

# VERIFICATION REPORT FOR THE “REDUCED EMISSIONS FROM DEFORESTATION AND DEGRADATION IN COMMUNITY FORESTS – ODDAR MEANCHEY, CAMBODIA” PROJECT



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## Summary:

This report describes the verification audit of the “Reduced Emissions from Deforestation and Degradation in Community Forests – Oddar Meanchey, Cambodia” project (“the project”), a Reduced Emissions from Deforestation and Degradation (REDD) project located in Oddar Meanchey province, Cambodia, that was conducted by SCS. The purpose of verification audit was to assess the conformance of the project with the verification criteria. The verification audit was performed through a combination of document review, interviews with relevant personnel and on-site inspections. The project complies with all of the verification criteria, and the assessment team has no restrictions or uncertainties with respect to the compliance of the project with the verification criteria.

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## 1 INTRODUCTION

### 1.1 Objective

The purpose of the verification audit activity was to conduct an independent assessment of the “Reduced Emissions from Deforestation and Degradation in Community Forests – Oddar Meanchey, Cambodia” project (“the project”) to determine whether the project complies with the verification criteria, as set out in the guidance documents listed in Section 1.2 of this report.

### 1.2 Scope and Criteria

In accordance with Section 4.3.4 of ISO 14064-3:2006, the scope was defined as follows:

- The project and its baseline scenarios;
- The physical infrastructure, activities, technologies and processes of the project;
- The GHG sources, sinks and/or reservoirs that are applicable to the project;
- The types of GHGs that are applicable to the project; and
- The reporting period, as discussed in Section 5 of this report.

In accordance with Section 5.3.1 of the VCS Standard, the criteria for verification was the VCS Version 3, including the following documents:

- VCS Program Guide
- VCS Standard
- VCS AFOLU Requirements
- VCS Non-Permanence Risk Tool

Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document.

The project, and the quantification of GHG emission reductions and removals, was also assessed for conformance to the VCS-approved VM0006 methodology, Version 1.0 (“the methodology”), which was selected for use by project.

In addition, the assessment was performed against the requirements of the validated project description.

### 1.3 Level of assurance

In accordance with Section 5.3.1 of the VCS Standard, the level of assurance of this report is reasonable.

## 1.4 Summary Description of the Project

The project is an avoided deforestation project in Oddar Meanchey Province, Cambodia. Further information regarding the project can be found in Section 1.1 of the monitoring report.

## 2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

### 2.1 Validation Process

#### 2.1.2 Method and Criteria

The method and criteria for validation are identical to the method and criteria for verification, as described in Section 3.1 below.

#### 2.1.3 Document Review

The document review conducted for validation is a subset of the document review that was undertaken for verification, as described in Section 3.2 below. Specifically, the document “ELC Company Register and Make Contract in Cambodia” was reviewed to confirm the appropriateness of the deviation, as discussed in Section 2.2.2 below.

#### 2.1.4 Interviews

The interviews conducted for validation were a subset of the interviews conducted for verification, as described in Section 3.3 below. The specific interviewees who provided information for the validation are as follows:

| Individual      | Affiliation                                  | Date(s) Interviewed                                |
|-----------------|----------------------------------------------|----------------------------------------------------|
| Jeff Silverman  | Terra Global Capital, LLC                    | 17 December 2012, 4 January 2013, 20 February 2013 |
| Steven De Gryze | Terra Global Capital, LLC                    | Throughout audit                                   |
| Net Channa      | Pact Cambodia                                | 4 February 2013                                    |
| Chhun Delux     | Pact Cambodia                                | 4-8 February 2013                                  |
| Kurt Macleod    | Pact Cambodia                                | 4 February 2013                                    |
| Teang David     | Forestry Administration                      | 6 February 2013                                    |
| Mao Borimin     | Forestry Administration                      | 6 February 2013                                    |
| Chee Boreth     | Children's Development Association, Cambodia | 6 February 2013                                    |
| Rith Bo         | Children's Development Association, Cambodia | 6 February 2013                                    |

## 2.1.5 Site Inspections

The site inspections made for the validation were identical to those site inspections made for the verification, as described in Section 3.4 below.

## 2.1.6 Resolution of Any Material Discrepancy

The process for resolving any material discrepancy is identical to that set out in Section 3.5 below.

## 2.2 Validation Findings

### 2.2.1 Gap Validation

This section has been intentionally left blank.

### 2.2.2 Methodology Deviations

Section 3.2.7 of the validation report issued by the validation body indicates that “There are no deviations from the applied methodology.” However, the following deviations to the methodology were noted in the course of the verification assessment activities described in this report.

#### Methodology Deviation 001

The leakage area was modified ex post, as an area of approximately 1,837.9 hectares was excised from the leakage area prior to the quantification of GHG emission reductions and removals as discussed in this report. This is a deviation from the methodology, as the methodology defines a leakage belt as “an ex-ante fixed geographical region around each discrete project area parcel” (Section II.3.2.2), thus clearly indicating the leakage area is not to be modified on an ex-post basis.

The deviation was justified to the audit team on the basis that the area that has been excised is an Economic Land Concession that was not originally identified when the leakage area was originally delineated ex-ante. In support of this assertion, the audit team was shown high-resolution THEOS imagery that clearly indicated that an area of the leakage belt had been deforested in a planned fashion. The shape of the boundary of the deforested area was generally rectangular and straight roads ran the length of the area, and therefore the audit team agrees that the deforestation was planned. The area excised from the leakage area was slightly larger than the area that was shown to be deforested through the THEOS imagery. It was indicated to the audit team that the extent of future planned deforestation attributable to the concession was estimated based on the location of the roads. The methodology for excising the concession area appears justifiable to the audit team. In addition, the audit team confirmed that the new leakage area is exactly equal to the validated leakage area with the delineated concession area excised. The new leakage area was confirmed to be 114,968 hectares in size.

The audit team was provided with a document in Khmer, the title of which can be translated into English as “ELC Company Register and Make Contract in Cambodia”. The document was dated June 2012. It was indicated to the audit team that the document is published yearly by the Cambodian Ministry of Agriculture, Forestry and Fisheries. The description of the location and area of the concession (listed as #32 within the document and issued to Samroung Rubber Industry PTT LTD with a commencement date of 12 May 2006) correspond to the location and area as observed through remote sensing imagery and verified through observation of the GIS area. Although it appears strange that the concession was effective in 2006 and only recently identified by project personnel, it was indicated to the audit team that

the process of awarding concessions has not necessarily been very transparent in the past. The audit team was able to independently confirm the existence of the ELC with other entities.

In addition, it should be noted that Section II.3.2.2 of the methodology requires the user to exclude “inaccessible areas”, including “protected areas, national parks, economic land concessions, and large plantations”, from the leakage area. As the excised area constitutes an economic land concession, removal of this area constitutes an attempt to maintain ongoing conformance with the methodology.

## **Methodology Deviation 002**

The project employs a deviation to Equations 30 and 31 of the methodology, which guide the quantification of aboveground biomass and biomass in lying dead wood, respectively, at the plot level. In both equations, the user is instructed to divide by the cosine of the “slope of the land of plot p of LULC class or forest stratum i”, as measured in degrees. This slope correction procedure was not implemented in the quantification of GHG emission reductions. In addition, as discussed in Section 4.3.3, plot boundaries and transect lines were not corrected for slope during the data collection process. While the quantitative magnitude of the “error” caused by the discrepancy is unknown, statistical theory indicates that such error will be negligible in flat ground and become more significant on steeper slopes. Statistical theory also indicates that the error will always have the effect of underestimating biomass stocks. Therefore, such underestimation has resulted in an underestimate, rather than an overestimate, of the reported GHG emission reductions. As the proposed deviation pertains to the “criteria and procedures relating to monitoring or measurement set out in the methodology”, and as it does not negatively impact the conservativeness of the quantification of GHG emission reductions, the proposed deviations is appropriate in accordance with Section 3.5.1 of the VCS Standard.

## **Methodology Deviation 003**

The project employs a deviation to Equations 98 and 99 of the methodology, which provide the procedures for quantification of emissions from small-scale and large-scale fires, respectively. It was noted by project personnel that the specification of units for parameter  $\Delta C_{\text{fire}}(i)$  is incorrect in both equations, in that parameter  $\Delta C_{\text{fire}}(i)$  is stated to have units of metric tonnes of CO<sub>2</sub>-equivalent. Dimensional analysis of the equations, as well as comparison to Equation 3.2.19 of the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (2003), indicate that the above parameter should be specified to be in units of metric tonnes of carbon in both equations. As Equations 98 and 99 are incorrect, project personnel have opted to implement corrected versions of those equations. The deviation is considered appropriate in accordance with Section 3.5.1 of the VCS Standard, as it is a deviation with respect to the criteria and procedures for monitoring, and as the deviation will result in increased accuracy of the quantification of GHG emission reductions or removals.

## **Methodology Deviation 004**

The project employed a deviation to the procedures of the methodology for monitoring of parameter MN 8, which is defined by the methodology as “Hectares undergoing transition within the leakage area under the baseline scenario during year t”. As parameter MN 8 is a parameter that is monitored, the quantification of this parameter falls within the scope of aspects of the methodology that may be deviated from, as set out by Section 3.5.1 of the VCS Standard.

The methodology requires that this parameter be quantified following the guidance of Section II.1.5.4 of the methodology. As indicated to the audit team, a forthcoming revision to the methodology will allow the following procedure to be undertaken in place of the procedure that is currently in place:

“However, in case project proponents can justify in the monitoring report that the observed change in deforestation and/or forest degradation in the leakage area compared to deforestation and/or forest degradation in baseline in the leakage area is not caused by project activities, but rather through some external factor, project proponent are allowed to adjust the baseline rate of deforestation and forest degradation within the leakage area as explained in this paragraph. This justification may include the case when in the monitoring period the deforestation and/or forest degradation rate in the reference region is higher than the monitored rate of deforestation and forest degradation within the leakage area. Under this case, project proponents may adjust the baseline rate of deforestation and/or forest degradation rate in the leakage area before calculating the geographically constrained leakage. The rate of deforestation and/or forest degradation within the leakage area under the baseline is adjusted by first estimating the rate of deforestation and/or forest degradation in the reference region through remote sensing, and then using this rate as the total rate of deforestation (and/or forest degradation) in estimating the adjusted baseline rate of deforestation and forest degradation for the monitoring period within the leakage areas following the procedures described in section 8.1.5.4. All other variables and inputs to the procedure in section 8.1.5.4 shall remain the same as the values used at validation or last baseline update”.

Section 8.1.5.4, as referred to in the above paragraph, is equivalent to Section II.1.5.4 of the methodology.

Although not documented in the monitoring report, the audit team has received adequate justification that observed deforestation rate in the leakage area, as compared to the baseline deforestation rate, is not fully attributable to project activities. During the site visit, the audit team learned from multiple independent sources that the Cambodian military has established bases and other infrastructure within the borders of the Dung Beng, Andong Bor and Romdoul Veasna Community Forests. As explained to the audit team, the military occupation of these Community Forests has been both a direct and an indirect cause of deforestation within the borders of the Community Forests, and it is reasonable to expect that the military presence has also exerted impacts on the surrounding leakage areas. The infrastructure requirements of the military have also led to the improvement and/or development of new roads within the reference region, which has undoubtedly increased the attractiveness of deforestation activities within the reference region.

