is closed.**
[PT3]	**Annex 1** Can the quality of Annex 1 image be improved please?	Difficult. 'Grabbing' from the IPCC PDF files gives the same quality.	Checked, seems like this is as good as it gets. **PT3 is closed.**
	LK-ECHO		
CL1	**Finding:** **Section 6.2: Data and Parameters to be Monitored** Procedures for monitoring The last sentence of the paragraph "*Such accidents and their remediation must be monitored together with justifications that the effect has been temporal and insignificant and has not caused the dieback of woody vegetation in adjacent areas*" How will 'insignificance' of an incident e.g., water leakage, be demonstrated? Would projects need guidance on the approach of doing this?	The procedure intends to classify dieback of woody vegetation in adjacent areas as a significant effect of unwanted hydrological connectivity. To make this clearer the sentence now reads: "*Such accidents and their remediation must be monitored together with justifications that the effect has been temporal and insignificant i.e. has not caused the dieback of woody vegetation in adjacent areas*".	CL1 is still open.

	Round 2 If the intent of this procedure is solely to make sure that adjacent woody vegetation has not been damaged as a result of leakage, then the changed language captures this intent. However, the changed language also explicitly limits the definition of leakage effects to woody vegetation dieback and raises the following questions: - Is this the only type of ecological leakage that is relevant here? -Would movement of soil carbon or changes in microbial activity (i.e., the onset of CH4 production caused by flooding of an adjacent area) count? -Is limiting to woody vegetation dieback really the intent? -Is there a concern with how a project monitors dieback in terms of protocols to be used or relevant timeframes?	**Permian:** The sentence "together with justifications that the effect has been temporal and insignificant and has not caused the dieback of woody vegetation in adjacent areas" has been replaced with "The repair must occur within 1 year, in which case ecological leakage may be assumed to be insignificant." The justification is as follows: If the adjacent area is peatland, flooding due to water leakage will result in lower net CO2e emissions from the soil. Positive leakage is not accounted for, though. If the adjacent area is mineral soil and under agriculture or otherwise covered with non-tree vegetation, CH4 emissions will occur upon flooding. Using default EFs (IPCC 2014 Supplement: Wetlands), emission reductions in the project area will be about 35 tCO2e/ha/yr, CH4 emissions in the leakage area will be about 3.5 tCO2e/ha/yr (conservatively using the high EF for rice paddy). Leakage emissions will therefore be less than 5% of project emission reductions as long as the area flooded is smaller than 50% of the project area – such a large area is extremely unlikely to be flooded when a dam at the project border would fail. If the flooding lasts longer than 1 year, the CH4 emissions may become significant eventually and die-back of trees becomes more likely. Therefore, the threshold is 1 year. If the repairs have not been made within 1 year, the project fails.	Checked and verified that the replacement has been made which adds more clarity on demonstrating 'insignificance' of an incident. **CL1 is now closed**

VCSA	VCSA COMMENTS/QUESTIONS		
[PT1]	**Section 4: Applicability Conditions** Chapter 5 meaning the following chapter, ¨Procedures"?	Yes. 'Procedures" added to sentence.	Checked, the term 'procedure added to the sentence. **PT1 is closed.**
	LK-ARR		
CAR 1	**Requirement**: VCS Methodology Template v3.3., Section 9.1: *Complete the table below for all data and parameters that will be determined or available at validation, and remain fixed throughout the project crediting period (copy the table for each data/parameter). Data and parameters monitored during the operation of the project are included in Section 9.2 (Data and Parameters Monitored)...* **Non-Compliance**: Failure to include data and parameter tables as required by the VCS Methodology Template. **Objective evidence**: Sections 6.1 and 6.2 of the Module does not include tables for 'Data and parameters available at validation' and 'Data and parameters monitored' but instead refers projects to AR-ACM0003 and A/R Methodological Tool. While this is convenient to methodology developers, it might not be to projects. PP must include the tables in Sections 6.1 and 6.2.	Parameter tables according to VCS template added.	Checked, Ok. Tables have been added. **CAR1 is closed**
CL1	**Finding:** **Module Title and Table of contents** Formatting of Table of Contents is inconsistent among modules. PP must maintain consistent formatting of Table of Contents and other content in all modules	ToC formatted	Checked. All of the modules are now aligned. **CL1 is closed.**