The audit team has been provided with analysis to demonstrate that the percentage of deforestation within the reference region during the monitoring period has been substantially larger than the percentage of deforestation within the leakage area during the same period, thus providing further substantiation of the claim by project personnel that “deforestation has increased dramatically in all of Northwestern Cambodia (including in the province of Oddar Meanchey and the leakage area) due to reasons that are causally unrelated to the project activities”.

The procedure of the deviation was to determine the average deforestation rate within the reference region over the course of the monitoring period. This quantity was divided by the quantity of forested area in the reference region at the beginning of the monitoring period, and the resulting value was multiplied by the quantity of forested area in the leakage area at the beginning of the monitoring period to quantify

parameter MN 8. The most important change in the quantification of this parameter, with respect to the procedures of the methodology, is that the average deforestation rate within the reference region over the monitoring period, rather than over the historical reference period, is used.

The deforestation rate in the reference region was quantified using the same remote sensing classification described in Section 4.3.1 below. Through review of replicated GIS analytical output and thorough review of the Excel workbook involved, the audit team confirmed the appropriateness of the quantification of the deforestation rate and all other spatially-derived values described in the preceding paragraph.

Following the quantification of the deforestation rate within the leakage area, deforestation and reforestation were allocated to strata following the requirements of Section II.1.5.4. The audit team did not assess the model used for the allocation of deforestation and reforestation to strata, as the conformance of the model to the requirements of the methodology was confirmed at validation. However, the audit team confirmed that the model used for purposes of the methodology deviation was functionally equivalent to the model as confirmed at validation. The audit team was able to review the (slightly revised) model for the methodology deviation in comparison to the model used at validation. The few differences were readily explained to the audit team. The audit team also observed the model from validation being run for the first four years (the duration of the monitoring period) and confirmed that the output values were within one hectare of those in Table 43 of the validated project description. Finally, the audit team observed the model for the methodology deviation being run and confirmed that the output was equivalent to that being presented in the relevant Excel workbook. Therefore, the audit team confirmed that the quantification of parameter MN 8, while deviating from the requirements of the methodology, was carried out in a technically sound manner.

It should be noted that Section III.4 of the methodology does specify certain conditions under which the baseline must be re-assessed. While it is a matter of professional judgment as to whether any of these conditions exist within the vicinity of the project, the audit team does not necessarily agree with the conclusions described in Section 4.1 of the monitoring report, as it appears that occupation of a portion of the project area by the Cambodian military, along with other factors, may have constituted a “significant change relevant for the project region” in comparison to the trajectory of this region during the historical reference period. However, the audit team received guidance from the VCSA which clarified that Section 3.1.10 of the AFOLU Requirements does not permit or require the baseline to be re-assessed on a shorter timeline than every 10 years. Therefore, Section III.4 of the methodology (which specifies certain conditions under which the baseline must be re-assessed on a shorter timeline than every 10 years) is in direct conflict with the VCS rules, and it was therefore not an option to perform a full re-assessment of the baseline in order to resolve the issue described above.

Given the extensive changes within the leakage areas that are not fully attributable to the project activities, and given the presence of factors that were not present during the historical reference period, the audit team agrees that the methodology deviation will lead to increased accuracy of the quantification of GHG emission reductions, as required by Section 3.5.1 of the VCS Standard. As circumstances during the monitoring period have been substantially different than during the historical reference period, use of the deforestation rate in the reference region during the monitoring period will serve as a more accurate reference value than the use of that same rate during the historical reference period.

## 2.2.3 Project Description Deviations

The only noted project description deviation noted as part of verification audit activities is Methodology Deviation 001, as described in Section 2.2.2 above. Because Table 56 of the project description states that the leakage area totals 116,806 hectares, the methodology deviation described above is also a project description deviation. In accordance with Section 3.6.1(2) of the VCS Standard, the project description deviation has been reported and justified in Section 2.2 of the monitoring report.

## 2.2.4 New Project Activity Instances

This section has been intentionally left blank.

## 2.3 Validation Conclusion

The audit team has obtained a reasonable level of assurance that those aspects of the project described in the above Sections 2.2.2 and 2.2.3 conform to the validation criteria for projects, as set out in VCS Version 3. The audit team did not assess whether any other aspects of the project conform to the validation criteria for projects.

## 3 VERIFICATION PROCESS

### 3.1 Method and Criteria

The verification was performed through a combination of document review, interviews with relevant personnel and on-site inspections, as discussed in Sections 3.2 through 3.4 of this report. At all times, the quantification of GHG emission reductions and removals was assessed for conformance to the criteria described in Section 1.2 of this report. As discussed in Section 3.5, findings were issued to ensure that the quantification of GHG emission reductions and removals was conducted in full conformance to all requirements.

### 3.2 Document Review

The monitoring report (Version 3-4, dated 26 August 2013) was carefully reviewed for conformance to the verification criteria.

In addition to the monitoring report, the following written documents (e.g., reports, memos, land deeds and titles) were reviewed to ensure conformance of the project to the verification criteria:

| Document (Date Created or Signed)                                                                                                                                           | Date Reviewed    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Validated VCS project description (13 August 2012)                                                                                                                          | Throughout audit |
| "Oddar Meancheay REDD+ Project, Report on 2010 Household Survey, Pact-Cambodia, July 2011" (July 2011)                                                                      | December 2012    |
| "AGREEMENT Between The Cambodia's Forestry Administration and Terra Global Capital, LLC In Relation To Community Forestry Carbon Project in Oddar Meanchey" (30 March 2009) | Throughout audit |

| Document (Date Created or Signed)                                                                                                                                                                             | Date Reviewed    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| "Amendment to AGREEMENT Between The Cambodia's Forestry Administration and Terra Global Capital, LLC Signed March 30, 2009 In Relation To Community Forestry Carbon Project in Oddar Meanchey" (October 2011) | February 2013    |
| "ELC Company Register and Make Contract in Cambodia" (June 2012)                                                                                                                                              | February 2013    |
| "Standard Operating Procedure For Field Measurements: Installation of new measurement plots for an avoided deforestation project in Oddar Meanchey Province, Cambodia, version 15" (September 2012)           | Throughout audit |

### 3.3 Interviews

Interviews constituted an important component of the audit process. The following personnel associated with the project proponent and/or implementing partners were interviewed. The phrase "throughout audit" under "Date(s) Interviewed" indicates that the individual in question was interviewed on multiple occasions throughout the audit process.

| Individual         | Affiliation               | Date(s) Interviewed                              |
|--------------------|---------------------------|--------------------------------------------------|
| Erica Meta Smith   | Terra Global Capital, LLC | Throughout audit                                 |
| Leslie Durschinger | Terra Global Capital, LLC | 17 December 2012                                 |
| Steven De Gryze    | Terra Global Capital, LLC | Throughout audit                                 |
| Jeff Silverman     | Terra Global Capital, LLC | 17 December 2012, 4 January 2013, 20 August 2103 |
| Amanda Bradley     | Pact Cambodia             | 17 December 2012, 4 January 2013                 |
| Benktesh D. Sharma | Terra Global Capital, LLC | 3 January 2013                                   |
| Khiev Samnang      | Pact Cambodia             | 4-8 February 2013                                |
| Net Channa         | Pact Cambodia             | 4 February 2013                                  |
| Chhun Delux        | Pact Cambodia             | 4-8 February 2013                                |
| Kurt Macleod       | Pact Cambodia             | 4 February 2013                                  |
| Sarah Sitts        | Pact Cambodia             | 4 February 2013                                  |

| Individual           | Affiliation                                                            | Date(s) Interviewed |
|----------------------|------------------------------------------------------------------------|---------------------|
| Julien Brewster      | Pact Cambodia                                                          | 4-8 February 2013   |
| Keng Neab            | Pact Cambodia/Forestry Administration (joint appointment)              | 7-8 February 2013   |
| Omaliss Keo          | Forestry Administration                                                | 4 February 2013     |
| Long Ratanakoma      | Forestry Administration                                                | 4-8 February 2013   |
| Teang David          | Forestry Administration                                                | 6 February 2013     |
| Mao Borimin          | Forestry Administration                                                | 6 February 2013     |
| Chee Boreth          | Children's Development Association, Cambodia                           | 6 February 2013     |
| Rith Bo              | Children's Development Association, Cambodia                           | 6 February 2013     |
| Venerable Bun Saluth | The Monks Community Forestry, Oddar Meanchey, Cambodia                 | 6 February 2013     |
| Sa Thlay             | The Community Forestry Federation of Oddar Meanchey Province, Cambodia | 6 February 2013     |

In addition, the following individuals who were not associated with the project proponent and/or implementing partner provided information regarding the project.

| Individual(s)                                                                                                                    | Date(s) Interviewed |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Community Forestry Group members and Community Forest Management Committee members, Dung Beng Community Forest                   | 7 February 2013     |
| Community Forestry Group members and Community Forest Management Committee members, Phaav (Thmorda O Toekkhiev) Community Forest | 8 February 2013     |

### 3.4 Site Inspections

Several different meetings were held for the purposes of conducting “site inspections” with respect to the project.

An introductory meeting was held at the offices of Terra Global Capital, LLC on 17 December 2012. The primary purposes of the meeting were to a) describe the systems employed to quantify GHG emission reductions and removals; and b) discuss the risk report prepared for verification.

An additional meeting was held at the offices of Terra Global Capital, LLC on 4 January 2013. The primary purpose of the meeting was to discuss the implementation of project activities during the monitoring period.

A site visit was conducted in the host country of the project from 4-9 February 2013. The primary verification activities undertaken during this visit were as follows:

- Interview representatives of the project proponent and all implementing partners listed in Section 1.1.1 of the project description regarding the implementation status of the project;
- Visit two Community Forests (CFs), Dung Beng CF and Phaav (Thmorda O Toekkhiev) CF, to confirm the implementation of the project on the ground; and
- Re-measure a sample of inventory plots, as initially measured by project personnel, to confirm the existence and sufficiency of control measures associated with the collection of forest inventory data.

The two CFs visited as part of the site visit described above were selected at random through the use of the RAND() function in Excel.

### 3.5 Resolution of Any Material Discrepancy

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

**Non-Conformity Report (NCR):** An NCR signified a material discrepancy with respect to a specific requirement. This type of finding could only be closed upon receipt by SCS of evidence indicating that the identified discrepancy had been corrected. Resolution of all open NCRs was a prerequisite for issuance of a verification statement.

**New Information Request (NIR):** An NIR signified a need for supplementary information in order to determine whether a material discrepancy existed with respect to a specific requirement. Receipt of an NIR did not necessarily indicate that the project was not in compliance with a specific requirement. However, resolution of all open NIRs was a prerequisite for issuance of a verification statement.

**Opportunity for Improvement (OFI):** An OFI indicated an area that should be monitored or ideally, improved upon. OFI's were considered to be an indication of something that could become a non-conformity if not given proper attention, and were sometimes issued in the case that a non-material discrepancy was identified. OFIs were considered to be closed upon issuance.

All findings issued by the audit team during the verification process have been closed. In accordance with Section 5.3.6 of the VCS Standard, all findings issued during the verification process, and the impetus for their closure, are described in Appendix A of this report.

## 4 VERIFICATION FINDINGS

### 4.1 Project Implementation Status

The implementation status of the ten discrete project activities is described in the monitoring report. In order to confirm that the activities were undertaken as stated, the audit team conducted interviews with representatives of the project proponent and implementing partners, conducting review of activities and control systems as needed (for example, the audit team received a demonstration of the operation of the Frontline SMS system described in Section 2.1.4 of the monitoring report). In addition, the audit team conducted confirmatory interviews with members of the Community Forestry Group and Community Forest Management Committee at each CF that was visited. The audit team has found no evidence to suggest any discrepancy between the activities described in the monitoring report and the activities that have been undertaken. The audit team can confirm that some progress has been made with respect to each project activity.

The audit team can confirm the appropriate implementation of the monitoring plan. The audit team reviewed data sheets from the biomass inventory and household survey in the offices of Pact Cambodia. These records were extremely well organized and easily located. Personnel from Pact Cambodia were able to answer questions about how data were collected and entered into digital format (e.g., an Excel workbook), with appropriate first-pass QA/QC measures along the way. The audit team can confirm that personnel from the Forestry Administration have been involved in the biomass inventory work, as personnel from the Forestry Administration participated in the re-measurement of plots for verification purposes. Through extensive interviews with Terra Global Capital, LLC personnel, the audit team can confirm that Terra Global Capital, LLC is involved in the oversight role set out in the monitoring plan. The audit team cannot necessarily confirm that the other entities listed in Section 4.3.2 of the project description have been involved in the respective stated capacities, but it certainly seems plausible.

The audit team can confirm that “standard operating procedures” for managing data quality with respect to biomass inventories and participatory rural appraisals have been developed and implemented. The audit team can confirm that a policy for resolving complaints and grievances is in effect, although the audit team is unaware of a situation in which the procedure has been utilized.

In summary, the audit team can confirm, with a reasonable level of assurance, that there are no material discrepancies between the project and the project description.

No methodology deviations were reported during the validation of the project. As described in Section 2.2.2 above, several methodology deviations were noted as part of the verification assessment documented in this report.

### 4.2 Accuracy of GHG Emission Reduction or Removal Calculations

The calculation of GHG emission reductions has been implemented in a series of Excel workbooks. The audit team confirmed the correctness of most of the values that are “hard-wired” into each workbook. For example, the audit team confirmed that the land cover transition values, derived through remote sensing analysis as discussed in Section 4.3 below, were appropriately pasted into “Gross Emission Reductions” workbook. Through a risk-based review of a sample of data sheets from inventory plots, the audit team confirmed the accuracy of the raw data values that were manually entered into Excel and transferred into an Access database. The audit team confirmed that the plot-level biomass values, as compiled within the Access database, were appropriately transferred to a separate Excel workbook for calculation of stratum-

level biomass estimates and associated uncertainty values, and that the calculated emission factors associated with each land cover transition were appropriately transferred into the “Gross Emission Reductions” workbook.

The audit team confirmed that the factors and calculations used to quantify emissions due to small-scale and large-scale fires were consistent with the requirements of the methodology and/or monitoring plan, as applicable.

Finally, relevant values from the workbooks described above were appropriately transferred to a summary workbook for calculation of GHG emission reductions. The audit team confirmed that the values were appropriately transferred and that the quantification of GHG emission reductions complies with the requirements of the methodology.

All workbooks described above were thoroughly reviewed by the audit team and all equations were found to be correctly implemented and consistent with the methodology and the monitoring plan. The audit team has reached a reasonable level of assurance as to the accuracy of the GHG emission reduction calculations.

### 4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

#### 4.3.1 Determination of land cover transitions

The audit team was walked through the entire process used to determine land cover transitions in the project and leakage areas. This process was conducted through a series of scripts, written in the Python programming language that interacted with the proprietary Terralytics system. The scripts were made available to the audit team, and the audit team observed various tasks being replicated, thus building confidence in the capability of the Terralytics system to deliver correct output.

It was indicated to the audit team that data from the Landsat 5 data acquired in December 2010 was supplemented with data from the THEOS sensor that was acquired in November 2011. It was explained to the audit team that the use of data from THEOS was made necessary after the Landsat 5 sensor went off-line in November 2011 (this was independently confirmed by the audit team through review of the NASA Landsat 5 website, <http://landsat.gsfc.nasa.gov/about/landsat5.html>, accessed 25 January 2013). The THEOS data is of higher resolution than the Landsat 5 data, with 15-meter pixels, and is considered more than adequate as a replacement for the Landsat 5 data.

As demonstrated to the audit team, the process of land cover classification is implemented using a Python script, and a confusion matrix is output from this procedure. As explained to the audit team, two-thirds of the “ground-truth” data described below is reserved for “training” to improve the effectiveness of the algorithm, and the algorithm has been developed over time using an iterative trial-and-error process.

The audit team was able to review the Python script used in the classification. As an additional check, the audit team was able to review the unclassified Landsat 5 image overlaid with the classified Landsat 5 image, using the “swipe” feature in the ArcGIS software, and visually confirm the accuracy of the classification. It was indicated to the audit team that this process had also been implemented extensively by project personnel as a visual quality check on the classification output.

As explained to the audit team, a large number of “ground-truth” data points (more than 100 in each land cover class) were created. Two interpreters, working independently, manually interpreted the

classification from the Landsat 5 imagery using high-resolution Spot and DigitalGlobe GeoEye imagery as a classification aid. One-third of the data points were used to execute an accuracy assessment, as required by Section II.1.2.4.3 of the methodology. The accuracy assessment of the classification was implemented through a Python script that was made available to the audit team. The audit team also observed two ground-truth points, one forested and one non-forested, and confirmed that the classification for each was appropriate.

The audit team observed replication of the accuracy assessment for the Landsat 5 scene and each of the three THEOS scenes, and confirmed that the broad classification accuracy for each scene was above 85%. Thus, no discounting for classification accuracy is necessary, in accordance with Table 7 of the methodology. No emission reductions from avoided degradation are claimed by the project, and thus the classification accuracy of forest stratification is not required by the methodology to be quantified.

The audit team was walked through the procedure, implemented in a Python script, which was used to calculate the land cover transitions from the classified imagery collected in 2008, 2010 and 2011. The transition values are output from the script to a text file, with values then pasted into an Excel file for analysis. This procedure was replicated for the audit team. As a final quality check on the procedure implemented in Python, the audit team observed the manual calculation, using the Raster Calculator tool in the ArcGIS software, of a single transition (evergreen forest to bare earth) from 2010 to 2011. The Zonal Statistics tool was used to calculate the transitions in the project area (both with and without ANR) and the leakage area. The resulting values exactly matched those provided in the output from the Python script.

It should be noted that, as the 2008 image had a small amount of cloud cover, a process was employed to increase (in a uniform manner) the area assigned to each relevant land cover transition proportional to the percentage of the 2008 image that was clouded. This procedure is conservative, as more area went through deforestation transitions than afforestation transitions in the project and leakage areas. The methodology does state "When clouds or cloud shadows are present in the project and leakage areas after the project has started, the calculation of the GHG benefits from these areas must be postponed until cloud-free remote sensing data is available in a subsequent monitoring period." However, the 2008 image was taken on 20 December 2008 and, thus, pre-dated the project start date. Therefore, the procedure employed is not inconsistent with the requirements of the methodology. Cloud cover was not an issue with either the 2010 image or the 2011 image.

It should be noted that, as observed by the audit team, an extremely high degree of control was maintained in the performance of monitoring tasks related to remote sensing. As described above, many of the spatial processes necessary for remote sensing are carried out automatically through the use of scripted procedures. However, project personnel have developed a variety of methods, as demonstrated to the audit team, for manually testing the output from the scripted procedures. In all of the data checks performed (under the supervision of the audit team) with respect to the output of the scripted procedures, no discrepancies were noted.

### **4.3.2 Determination of area burned in small-scale and large-scale fires**

The process used to determine the area burned in small-scale and large-scale fires was demonstrated to the audit team. It was demonstrated that data from the Moderate Resolution Imaging Spectroradiometer (MODIS) was used to determine fire occurrences. It was indicated that only fires that coincided with measured deforestation events (i.e., a monitored transition from the evergreen or deciduous class to the

bare class) were monitored, as it was unclear whether fires that did not correspond to deforestation events actually resulted in much carbon loss. The assumptions, processes and factors used in the monitoring of small-scale and large-scale fires were reviewed by the audit team and found to conform to the methodology.

No emission sources other than small-scale and large-scale fires were relevant for the monitoring period described in the monitoring report.

### 4.3.3 Determination of biomass values for each stratum

In order to confirm the accuracy of the biomass values used to calculate the emission factors associated with each land cover transition, the audit team re-visited two permanent forest plots which had been measured in 2012. These plots were DBNG200 (on the Dung Beng CF) and PHAV170 (on the Phaav CF). It was necessary for the audit team to select permanent forest plots for this analysis because, as allowed by the methodology, non-permanent plots were used to determine stocks in the “bare” land cover class. The audit team has found in the past that visiting plots that can be reliably re-located is the best method for ensuring the accuracy of measurement procedures.

The audit team requested that project personnel involved in the 2012 measurement campaign participate in the re-measurement of two permanent plots under the observation of the observation team. The project personnel responsible for supervising the measurement effort were able to confidently answer the questions of the audit team regarding the measurement procedures employed. The corners of the inventory plots were independently re-located as part of the measurement exercise, and the audit team was able to confirm that this was done with a high degree of accuracy. The other measurements taken by project personnel were found to be collected to a reasonable level of quality.

It was noted during the site visit that the project personnel did not explicitly correct for slope in the layout of plot boundaries, but rather attempted to ensure that the demarcation lines ran parallel to the ground surface to the greatest extent possible. In addition, no measures were undertaken to explicitly correct for slope during the compilation process. As discussed in Section 2.2.2 above, this constitutes an acceptable deviation to the methodology.

Because the above-ground tree biomass pool comprises a far greater proportion of overall biomass than the dead wood pool, quantitative analysis was restricted to an assessment of the accuracy of measurement within this pool alone. In conducting the analysis, reasonable allowance was made for in-growth of new trees to the plot. It was found that the overall differences between original and re-measured values was 15% (with the original value being greater than the re-measured value) for plot DBNG200 and -8% (with the original value being smaller than the re-measured value) for plot PHAV170, when measured in aboveground biomass.

The audit team did note that plot DBNG200 was subject to substantial disturbance due to harvesting of trees, as evidenced by many freshly cut tops that were lying on the forest floor, as well as recently cut stumps. It was indicated to the audit team that this activity had occurred since the plot was last measured in 2012.

For plot PHAV170, much of the difference in values appears to be reasonably attributable to normal forest growth. However, it should be noted that 289 trees that were not obvious recent in-growth were included in the re-measured data, while only 248 trees were included in the original measurements. It is possible

that a number of trees were missed in the original inventory, leading to a small underestimate in biomass. Cross-checks on circumference measurements on a handful of individual trees for both the DBNG200 and PHAV170 plots indicate that the measurements correspond very well, thus confirming the accuracy and replicability of the circumference measurements taken.

Finally, it should be noted that there was a shift in plot location of approximately 0.5 meter in the north and east directions for plot PHAV170, and perhaps as much as 1 meter in the north and east directions for plot DBNG200.

Given the factors discussed above, and given the generally high quality of the measurements observed by the audit team, the audit team concludes that the biomass inventory is of an acceptable quality standard, and that, where errors were made in the inventory process, such errors (e.g., missed trees) are likely to underestimate biomass and, therefore, are not likely to overestimate the GHG emission reductions of the project.

#### 4.4 Management and Operational System

The management system for monitoring and reporting employed by the project proponent and project implementing partners appeared to be sufficiently robust to ensure the provision of high-quality monitoring data. It should be noted that, where monitoring tasks are carried out by highly trained staff, fewer provisions for internal auditing and management review are necessary and a greater degree of autonomy is inherent in the work. However, interviews with key personnel responsible for monitoring and reporting tasks were able to describe appropriate QA/QC checks that were implemented to ensure quality of output.