CL2	**Finding:** **Section 4 & 5** Versions of the Methodology AR-ACM0003 and A/R Methodology Tool are not indicated PP must include versions numbers or require projects to apply the most recent versions	This was already indicated in Ch 1 Sources	Checked. Language in Section 1 does included 'latest version' **CL2 is closed**
CL3	**Finding:** **Module Title & Section 2 – Summary Description of the Module** There appears to be inconsistence between the summary description of the Purpose of Module that includes 'removals' - *…provides procedures for the monitoring of GHG emissions and removals under the project scenario of ARR project activities…* and the Title of the Module that does not include removals – *Estimation of emissions from displacement of pre-project agricultural activities (LK-ARR)* PP must clarify this inconsistence.	The summary now reads: "This module provides procedures for estimating GHG emissions caused by activity shifting leakage of ARR project activities".	Checked. Summary and Title are consistent. **CL3 is closed.**
VCSA	**VCSA COMMENTS/QUESTIONS**		
	No Comments		
	X_UNC		
CL1	**Finding:** **Section 2: Summary Description of the Module** Version of the A/R Methodology Tool 14 is not indicated PP must include the version number or require projects to apply the most recent version	In Ch1 Sources we added "and of the Clean Development Mechanism Methodological Tool "AR-TOOL 14 Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities".	Checked. Addition included. **CL1 is closed**

CL2	**Finding:** **Section 5: Procedures** Last sentence of the paragraph preceding Equation 2 is not clear: *…total uncertainty in the baseline rate is calculated by propagating errors below is calculated using Equation 1):* PP must revise the sentence to improve clarity.	The sentence now reads: "If multiple subsets of the RRD are used, as in the population driver approach where each RRD_j may have its own regression, total uncertainty in the baseline rate is calculated as follows".	Checked. Sentence corrected and more clear. **CL2 is closed.**
VCSA	**VCSA COMMENTS/QUESTIONS**		
[PT1]	**Section: Module Title page** Are we missing Permian Global, Silvestrum or other logos here?	No, the logos are there.	Checked. All logos included. **PT1 is closed**
[PT2]	**Section: Table of Contents** Please make fonts and styles consistent throughout all modules. New modules look different	Suggestion difficult to implement. To us they look the same.	Checked. Fonts and styles are consistent. **PT2 is closed**
[PT3]	**Section 5: Procedures Part 2 - Uncertainty in WRC Baseline Estimates** The range of optional proxies is broad in BL-PEAT and M-PEAT. Can this general statement be made for all proxies? Please ensure that it would not be necessary to state which proxies may derive larger uncertainty than others and would require special treatment.	Stratification is according to proxy classes with relatively homogenous emission characteristics. The applicability of the emission factor must be justified or conservativeness must be demonstrated. These constraints on the applied proxy imply that uncertainty around estimates of proxy parameters is zero for any proxy.	PP's response deemed appropriate. Proxies are a set value with no error terms using this approach. The language seems to be there to ensure they are either justified or conservative. **PT3 is closed.**

Corrective action requests – ARR

CAR/CL ID	Clarifications and Corrective action requests by verification team	Summary of response from Proponent	Verification team conclusion
	BL-ARR		
CAR 1	**Requirement**: VCS Methodology Template v3.3., Section 9.1: *Complete the table below for all data and parameters that will be determined or available at validation, and remain fixed throughout the project crediting period (copy the table for each data/parameter). Data and parameters monitored during the operation of the project are included in Section 9.2 (Data and Parameters Monitored)...* **Requirement**: VCS Module Template v3.3., Section 6.1: *Complete the table … for all data and parameters that will be determined or available at validation and remain fixed throughout the project crediting period (copy the table for each data/parameter). Data and parameters monitored during the implementation of the project are included in Section 6.2 (Data and Parameters Monitored) …* *Ensure that data sources are appropriate and comply with VCS rules and requirements. Likewise, ensure that rules and requirements for models and default factors are adhered to.* *Ensure that all data and parameters used in equations in the module are included in this section (Data and Parameters Available at Validation) or the following section (Data and Parameters Monitored)…* **Non-Compliance**: Failure to include data and parameter	Parameter tables according to VCS template added.	Checked. Parameter tables now included. **CAR1 is closed.**

	tables as required by the VCS Methodology Template and VCS Module Template. **Objective evidence**: Sections 6.1 and 6.2 of the Module does not include tables for 'Data and parameters available at validation' and 'Data and parameters monitored' but instead refers projects to AR-ACM0003 and A/R Methodological Tool. While this is convenient to methodology developers, it might not be to projects. PP must include the tables in Sections 6.1 and 6.2.		
VCSA	**VCSA COMMENTS/QUESTIONS**		
[PT1]	**Section 4: Applicability conditions** How does this forest degradation relate to the defined forest degradation in the REDD-MF to which this methodology is generally applicable and for which procedures are included in other modules? That is, Planned degradation (APD), unplanned degradation due to the removal of wood for fuel (AUPDD)? Please specify **Round 2:** **VCS Comment:** From Table 1 in REDD-MF this doesn't seem to be the case: "is part of the land non-forest or with degraded forest". YES> "Suitable for ARR". As per VCS Requirements, as long as ARR does not lead to further drainage, ARR could occur on forested degraded peatlands? From REDD-MF this would be understood. Please comment on this.	This entire sentence must be dropped, since ARR does not occur on forested (peat) land. **Permian:** The deleted sentence has been reinserted and "before the project start date" has been added. Forest degradation in the case of REDD project activities relates to a process occurring in the baseline scenario after the project start date, which is avoided by the project. Forested land suitable for ARR is degraded as a result of processes that occurred prior to the project start date. This distinction has been made clearer by the said addition	PT 1 is still open Checked, OK. Deleted sentence reinserted and the sentence "before the project start date" added. This has improved the clarity of this applicability condition. PP's response deemed adequate **PT1 should be closed**