Where volunteers and Community Forestry Group members were involved with monitoring tasks, additional internal auditing and management review was undertaken as necessary. For example, as data entry was carried out by one or more volunteers, a risk-based review process was described to the audit team for ensuring quality by “eyeballing” the entered data prior to approval.

As observed by the audit team, a highly developed organizational structure is in place to ensure the quality of biomass inventory data. Measurement team members are assigned to specific roles, as defined in document “Standard Operating Procedure For Field Measurements: Installation of new measurement plots for an avoided deforestation project in Oddar Meanchey Province, Cambodia, version 15” (see Section 3.2 above). During the re-measurement of inventory plots, the audit team observed the field crew leaders engaging in informal, yet highly effective, quality assurance measures (such as correcting a sloppy circumference measurement) on an ongoing basis.

### 5 VERIFICATION CONCLUSION

The project conforms with the verification criteria for projects and their GHG emission reductions or removals set out in the VCS rules, and the audit team has no qualifications or limitations with respect to this assertion. The project has generally been implemented in accordance with the project description.

The audit team can confirm, with a reasonable level of assurance, that the below quantity of GHG emission reductions has been appropriately quantified in accordance with the VCS rules.

Reporting period: From 28-February-2008 to 28-February-2012

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

| GHG Emission Reductions or Removals (tCO <sub>2</sub> e) | 2008           | 2009           | 2010           | 2011           |
|----------------------------------------------------------|----------------|----------------|----------------|----------------|
| Baseline Emissions                                       | 401,111        | 418,701        | 425,313        | 429,631        |
| Project Emissions                                        | 241,852        | 241,852        | 241,852        | 75,659         |
| Leakage                                                  | 12,783         | 25,566         | 38,349         | 51,132         |
| <b>Net GHG emission reductions or removals</b>           | <b>146,476</b> | <b>151,283</b> | <b>145,113</b> | <b>302,840</b> |

## APPENDIX A: LIST OF FINDINGS

### NCR 2013.1 dated 01/03/2013

**Standard Reference:** VCS Standard V3.2, Section 3.17.6

**Document Reference:** Oddar Meanchey VCS Monitoring Report v1-0.pdf, Section 3.1

**Finding:** The VCS Standard requires that the monitoring report include "the data and parameters (both available at validation and monitored) and a description of the monitoring plan." The monitoring report does include data and parameters available at validation. While the monitoring report does provide information on where said data and parameters can be obtained, this does not constitute their inclusion.

**Client Response:** The Monitoring report has been updated to include the Parameters Monitored at Verification.

**Auditor Response:** Review of the updated monitoring report ("Oddar Meanchey VCS Monitoring Report v2-0.docx") indicates that all data and parameters available at validation have been included, as required by the VCS Standard. Therefore, the non-conformity has been resolved.

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

### NCR 2013.2 dated 01/03/2013

**Standard Reference:** VM0006 V1.0, Section III

**Document Reference:** Oddar Meanchey VCS Monitoring Report v1-0.pdf

**Finding:** The methodology requires that "at every verification time, project proponents must check that no other land-based carbon projects registered under the CDM or under any other carbon trading scheme (both voluntary and compliance-oriented) are present in the project area" and that "a formal statement on the lack of any other carbon project in the project area must be included in the monitoring report." So far as the audit team can ascertain, a formal statement on the lack of any other carbon project in the project area has not been included in the monitoring report.

**Client Response:** A formal statement indicating that there are no other carbon projects in the project area, and confirmation that no other land-based carbon projects are present under any other carbon trading scheme in the project area, has been added to Section 3.4 of the Monitoring Report.

**Auditor Response:** As indicated, the updated monitoring report ("Oddar Meanchey VCS Monitoring Report v2-0.docx") contains a formal statement on the lack of any other carbon project in the project area. In addition, as a risk-based confirmation of the work done to assess whether any other land-based carbon projects may be located within the project area, the audit team reviewed the VCS Project Database and VCS Project Pipeline (accessed 4 April 2013) and confirmed that no other land-based carbon projects are located in Cambodia. Furthermore, the audit team received no indication during the site visit that any other land-based carbon projects were located anywhere near the project area. On the basis of the above, the non-conformity has been resolved.

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

### NCR 2013.3 dated 01/03/2013

**Standard Reference:** VM0006 V1.0, Section III.2.2

**Document Reference:** Oddar Meanchey VCS Monitoring Report v1-0.pdf

**Finding:** The methodology requires that "Emission Factors must be reported in the monitoring report based on the procedure in section II.1.4." The updated emission factors are not reported in the monitoring report.

**Client Response:** Section 4.4 in the Monitoring Report has now been updated to show emission factors.

**Auditor Response:** As indicated in the Client Response, the monitoring report has been updated to include the emission factors, and therefore the non-conformity has been resolved. However, it should be noted that NCR 2013.43 has been issued regarding inconsistencies in the emission factors indicated in various client-supplied documents.

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

**NIR 2013.4 dated 01/03/2013**

**Standard Reference:** NA

**Document Reference:** Biomass Field Inventory v8-8.xlsx; 1. Gross Emission Reductions v0-23.xlsm

**Finding:** The emission factors shown in the "6. Emission Factor - Transition" worksheet within the "1. Gross Emission Reductions v0-23.xlsm" workbook do not correspond with those shown in the "1.c.Sampling and Discount" worksheet within the "Biomass Field Inventory v8-8.xlsx" workbook. Please explain the discrepancy.

**Client Response:** There was an error in the datasheet "Biomass Field Inventory v8-8.xlsx". Plots SSRVDF6 and SSRV49 are classified as DCD, and while these two plots were reported as belonging to "BAR" class. This was a typing error. In the worksheet "1.a. summary of all plots" cells C83 and C89 were changed to DCD.

The correction is reflected in "Biomass Field Inventory v9-0.xlsx". Because of the changes, estimation of gross emissions reduction, emissions sources (especially from fire) and net emissions reduction needed to be updated accordingly. The following workbooks were updated.

- Biomass Field Inventory v9-0.xlsx
- Gross Emission Reductions v2-0.xlsm (will be sent when methodology update is complete)
- Calculate emissions sources v2-0.xlm
- Combine all calculations and make overview table v2-0.xlsx (will be sent when methodology update is complete)

**Auditor Response:** The information provided is sufficient to clarify the reason for the discrepancy noted in the text of the finding. As the biomass values for the two plots are an order of magnitude greater than the average biomass value for the BAR class, the information provided is supported by the data. The audit team will need to review the additional workbooks provided and ensure that the values they contain are consistent with those in workbook "Biomass Field Inventory v9-0.xlsx".

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

## **NCR 2013.5 dated 01/03/2013**

**Standard Reference:** VM0006 V1.0, Section III.2.3

**Document Reference:** 2. Calculate emissions sources v0-2.xlsm

**Finding:** Equations 98 and 99 within the methodology require that emissions small-scale and large-scale fires, respectively, be calculated using the factor 16/12. Review of the "E\_largeScaleFire" and "E\_smallScaleFire" worksheets within the "2. Calculate emissions sources v0-2.xlsm" workbook indicates that the factor 44/12 has been in used in place of the above factor. Use of the incorrect of factor has resulted in a discrepancy of 48,040 t CO<sub>2</sub>e. This quantity is approximately 15.4% of the reported GHG emission reductions for the monitoring period, and therefore the discrepancy constitutes a quantitative material error that must be rectified.

**Client Response:** The auditor was correct that the factor 44/12 was not necessary. However, in our original submission, this factor was not intended to replace the factor 16/12, but rather to calculate  $[\Delta C]_{fire} (i)$  expressed as tCO<sub>2</sub>-eq ha<sup>-1</sup>, as required in the methodology on page 169. Upon further investigation of this equation in the methodology, it is clear that the unit of the methodology for  $[\Delta C]_{fire} (i)$  is, in fact, incorrect. Specifically, the methodology uses ERCH<sub>4</sub> from Table 3A.1.15 in IPCC GPG-LULUCF (2003), this factor is defined as the ratio for carbon compounds, i.e. CH<sub>4</sub> and CO, as masses of carbon compound released (in units of C) relative to mass of total carbon released from burning. As a consequence, the basis for this equation should be expressed in tons of C and not tons of CO<sub>2</sub>, therefore, the conversion factor 44/12 is not necessary. The only conversion factor required is 0.5, to represent the conversion of dry matter into carbon. This conversion occurs in cells M20 and M21 for E\_largeScaleFire and M23 and M24 for E\_smallScaleFire. These changes were made into the "2. Calculate emissions sources v2-0.xlsm" workbook.

Finally the factor 16/12 was used to obtain the fire related emissions in two different transitions i.e. From DCD To BAR and From EVG To BAR respectively in cells M29 and M30 in E\_large-scale fire sheet for large scale fire, and in cells M32 and M33 in E\_small-scale fire sheet for small scale fire. Please see the updated workbook "Calculate emissions sources v2-0.xlsm"

**Auditor Response:** Upon further review of the methodology, the audit team agrees that, in comparison with Equation 3.2.19 of the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (2003), and as confirmed through dimensional analysis, Equations 98 and 99 are incorrect in that carbon stock change due to fire is specified in units of metric tonnes of CO<sub>2</sub>-equivalent rather than metric tonnes of carbon. The equations are corrected in workbook "2. Calculate emissions sources v2-0.xlsm". It should be noted that, while technically correct, the discrepancy with respect to the guidance of the methodology constitutes a methodology deviation, which must be noted in the verification report.

Because the deviation described above is acceptable to the audit team, this finding may be withdrawn.

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

## **NCR 2013.6 dated 01/03/2013**

**Standard Reference:** VCS Standard V3.2, Section 3.17.6

**Document Reference:** Oddar Meanchey VCS Monitoring Report v1-0.pdf

**Finding:** The VCS Standard requires that the monitoring report include "Any additional information relevant to monitoring." It was revealed to the audit team during the office meeting of 17 December 2012 that approximately 1837.9 hectares had been excised from the leakage belt that was approved at validation. While the audit team considers this to constitute "additional information relevant to monitoring", a discussion thereof has not been included within the monitoring report.

**Client Response:** We understand that this NCR is closed.

**Auditor Response:** Further review of the monitoring report indicates that a discussion of the change in leakage area is contained within a description of the monitoring of parameter MN 79, as contained on page 52 of the monitoring report. Therefore, the non-conformity did not exist, and the finding may be withdrawn.

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

**NCR 2013.7 dated 01/03/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.1, Section 2.3.3

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** The AFOLU Non-Permanence Risk Tool requires that "A governance score (of between -2.5 and 2.5) shall be calculated from the mean of Governance Scores across the six indicators of the World Bank Institute's Worldwide Governance Indicators (WGI), averaged over the most recent five years of available data. Governance scores shall be translated into risk scores as set out in Table 9." A governance score of -0.77 is claimed for the project. However, the audit team has been unable to replicate the values provided in the risk assessment. In addition, a governance score appears to have been calculated across the years 2006-2010. As data from 2011 is available, and therefore, the AFOLU Non-Permanence Risk Tool requires an average governance score to be calculated across the years 2007-2011. When doing so, the audit team has determined that the correct governance score is -0.823333333, which requires a risk score of 6 to be assigned for the item. Therefore, the claimed risk score for the political risk subcategory is not correct.

**Client Response:** The governance score has been recalculated using the newest (2011) WGI data, and has been changed to -0.823. The Political Risk score has been updated accordingly (to 6) in the document "OM REDD Risk Assessment 1st Verification v2-0.docx"

**Auditor Response:** As indicated, the risk score in question has been revised to 6 in the updated risk report ("OM REDD Risk Assessment 1st Verification v2-0.docx"). Therefore, the non-conformity has been resolved.

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

**NIR 2013.8 dated 01/03/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.1, Section 2.3.3

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** For the political risk subcategory, the AFOLU Non-Permanence Risk Tool permits a mitigation risk score to be applied if (among other things) "The country is receiving REDD+ Readiness funding from the World Bank Forest Carbon Partnership Facility, UN-REDD or other bilateral or multilateral donors, and is implementing a REDD+ policy framework covering key components such as GHG credit ownership, clear government authority over REDD+ projects, and/or national measurement, reporting and verification systems." During the office meeting of 17 December 2012, the audit team was provided with evidence that Cambodia is receiving REDD+ Readiness funding from UN-REDD. However, it is not clear to the audit team that Cambodia is "implementing a REDD+ policy framework covering key components such as GHG credit ownership, clear government authority over REDD+ projects, and/or national measurement, reporting and verification systems". Please provide evidence that this is the case.

**Client Response:** Cambodia is currently in the process of implementing a REDD+ policy framework, as evidenced by the fact that they received REDD+ Readiness funding of \$3 million from UN-REDD. A condition of this funding is that Cambodia establish and implement the workplan defined in their UN REDD National Program Document (link 1) as well as their UN REDD REDD+ Roadmap (link 2). The National Program Document & REDD+ Roadmap includes the work required to develop, inter-alia, GHG credit, government authority over REDD+ projects, and national MRV systems. In 2011, Cambodia officially began implementation of their REDD+ program (and through this their policy framework)- See link 3. A list of specific activities that have been implemented under the REDD+ policy framework through 2012 is available at link 4. An update of UN-REDD activities in Cambodia as of January 2013 is available at link 5. Please see the Document "Oddar Meanchey VCS Verification Responses 4-3-13\_v3-0.xlsx" for links.

**Auditor Response:** Through review of the internet sources provided ([http://www.un-redd.org/Newsletter21/Four\\_Countries\\_Start\\_NP\\_Implementation/tabid/54804/Default.aspx](http://www.un-redd.org/Newsletter21/Four_Countries_Start_NP_Implementation/tabid/54804/Default.aspx); [http://www.un-redd.org/Key\\_results\\_achievements\\_Cambodia/tabid/106626/Default.aspx](http://www.un-redd.org/Key_results_achievements_Cambodia/tabid/106626/Default.aspx); and [http://www.un-redd.org/Newsletter35/REDD\\_Progress\\_in\\_Bhutan\\_and\\_Cambodia/tabid/105794/Default.aspx](http://www.un-redd.org/Newsletter35/REDD_Progress_in_Bhutan_and_Cambodia/tabid/105794/Default.aspx); all accessed 4 April 2013), all of which are products of the UN-REDD Programme, the audit team was able to confirm that Cambodia is in the process of implementing a REDD+ policy framework. Although the process appears to be in its inception, the audit team was able to confirm that progress is being made on the development of national measurement, reporting and verification systems and stakeholder engagement. Therefore, the audit team agrees that the application of the mitigation risk score conforms to the requirements of the AFOLU Non-Permanence Risk Report, and the information request has been satisfied.

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

## **NCR 2013.9 dated 01/03/2013**

**Standard Reference:** VM0006 V1.0, Section III.4

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** The methodology sets out six conditions under which a baseline update must be conducted on a more frequent basis than every 10 years. The methodology states that "Every monitoring report must explicitly test the presence or absence of each of these conditions. If one or more of these conditions is present, a baseline update must be conducted within the monitoring report." The monitoring report does not explicitly test the presence or absence of each of the conditions set out by the methodology.

**Client Response:** Section 4.1 in the Monitoring Report will be updated when the methodology deviation is complete.

**Auditor Response:** Subsequent to the issuance of this finding, the audit team received guidance from the VCSA (via an email from Sam Hoffer dated 21 August 2013) which clarified that Section 3.1.10 of the AFOLU Requirements does not permit or require the baseline to be re-assessed on a shorter timeline than every 10 years. Therefore, Section III.4 of the methodology (which specifies certain conditions under which the baseline must be re-assessed on a shorter timeline than every 10 years) is in direct conflict with the VCS rules. In this case, the VCS rules must take precedence and Section III.4 of the methodology may be ignored. Therefore, this finding is withdrawn.

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

## **NIR 2013.10 dated 01/08/2013**

**Standard Reference:** NA

**Document Reference:** BiomassDatabaseOM2012.accdb

**Finding:** The formula for calculation of biomass, in metric tons per hectare, for each individual piece of down wood is set out as follows within the update query "QRYUPDATEDDWBIOMASS":

Round(TBLDDWDECOMPOSITIONCLASS.DENSITY\*22/7\*22/7/8/50\*(OUTERD^2-HOLLOWD^2)\*10000/2,3).

The multiplication of the total by the quantity 10000 does not appear to be consistent with standard formulas for calculation of biomass in lying dead wood when the line intersect method is used for sampling. Please provide an explanation for the use of the factor 10000 in the formula as described above.

**Client Response:** In the database "BiomassDatabaseOM2012.accdb", both outerD and hollowD are in meters. Equation [32] in the methodology (page 54 – section II.1.4.5 under "lying dead wood") is set to receive input for outerD and hollowD in centimeters, allowing for the final value to be given in metric tons per ha. Therefore a factor of 10,000 is necessary to change the units of outerD and hollowD from meters back into centimeters.

**Auditor Response:** The Client Response is correct in clarifying that, if the parameters OUTERD and HOLLOWD are in units of meters, the equation quoted in the text of the finding is correct. The finding was mistakenly issued due to confusion on the part of the audit team regarding the units of the parameters OUTERD and HOLLOWD, and will be withdrawn with the apologies of the audit team.

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

## **NIR 2013.11 dated 01/08/2013**

**Standard Reference:** NA

**Document Reference:** BiomassDatabaseOM2012.accdb; Biomass Field Inventory v8-8.xlsx

**Finding:** It is unclear whether the following factors and formulas were approved at validation, as there does not appear to be an explicit reference to them in either the project description or the validation report. Please provide evidence that these factors and formulas were approved at validation.

- The assumed wood density of 0.57, as used to quantify aboveground biomass in living trees with the equation from Chave et al. (2005)
- The formula  $EXP(-1.499+2.148*LN(DBH)+0.207*(LN(DBH)^2)-0.0281*(LN(DBH))^3)/1000/0.25*DENSITY$  (DECOMPOSITION CLASS), as used to quantify biomass in standing dead wood

**Client Response:** During the validation, the excel workbook - Field inventory V7.xlsx was provided to the validator during the first round of communications. The excel workbook demonstrates that the density value of 0.57 g cm<sup>-3</sup> was used during validation as shown in cell B4 on the read me worksheet.

Additionally, the same workbook shows that formula  $EXP(-1.499+2.148*LN(DBH)+0.207*(LN(DBH)^2)-0.0281*(LN(DBH))^3)/1000/0.25*DENSITY$  (DECOMPOSITION CLASS)) was used to quantify the biomass in standing deadwood as evident in the "Readme" cell B9. In this equation, the density value of 0.57 g cm<sup>-3</sup> is replaced by the density that is specific for the decomposition class as specified in cells I3-I6 in Standing Deadtree worksheet).

**Auditor Response:** The audit team was able to confirm that the workbook "Field inventory V7.xlsx" does contain the information indicated in the Client Response. In addition, the audit team confirmed, through review of the validation report issued by Tuv Sud, that the same workbook had been reviewed by Tuv Sud as part of the validation audit (internal reference number 15, as provided in Annex 2). Therefore, the audit team has obtained reasonable assurance that the equations and factors in question had previously been reviewed by Tuv Sud as part of the validation audit, and the information request has been satisfied.

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

## **NCR 2013.12 dated 01/08/2013**

**Standard Reference:** VM0006 V1.0, Section II.3.3

**Document Reference:** 1. Gross Emission Reductions v0-23.xlsm; Oddar Meanchey REDD Project VCS PD v4-2.pdf, Table 53

**Finding:** The methodology requires that Equation 90 be used to quantify leakage from geographically unconstrained drivers on an ex ante and ex post basis. The quantification of leakage from geographically unconstrained drivers, as observed in cells T17-T20 of worksheet "5. Net" within workbook "1. Gross Emission Reductions v0-23.xlsm", exhibits the following inconsistencies with respect to the methodology:

- The equation requires that parameter D(projectArea,baselineScenario,DF) be set to "Baseline rate of deforestation and forest degradation respectively within the project area for year t of the crediting period". However, within the workbook, the parameter has been set to the difference between project and baseline deforestation rates.

- The equation requires that the baseline deforestation rate be multiplied by "Leakage cancellation rate for avoiding deforestation/degradation from migrants clearing forest area for cropland conversion". Table 53 within the project description indicates that the validated leakage cancellation rate for geographically unconstrained leakage related to cropland conversion is 0%. The rate used within the workbook is not consistent with this rate.

**Client Response:** [The client provided a detailed response within the document "Oddar Meanchey VCS Verification Responses v4-0.docx".]

**Auditor Response:** In reviewing the updated workbook "1. Gross Emission Reductions v2-0.xlsm", the audit team has been able to confirm that the required corrections have been made and that the quantification of geographically unconstrained leakage is now consistent with Equation 90 of the methodology. In addition, the audit team was able to confirm that the quantification makes use of values approved at validation and contained within Tables 27, 44, 47 and 53 of the validated project description. Therefore, the non-conformity has been resolved.

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

## **NCR 2013.13 dated 02/20/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.6.1(2)

**Document Reference:** Oddar Meanchey VCS Monitoring Report v1-0.pdf; Validated Project Description, Table 56

**Finding:** This finding is a follow-up to NCR 2013.6. As described within that finding, it was indicated to the audit team that the leakage area was modified to account for an Economic Land Concession that was detected subsequent to validation. This is a deviation to the validated project description, as Table 56 of that document indicates that the leakage belt is 116,806 hectares, whereas it was confirmed to be approximately 114,968 in size during the office meeting of 17 December 2012.

The VCS Standard states the following with respect to project description deviations:

"Where the deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology, the deviation shall be described and justified in the monitoring report. This shall include a description of when the changes occurred and the reasons for the changes."

While the monitoring report contains a brief description of the change in leakage area, as documented in resolution of NCR 2013.6, the project description deviation is not fully described or clearly identified in the monitoring report. In addition, no justification for the deviation has been provided. Finally, in the discussion of monitoring of parameter MN 50, the monitoring report states "No change in leakage belt". This is not consistent with the modification of the leakage area as described above.

**Client Response:** A detailed description and map of changes was added to the Monitoring Report, included as Section 3.2.3 Leakage. Additionally MN50 was edited to indicate the change.

**Auditor Response:** As indicated, the project description deviation is adequately described and justified in Section 3.2.3 of the updated monitoring report ("Oddar Meanchey VCS Monitoring Report v2-0.docx"), and the statements made therein are consistent with the understanding of the audit team. In addition, the description for parameter MN 50 has been modified appropriately. However, Section 2.2 of the updated monitoring report states "There have been no deviations from the Project Description." Thus, while the project description is described and justified in one section of the monitoring report, the monitoring report lacks internal consistency with respect to the existence of the project description deviation, and thus the requirements of the VCS Standard cannot be stated to be fully satisfied. Therefore, the non-conformity has not been fully resolved.