[MR2]	**Section 5: Procedures** Do you mean pools? Please apply VCS terminology as appropriate.	'compartments' replaced with 'pools'	Checked. The word 'pools' is now used in place of 'compartments'. **MR2 is closed**
[MR3]	**Section 5: Procedures** What about the quantification of deadwood and litter as the methodology framework does allow for these to be included as optional pools? The module must provide procedures to account for all optional pools.	Litter is now optional with the justification as follows: "Given the applicability conditions that the project area for ARR is non-forest land or with degraded forest and that the project scenario does not involve the harvesting of trees, the litter carbon pool will increase due to project implementation. It is therefore conservative not to include litter. If included, litter must be accounted for using procedures in Modules CP-L, BL-ARR and M-ARR." For peatland we add for clarity: "This pool is not mandatory on peatland but may be included." Similar for dead wood. This meets the requirement (4.3.1) that "the methodology shall establish criteria and procedures to set out when a project proponent shall or may include the pool". (Similar to REDD PT20)	Checked. Litter is now included as optional pool with appropriate justification. The Module also provides adequate reference for procedures to be used to account for litter. **MR3 is closed**
[MR4]	**Section 5: Procedures** The requirement above states that belowground biomass should not be accounted for using AR-ACM0003, however BL-PEAT does not seem to account for belowground biomass and only accounts for emissions from soil not the soil pool. Please confirm whether BL-PEAT would account for these pools and if it does not the module must provide procedures to account for these pools as they are included in the project boundary according to the methodology	Not correct. In BL-PEAT in Section 5.1 the 6th bullet point reads: "Belowground biomass carbon stocks are included in the peat component and must not be accounted for separately, except where forest occurs on shallow peat (as defined in Module X-STR), when Module CP-AB is used."	Checked. The 6th bullet point accounts for below-ground biomass. PP's response adequate. **MR4 is closed**

	framework.		
	M-ARR		
CAR 1	**Requirement**: VCS Methodology Template v3.3., Section 9.1: *Complete the table below for all data and parameters that will be determined or available at validation, and remain fixed throughout the project crediting period (copy the table for each data/parameter). Data and parameters monitored during the operation of the project are included in Section 9.2 (Data and Parameters Monitored)...* **Requirement**: VCS Module Template v3.3., Section 6.1: *Complete the table … for all data and parameters that will be determined or available at validation and remain fixed throughout the project crediting period (copy the table for each data/parameter). Data and parameters monitored during the implementation of the project are included in Section 6.2 (Data and Parameters Monitored) …* *Ensure that data sources are appropriate and comply with VCS rules and requirements. Likewise, ensure that rules and requirements for models and default factors are adhered to.* *Ensure that all data and parameters used in equations in the module are included in this section (Data and Parameters Available at Validation) or the following section (Data and Parameters Monitored)…* **Non-Compliance**: Failure to include data and parameter tables as required by the VCS Methodology Template and VCS Module Template. **Objective evidence**: Sections 6.1 and 6.2 of the Module does not include tables for 'Data and parameters available	Parameter tables according to VCS template added.	Checked. Parameter table now added. **CAR 1 is closed**

	at validation' and 'Data and parameters monitored' but instead refers projects to AR-ACM0003 and A/R Methodological Tool. While this is convenient to methodology developers, it might not be to projects. PP must include the tables in Sections 6.1 and 6.2.		
VCSA	**VCSA COMMENTS/QUESTIONS**		
[MR1]	**Section 5: Procedures** Do you mean pools? Please apply VCS terminology as appropriate.	'compartments' replaced with 'pools'	Checked, Ok. Corrections made. **MR 1 is closed**
[MR2]	**Section 5: Procedures** What about the quantification of deadwood and litter as the methodology framework does allow for these to be included as optional pools? The methodology framework must provide procedures to account for all optional pools.	See MR3 (above)	Checked. Litter is now included as optional pool with appropriate justification. The Module also provides adequate reference for procedures to be used to account for litter. **MR3 is closed**
[MR3]	**Section 5: Procedures** The requirement above states that belowground biomass should not be accounted for using AR-ACM0003, however BL-PEAT does not seem to account for belowground biomass and only accounts for emissions from soil not the soil pool. Please confirm whether BL-PEAT would account for these pools and if it does not the module must provide procedures to account for these pools as they are included in the project boundary according to the methodology framework.	See MR4 in BL-ARR	Checked. The 6th bullet point accounts for below-ground biomass. PP's response adequate. **MR4 is closed**