**Client Response 2:** [A response to this finding was provided in the form of provision of an updated monitoring report, "Oddar Meanchey VCS Monitoring Report v3-2.docx".]

**Auditor Response 2:** Through review of the updated monitoring report, the audit team can confirm that the inconsistent language pertaining to the project description deviation has been removed. Therefore, the non-conformity has been resolved.

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

## **NCR 2013.14 dated 02/20/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.2, Section 2.4.1

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** The AFOLU Non-Permanence Risk Tool requires that "Natural risk is based on likelihood (ie, the historical average number of times the event has occurred in the project area over the last 100 years) and significance (ie, the average significance of each event). Any significant natural risk (ie, a risk affecting more than 5% of the project area) that has occurred over the past 100 years in the project area shall be considered applicable to the project." For fire, the non-permanence risk report indicates that significance is "minor" and likelihood is "less than every 10 years". However, it has been indicated that the claims regarding the significance and likelihood of fire claim were made on the basis of an understanding that the risk of fire includes all fire (whether natural or human-caused). It is the understanding of the audit team, based on communication with VCSA, that the risk is only intended to apply to fire ignited by natural sources. Conversations with Forestry Administration Cantonment personnel have indicated that such natural fires do not exist in Oddar Meanchey. Therefore, the risk of fire is not applicable to the project.

**Client Response:** The document "OM REDD Risk Assessment 1st Verification v2-0.docx" has been updated to reflect a significance of "No Loss" for Natural Risk – Fire.

**Auditor Response:** As indicated, the updated risk report ("OM REDD Risk Assessment 1st Verification v2-0.docx") has been revised to reflect that the natural risk of fire is 0 for the project area at this time. Therefore, the non-conformity has been resolved.

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

## **NIR 2013.15 dated 02/20/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.2, Section 2.4.1

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** The non-permanence risk report indicates that a mitigation score of 0.25 can be applied for the natural risk "pest and disease outbreaks". The AFOLU Non-Permanence Risk Tool indicates that such a score can be applied only in the case that both of the following conditions hold:

- Prevention measures applicable to the risk factor are implemented
- Project proponent has proven history of effectively containing natural risk

While the representatives of the FA Cantonment that the audit team spoke with appeared to be very familiar with the pests and diseases occurring in the project area, the audit team was not provided with evidence that the Forestry Administration has a proven history of effectively containing natural risk. In addition, during visits to the Phaav and Dung Beng Community Forests, the audit team did not observe any evidence that specific prevention measures applicable to the risk factor had been implemented. Please provide such evidence.

**Client Response:** The PD Risk section of the document "OM REDD Risk Assessment 1st Verification v2-0.docx" has been updated to remove the mitigation for prevention measures and/or proven history of containing risk. Further, we have changed the PD Risk to a score of zero, based on further assessment indicating that PD risk is not applicable to the project area. Additional supplementary language has been added to the OM Risk Assessment document.

**Auditor Response:** As the mitigation factors in question are no longer claimed for the project, the information request is not relevant and may be closed.

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

**NIR 2013.16 dated 02/20/2013**

**Standard Reference:** NA

**Document Reference:** VCS Standard V3.3

**Finding:** The audit team observed, while observing re-measurement of the PHAV170 biomass inventory plot, that the diameter at breast height of an obviously buttressed tree was measured at 1.3 meters above the ground surface. Project personnel indicated to the audit team that trees are always measured at 1.3 meters above the ground surface (or at 1.3 meters along the tree stem, in the case of a leaning tree). When buttressed trees are encountered in the field, such trees are often measured above the swell rather than at 1.3 meters above the ground surface. It appears that such was the case for the raw data that was used to create the equations of Chave et al. (2005). In the discussion of "Study Sites" on page 89, the Chave et al. (2005) publication states "Further details on these sites and datasets are available as Electronic Supplementary Materials." Page 1 of the Electronic Supplementary Materials (accessed 19 February 2013 from <http://link.springer.com/article/10.1007%2Fs00442-005-0100-x>) indicates that "Typical data report, for each tree, a species identification, a diameter at breast height (or above buttresses, if present), a total tree height, trunk weight, weight of branches, total tree weight (including leaves, fruits, aerial roots, and bark, if present), wood specific gravity." Thus, it is implied that, where buttresses were present, diameter at breast height was measured above such buttresses. In the event that diameter at breast height measurements are taken at 1.3 meters for buttressed trees, and these measurements are run through an equation that was created from datasets where diameter at breast height was measured above such buttresses, extreme overestimation of biomass for individual trees may result. The audit team observed that the few buttressed trees on the PHAV170 inventory plot appeared to have a diameter at 1.3 meters that was approximately twice that which would be measured above the buttress. Therefore, the potential for overestimation of biomass appears to exist in this case. Section 5.3.1(4) of the VCS Standard states that "The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals shall be five percent for projects and one percent for large projects." As the project is considered "project" in accordance with Section 3.9.1 of the VCS Standard, please provide evidence that the misrepresentation of the reported GHG emission reductions, as caused by the issue described above, is likely to be less than five percent of the total reported GHG emission reductions. Alternatively, please take steps to correct the issue and ensure that GHG emission reductions and removals are reported in accordance with the principle of conservativeness, as defined in Section 2.4.1 of the VCS Standard.

**Client Response:** Please see the document "Oddar Meanchey VCS Verification Responses v3-0.docx"

**Auditor Response:** In response to this finding, the audit team was provided with an analysis of the most likely extent of the bias that was injected into the inventory through the use of the improper measurement techniques described in the text of the finding. The results of the analysis indicate that the total extent of the error is highly unlikely to exceed the materiality threshold set out by the VCS Standard. The audit team reviewed all assumptions made in the analysis and found them to be reasonable and consistent with the results of a literature review on the extent of buttressing effects on tree species in Cambodia. In addition, the audit team reviewed the calculations undertaken to determine the extent of the bias and, while a few errors were identified, the errors identified were not of sufficient extent to impact the determination of materiality with respect to the bias. Therefore, the audit team agrees with the results of the analysis, and finds the information provided to be sufficient to satisfy the information request.

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

## **NCR 2013.17 dated 02/20/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.2, Section 2.2.1

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** The AFOLU Non-Permanence Risk Tool indicates that a score of 2 should be applied for item (b) of the project management sub-category in the event that "Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued." This score has been applied by the risk report. However, GHG credits have not previously been issued on the carbon stocks within the project area, and therefore the risk item is not applicable to the project.

**Client Response:** The document "OM REDD Risk Assessment 1st Verification v2-0.docx" has been updated accordingly.

**Auditor Response:** As indicated, the risk score for item (b) of the project management sub-category is not applied in the updated risk report ("OM REDD Risk Assessment 1st Verification v2-0.docx"). Therefore, the non-conformity has been resolved.

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

## **NCR 2013.18 dated 02/20/2013**

**Standard Reference:** VCS Standard V3.3, Section 5.3.1(4)

**Document Reference:** 1. Gross Emission Reductions v0-23.xlsm

**Finding:** The following errors exist in the equations implemented in worksheet "5. Net" of workbook "1. Gross Emission Reductions v0-23.xlsm":

- Cell M72 has been assigned a value of 0, whereas it should reference the value of 14 from worksheet "4c. ANR - DF, RF, DG, RG".

- Cell M109 refers to the value in cell D65 of worksheet "2c. Leakage - DF, RF, DG, RG", whereas it should reference cell C65 of that worksheet.

- Cells M110 and M111 also contain mistaken references, as they refer to cell M109.

Taken together, these errors exceed the materiality threshold of five percent, as established by the VCS Standard. Therefore, they have resulted in a quantitative material misstatement of reported GHG emission reductions.

**Client Response:** The Monitoring Report, and associated calculations will be updated to show emission factors when the methodology deviation is complete.

**Auditor Response:** In reviewing the updated workbook "1. Gross Emission Reductions v2-0.xlsm", the audit team has been able to confirm that the required corrections have been made. Therefore, the non-conformity has been resolved.

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

**NIR 2013.19 dated 02/20/2013**

**Standard Reference:** VM0006 V1.0, Equation 4; VCS Standard V3.3, Section 3.5.1

**Document Reference:** 1. Gross Emission Reductions v0-23.xlsm

**Finding:** The equations implemented in cells S17-S20 of the "7. Gross Emission Reductions" of workbook "1. Gross Emission Reductions v0-23.xlsm" do not conform to the requirements of Equation 4 of the methodology. Equation 4 requires that the number of hectares undergoing transition  $i$  in the leakage area in the project scenario be made positive, and that from this value the number of hectares undergoing transition  $i$  in the leakage area in the baseline scenario must be subtracted. The procedure implemented in cells S17-S20 leads to the same results in the case that net deforestation in the leakage area in the project scenario is greater than net deforestation in the leakage area in the baseline scenario. In other cases, however, a value of 0 is output.

Please provide evidence that the proposed methodology deviation is appropriate and that it does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals (or, if so, that it results in increased accuracy of such quantification), in accordance with the VCS Standard.

**Client Response:** The formula in cells S17-S20 does, in fact, comply with the requirements set forth in the methodology. Specifically, Section II.3.1 of the methodology clearly states that "GHG benefits from positive super-acceptance are not accounted for". Therefore this formula does not represent a methodology deviation. This approach complies with the requirements set forth in Section 4.6.7 of the VCS AFOLU Requirements v3.3 document, stating that "Projects shall not account for positive leakage (i.e., where GHG emissions decrease or removals increase outside the project area due to project activities)."

**Auditor Response:** Upon further review of the methodology, the audit team agrees that, regardless of the implication of Equation 4 of the methodology, the language of the methodology, and that of the AFOLU Requirements, precludes accounting for "positive leakage". Therefore, the finding is considered withdrawn.

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

## **NCR 2013.20 dated 02/20/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.2, Section 2.3.1

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** The AFOLU Non-Permanence Risk Tool requires that, in the case that "there exist disputes over access/use rights (or overlapping rights)" within the project area, the quantity of 5 must be added to the total for the "Land Tenure and Resource Access/Impacts" sub-category. The risk report has claimed a score of 0 for this item, indicating that "the FA, as the project proponent, ensures that there are no current disputes over access or use rights (overlapping rights) in any of the CFs included in the Oddar Meanchey REDD project". However, during the site visit of February 2013, the audit team learned from multiple independent sources that the Cambodian military has established bases and other infrastructure within the borders of the Dung Beng, Andong Bor and Romdoul Veasna Community Forests. It is unclear that the military received specific authorization from the Forestry Administration to locate camps within the specific Community Forests noted above, but the audit team was told that the military was provided with authorization (by the Prime Minister) to undertake any necessary action to secure the border. The military has obviously deemed it necessary to establish camps in the locations where they have been established. While discussions have occurred between the military and the Forestry Administration, these discussions have not led to movement of the bases out of the project area. It is the audit team's determination that the above constitutes an instance of overlapping access/use rights, as the Cambodian military's right to access and use the three Community Forests indicated above, as implicit in the directive from the Prime Minister to take necessary action to secure the border, overlaps with the right of the respective Community Forestry Groups to access and use their respective forests. Therefore, the incorrect risk score has been reported for the "Land Tenure and Resource Access/Impacts" sub-category.

**Client Response:** While the Project Proponent and partners acknowledge the presence of the military in certain CFs of the Oddar Meanchey project, the military presence in these areas is not backed by, and does not constitute, a formal Right of Use as defined in the VCS Standard and referenced in the VCS AFOLU Non-Permanence Risk Tool version 3, Section 2.3.1 paragraph 8. As it relates to the requirements under the Non-Permanence Risk Tool, the 13 CFs have demonstrated their Right of Use under VCS Standard 3.11.1 paragraph 4: "A right of use arising by virtue of a statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use)".

The CFs have transferred their Right of Use to the carbon generated from the project to the FA (through Government Decision (Sar.Char.Nor.) No. 699, but their Right of Use of the forest resources within the CF boundaries remains, as evidenced by; 1) the Community Forestry Sub-Decree which exclusively grants registered CFs the Customary User Rights prescribed in the Forestry Law and right to sustainably use forest resources and NTFPs within their legally designated CFs and 2) the legal CF Agreements between the Communities which formally demarcate and establish the each of the 13 CFs included in the Oddar Meanchey, and grants and protects the CF communities right within those CFs to access, use, manage, protect and benefit from the CFs for a renewable period of 15-years (ref. CF-Sub Decree Article 5, paragraph 3). Following from these legal documents, there are no entities besides the CFs who can claim Right of Use.

While we understand that the auditor saw evidence of military, the presence of military is no different than other agents of deforestation. Military presence in the project area does not constitute "overlapping access or use rights" as defined by the VCS Standard. There is no legal framework in Cambodia granting a Right of Use of these areas to the Military, though the Community-Forestry Sub-Decree contain a provision (Article 28) regarding eminent domain, allowing for the Government of Cambodia to terminate the a CF Agreement should "a higher social and public benefit be identified". If this termination clause were to be enacted for the purposes of the military's use of the CF areas than this would constitute a change in Right of Use to the military. However, the Government of Cambodia has not determined that the presence of the military and the border conflict with Thailand requires that the CF Agreements be terminated to allow for the establishment of bases, which therefore does not constitute a transfer of Right of Use or the right to access these areas that would follow.

As such, given that the military doesn't have a credible, legal Right of Use or the legal right to access the CF areas, the military presence should be treated as another driver of deforestation that the project must address. Any deforestation caused by the military in the CFs area has been identified with remote sensing analysis and reflected in the Monitoring Report. Activities will be implemented as the project progresses to alleviate the military pressure present in relevant CFs.

**Auditor Response:** The audit team does not suggest that the Cambodian military holds right of use (as defined by the VCS Program Definitions) with respect to the project area. However, the audit team does continue to suggest that overlapping access/usage rights exist within the Dung Beng, Andong Bor and Romdoul Veasna Community Forests, whereby the implicit (yet, from the information gathered by the audit team during the site visit, widely understood) right of the Cambodian military to access and use the Community Forests in question overlaps with the explicit rights, as set out in the Community Forestry agreements, of the respective Community Forestry Groups to access and use those same Community Forests. As overlapping access/usage rights exist within the Community Forests indicated previously, and as the score for the "Land Tenure and Resource Access/Impacts" risk sub-category has not been adjusted to reflect such overlapping rights, the non-conformity has not been resolved.

**Client Response 2:** [No formal response to this feedback was provided.]

**Auditor Response 2:** Subsequent to the issuance of this finding, the audit team received clarification from the VCSA regarding this issue. In an email dated 6 June 2013, Ben Block, of the VCSA, clarified that a given entity would need to have rights to "the project area and the resources within it" (in accordance with Section 2.3.1(4) of the AFOLU Non-Permanence Risk Tool) in order to have overlapping access/use rights.

The audit team examined both the official Khmer version and the unofficial English translation of the "Sub-Decree on Community Forest Management" and confirmed that Article 14 of that document states "Secondary users may have the rights to access and use a Community Forest consistent with Community Forest Management Plans and Community Forestry Regulations." The Community Forestry Regulations for the Dung Beng, Angdong Bor and Romdoul Veasna Community Forests all contain the same Article 43 and Article 44, which confirm that users of the Community Forests that are not members of the Community Forestry Groups and live outside of the local village have rights to access the Community Forests (with approval from the Community Forest Management Committee) but do not have the right to cut down any trees. As the Cambodian military has not obtained approval from any of the relevant Community Forest Management Committees, and as an access right following from that approval would not include the right to cut down trees (and, thus, the right to use the resources within the project area), the Cambodian military does not have an access/use right to the project area, as defined by the AFOLU Non-Permanence Risk Tool.

In order to confirm that the Community Forestry Sub-Decree and Community Forestry Regulations have not been over-ruled by a higher-level legal framework that may exist in wartime in Cambodia, the audit team interviewed a law professor regarding the presence of any such framework. The law professor confirmed that, while the Cambodian military have the right to establish infrastructure wherever it is most convenient (and thus, they may hold access rights to the project area even in the absence of approval from the Community Forest Management Committees), they do not have the right to use any materials within the project area. Thus, the military does not have rights to resources within the project area. As the Cambodian military does not have access/use rights to the project area, this finding is no longer relevant and will be withdrawn.

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

**NIR 2013.21 dated 02/20/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.2, Section 2.3.1(9)

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** The AFOLU Non-Permanence Risk Tool requires that "...where there are overlapping access/usage rights within the project area... the project proponent shall apply the risk scores listed in Table 6. It shall be demonstrated, in addition to the VCS requirements for right of use, that the project has endorsement (such as a legal agreement or memorandum of understanding) from all entities with credible ownership claims or land/resource access/use rights (such as customary rights holders), including from formal and/or traditional authorities."

As documented within NCR 2013.20, overlapping access/usage rights exist within three Community Forests that comprise a portion of the project area, as the Cambodian military holds land land/resource access/use rights to these areas. Given that this is the case, please demonstrate that the project has endorsement (such as a legal agreement or memorandum of understanding) from an entity that will satisfy the requirement quoted above.

**Client Response:** This finding is no longer relevant given our response to NIR 20 above.

**Auditor Response:** The audit team does not suggest that the Cambodian military holds right of use (as defined by the VCS Program Definitions) with respect to the project area. However, the audit team does continue to suggest that overlapping access/usage rights exist within the Dung Beng, Andong Bor and Romdoul Veasna Community Forests, whereby the implicit (yet, from the information gathered by the audit team during the site visit, widely understood) right of the Cambodian military to access and use the Community Forests in question overlaps with the explicit rights, as set out in the Community Forestry agreements, of the the respective Community Forestry Groups to access and use those same Community Forests. As overlapping access/usage rights exist within the Community Forests indicated previously, and as the audit team has not yet received evidence that the project has endorsement (such as a legal agreement or memorandum of understanding) from the holder of the overlapping access/usage rights, the new information request has not been satisfied.

**Client Response 2:** [No formal response to this feedback was provided.]

**Auditor Response 2:** Subsequent to the issuance of this finding, the audit team received clarification from the VCSA regarding this issue. In an email dated 6 June 2013, Ben Block, of the VCSA, clarified that a given entity would need to have rights to "the project area and the resources within it" (in accordance with Section 2.3.1(4) of the AFOLU Non-Permanence Risk Tool) in order to have overlapping access/use rights.

The audit team examined both the official Khmer version and the unofficial English translation of the "Sub-Decree on Community Forest Management" and confirmed that Article 14 of that document states "Secondary users may have the rights to access and use a Community Forest consistent with Community Forest Management Plans and Community Forestry Regulations." The Community Forestry Regulations for the Dung Beng, Angdong Bor and Romdoul Veasna Community Forests all contain the same Article 43 and Article 44, which confirm that users of the Community Forests that are not members of the Community Forestry Groups and live outside of the local village have rights to access the Community Forests (with approval from the Community Forest Management Committee) but do not have the right to cut down any trees. As the Cambodian military has not obtained approval from any of the relevant Community Forest Management Committees, and as an access right following from that approval would not include the right to cut down trees (and, thus, the right to use the resources within the project area), the Cambodian military does not have an access/use right to the project area, as defined by the AFOLU Non-Permanence Risk Tool.

In order to confirm that the Community Forestry Sub-Decree and Community Forestry Regulations have not been over-ruled by a higher-level legal framework that may exist in wartime in Cambodia, the audit team interviewed a law professor regarding the presence of any such framework. The law professor confirmed that, while the Cambodian military have the right to establish infrastructure wherever it is most convenient (and thus, they may hold access rights to the project area even in the absence of approval from the Community Forest Management Committees), they do not have the right to use any materials within the project area. Thus, the military does not have rights to resources within the project area. As the Cambodian military does not have access/use rights to the project area, this finding is no longer relevant and will be withdrawn.

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

## **NIR 2013.22 dated 02/20/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.2, Section 2.3.1

**Document Reference:** OM REDD Risk Assessment 1st Verification v1.pdf

**Finding:** The AFOLU Non-Permanence Risk Tool allows a risk mitigation score of -2 to be applied for the "Land Tenure and Resource Access/Impacts" sub-category in the event that "where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims". The risk report has claimed a risk mitigation score of -2 for this item, indicating that situations of disputed access/use rights have arisen and been resolved in the past. While the audit team understands that instances of disputed access/use rights have been successfully resolved in the past, the audit team understands that no such disputes currently exist within the project area (the risk report supports this understanding by stating "the FA, as the project proponent, ensures that there are no current disputes over access or use rights... in any of the CFs included in the Oddar Meanchey REDD project." As no disputes currently exist within the project area, the mitigation risk score is not applicable, as the score is only potentially applicable "where disputes over land tenure, ownership or access/use rights exist". While it appears that instances of overlapping rights do exist (as documented in NCR 2013.20), the AFOLU Non-Permanence Risk Tool does not indicate that the risk mitigation score is applicable to instances of overlapping rights. Therefore, the incorrect risk score has been reported for the "Land Tenure and Resource Access/Impacts" sub-category.

**Client Response:** Risk buffer has been revised to remove this mitigation and the document "OM REDD Risk Assessment 1st Verification v2-0.docx" has been updated.

**Auditor Response:** As indicated, the mitigation risk score for the "Land Tenure and Resource Access/Impacts" sub-category is not applied in the updated risk report ("OM REDD Risk Assessment 1st Verification v2-0.docx"). Therefore, the non-conformity has been resolved.

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

## **NIR 2013.23 dated 04/05/2013**

**Standard Reference:** NA

**Document Reference:** 2. Calculate emissions sources v0-2.xlsm; 2. Calculate emissions sources v2-0.xlsm

**Finding:** The following discrepancies exist with respect to workbooks "2. Calculate emissions sources v0-2.xlsm" and "2. Calculate emissions sources v2-0.xlsm":

- The values in cells M12, M13 and M14 of worksheet "E\_largescaleFire" of workbook "2. Calculate emissions sources v0-2.xlsm" do not match the values in the corresponding cells of worksheet "E\_largescaleFire" of workbook "2. Calculate emissions sources v2-0.xlsm".

- The values in cells M15, M16 and M17 of worksheet "E\_largescaleFire" of workbook "2. Calculate emissions sources v0-2.xlsm" do not match the values in the corresponding cells of worksheet "E\_largescaleFire" of workbook "2. Calculate emissions sources v2-0.xlsm".

Please describe and justify the discrepancy between workbooks, providing any additional information as necessary to allow the audit team to confirm the accuracy of the values included in workbook "2. Calculate emissions sources v2-0.xlsm".

**Client Response:** An error was made in the workbook "2. Calculate emissions sources v2-0.xlsx" where workbook E\_largescaleFire and E\_smallscaleFire were not updated with the strata update from Finding NIR4. Cells M12-M14 for E\_largescaleFire and cells M15-M17 in E\_smallscaleFire worksheets have been updated. Please see "2. Calculate emissions sources v2-1.xlsx" for the update and the referenced dataset "Biomass Field Inventory v9-3.xlsx".

**Auditor Response:** The information provided to the audit team is sufficient to explain the root cause of the observed discrepancy. The information request has been satisfied.

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

**NIR 2013.24 dated 04/05/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.2, Sec. 2.4.1

**Document Reference:** OM REDD Risk Assessment 1st Verification v2-0.docx

**Finding:** The AFOLU Non-Permanence Risk Tool requires that "The frequency and significance of events shall be estimated based on historical records, probabilities, remote sensing data, peer-reviewed scientific literature, and/or documented local knowledge..." Regarding the risk of pest and disease outbreak, the risk report states "...the PD risk has been assessed to be a likelihood of every 50-100 years (to remain conservative) and a significance of 'Insignificant'". Please provide evidence that the determination quoted above has been based on historical records, probabilities, remote sensing data, peer-reviewed scientific literature, and/or documented local knowledge, as required by the AFOLU Non-Permanence Risk Tool.

**Client Response:** We have presented three types of data to demonstrate that pests and diseases can be found insignificant. Sources of data include scientific literature, remote sensing and community input.

Little site-specific peer reviewed scientific literature was found on pests and disease in native forests in Cambodia. Documents created by the FAO were assessed to find that disease and pests are insignificant.

The Country Report Cambodia of the FRA 2010 does not list any disturbances affecting forest health and vitality, as there is simply no information (Table T10 – Other disturbances affecting forest health and vitality, Cambodia Country Report FRA 2010). Cambodia's National Forest Programme Background Document does not list any forest insects or diseases. It does, however, list a potential "increase in pest and diseases in forests" as a risk of climate change. As the AFOLU Non-Permanence Risk Tool is an important document to lists and understand risks, we have included the potential risk of a changing climate (50-100 years). Table 4.1 of the Global Forest Resource Assessment shows 1.2 % of the forest area in South and Southeast Asia are affected by insects, which is an insignificant number (FAO FRA 2010). Cambodia is not listed as effected by the ten most prevalent insect pests reported (table 4.5 of the FRA 2010, FAO). The insignificance of disease and insect outbreaks can be seen in the lack of significance in scientific literature. The document Global Review of Forest Pests and Diseases (FAO 2009) only lists four diseases that are found in Cambodia. They are the coconut leaf beetle *Brontispa longissima*, the teak defoliator *Hyblaea puera*, *Heteropsylla Cubana* affecting *Leucaena leucocephala*, and pests of the native plant *Gmelina arborea*. These diseases are not commonly found in native forests in Cambodia. Coconut leaf beetle does not affect trees. The teak defoliator only affects the non-native teak trees, which are commonly found in plantations in Cambodia. *Leucaena leucocephala* is non-native to Cambodia and is found in woodlots and plantations. *Gmelina arborea* survives well in native forests, but pest problems are frequent in plantations within its natural distribution.

Remote sensing was analyzed to verify no significant outbreaks of forest pests. Remote sensing LULC classification from 1994 onwards and visual interpretation of Landsat images from January 22, 1989 and November 17, 1990 show no deforestation patterns attributable to large area pest and disease outbreaks.

Community input and local expertise was gathered to find a non-significant amount of forest is lost due to pest or disease outbreaks. During the Participatory Rural Appraisal communities were asked to list out risks to their community forest. The risk of natural disasters was difficult for communities to comprehend, so the PRA leader prompted the communities by giving them potential natural risks such as insects, floods, extreme storms, etc. After some discussion 11 out of the 13 of the CF acknowledged insects as a potential risk to their forests. When asked to quantify the risk the communities averaged only 3% of forest lost was attributed to insect damage of trees. Through personal communication with Cambodian foresters, it was understood that insects and disease are found to be a secondary stage of infection, usually after a tree is weakened by fire damaged by humans. Local experts further explained that forest pests and diseases usually impact single trees within a stand, and not infect the whole stand.

**Auditor Response:** The fact that the Country Report Cambodia of the FRA 2010 does not list any disturbances affecting forest health and vitality in Table T-10 does not necessarily mean that there are no disturbances affecting forest health and vitality in Cambodia, but could relate solely to a paucity of data on this topic. The Country Report also states that no information is available for Table T-9, related to forest fires, but this certainly does not indicate an absence of forest fires in Cambodia. Page 10 of the

Guidelines for Country Reporting to FRA 2010 (accessed 23 May 2013 from <http://www.fao.org/forestry/fra/67094/en/>) states that 'When filling-in a reporting table no fields must be left blank. If an entire table is not reported upon, all fields can be left blank and the reason for not reporting should be noted in the "Other general comments" field e.g. "No data available for reporting on this table"'. Similarly, while the National Forest Programme Background Document does not describe current risks related to pest and disease outbreaks, it also does not describe current risks related to wildfires, which are known to be a threat to Cambodian forests.

However, Table 4.1 of the Global Forest Resource Assessment provides compelling evidence of the insignificance of pests and diseases in the region in which the project area is located. The information in the Global Review of Forest Pests and Diseases suggests that the majority of the observed insect outbreaks may be in plantations (e.g., stands of teak), rather than in natural forests. The audit team can confirm that none of the species described in the Global Review of Forest Pests and Diseases is likely to have a substantial impact on the carbon stocks in trees within the project area. The only insects observed during on-site audit activities were termites (which typically are only present in dead trees or unhealthy living trees) in a few scattered trees. In addition, as the dead wood carbon pool has been included in the project boundary, the significance of any attack on live trees in the project area would be further limited by the fact that the carbon within any dead trees will remain within the project's carbon stocks, at least in the short term. Therefore, the information provided is sufficient to justify the risk score that has been claimed.

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

**NIR 2013.25 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 2.1

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. The methodology deviation summary document states that "Deforestation has increased dramatically in all of North Western Cambodia (including in the province of Oddar Meanchey and the leakage belts) due to reasons that are causally unrelated to the project activities." Please provide compelling evidence to support this claim, referencing credible third-party sources (e.g., published literature) wherever possible.

**Client Response:** Section 4.2.2 has been updated to include references. The documents cited are provided to the Verification team. In addition, the following selections provide additional testimony.

Biddulph, R. 2012. REDD and Poverty in Cambodia, Focali Report No 2012:03, Gothenburg: Oddar Meanchey province in Cambodia has the highest rates of deforestation in the country.

Sokhun, T., Sam Ath, U., Kim Sun, C., Vathana, K., Nareth, C., Wardell, A., Routier, J., Brun, S. & Clements, T. (2009). The Forest Carbon Partnership Facility (FCPF) Readiness Plan Idea Note (R-PIN) Template. Revised Cambodia submission.

Most deforestation occurred in four north-west provinces, namely: Oddar Meanchey, Banteay Meanchey, Siem Reap and Pailin.

**Auditor Response:** While informative, the information provided in Section 4.2.2 of the methodology deviation summary document does not fully demonstrate that deforestation has increased dramatically in all of North Western Cambodia (including in the province of Oddar Meanchey and the leakage belts) due to reasons that are causally unrelated to the project activities. The article "Carving up Cambodia" is primarily related to Economic Land Concessions, and is therefore not very relevant to explaining deforestation in the leakage areas, as those areas have been specifically defined so as to exclude areas for which Economic Land Concessions have been granted. The article "Three More Shot Dead Logging on Border" does not necessarily provide any evidence to support the assertion. The article "REDD Forest Endangered by Loggers, Soldiers" does provide compelling evidence of the threat the project area faces from the military presence in that area. This evidence supports the firsthand observations made by the audit team, and it seems reasonable to assume that, given the nature of the military presence in the Community Forests in question, the military presence in these areas would potentially lead to deforestation in the leakage areas that is predominately attributable to the military presence in the Community Forests. The audit team agrees that such deforestation should not be considered attributable to the project activities. However, the extent of deforestation in the leakage areas that is actually attributable to the military presence is unclear to the audit team. It remains unclear to the audit team that deforestation in the leakage areas that is not related to the military presence in adjacent Community Forests is causally unrelated to the project activities. Therefore, the finding remains open.

**Client Response 2:** We would like to bring to attention the issue that is in question, which is that deforestation has increased dramatically within Northwestern Cambodia, including Oddar Meanchey. We have shown this through our remote sensing work (see Table 2 in the deviation document) that the deforestation, and the validity of the classification is not in question at this time. There is absolutely no credible evidence that the project actions caused the deforestation. The additional sources cited here are to support our argument and are in addition to the remote sensing. As the inherent nature of the project is to conserve forests, it is illogical and unnecessary to provide additional proof that the project activities are not responsible for additional deforestation. The project activities are described in great detail within the Project Document, and the CCB Project Design Document. The fact that the monitored deforestation rate in the reference region is greater than in the leakage belts should, by itself, already be sufficient evidence for this claim.

**Auditor Response 2:** The values in Table 2 of the methodology deviation summary indicate an approximate 4.6% decrease in forested area in the reference region between 2008 and 2012. As reported on page 71 of the validated project description, "Given that there are about 335,000 ha of forest

remaining in the reference region in 2008, the deforestation rates calculated in the analysis conducted for this project correspond to 3.03% loss of forest cover per year". It is not clear that a forested area decrease of 4.6% between 2008 and 2012 constitutes a dramatic increase of deforestation in comparison to the historical deforestation rate of 3.03% per year. In addition, as the derivation of the remote sensing information provided in Table 2 was not personally reviewed by the audit team, it cannot be relied on as the only source of information for the claim that "Deforestation has increased dramatically in all of North Western Cambodia (including in the province of Oddar Meanchey and the leakage belts)". Please provide documentary evidence to support this claim.

**Closing Remarks:** Subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit and the finding is closed.

**NIR 2013.26 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.2; Validated Project Description, Section 1.8

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. In describing the factor "Project activities directly reduce demand for land sales", the methodology deviation summary document states that "People engaged in this activity do not live in the area, have no intention to do so in the future, can move around easily and often have multiple plots in different areas. A logical consequence of this trend is that when the opportunity to grab land is diminished because of improvements to land tenure and the communities can protect against potential intrusion, the driving force behind this driver will decrease concomitantly and the land sales will decrease." However, the project activity "Reinforcing land-tenure status", as described in Section 1.8 of the validated project description and as explained to the verification audit team, has no impact on forested area outside the project area, as it only reinforces land-tenure status within the Community Forests. Therefore, an equally logical conclusion could be that, when there is diminished opportunity to grab land within the project area, the land clearing agents will merely shift their activities outside of the project boundary, thus causing leakage. Please provide compelling evidence that the activities of the project will reduce the likelihood of this happening.

**Client Response:** Please see the document "Oddar Meanchey VCS Verification Responses v3-0.docx"

**Auditor Response:** Activity-shifting leakage is described by the AFOLU Requirements (Section 4.6.1(2)) as occurring "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". The audit team agrees, on general principle, that establishment of tenure in a given location will make that location less susceptible to deforestation in the context of the project. However, it is not clear to the audit team that establishment of tenure in a given location (e.g., the project area) will make other nearby areas (e.g., the leakage area), for which tenure has not been established as a result of the project, less susceptible to deforestation. To the knowledge of the audit team, neither the project description nor the monitoring report contain any information about the project having strengthened land tenure outside of the project area, and the audit team did not confirm during the site visit that any project activities involved the establishment of land tenure in the leakage areas. Therefore, the finding remains open.

**Client Response 2:** The Monitoring Report and deviation document have now been updated to include land tenure strengthening activities that have taken place out of the project area. These land tenure strengthening activities outside of the project area are not necessary for the quantification, but we have included them to show real actions on the ground and to show conservativeness in our assumptions. However, we would like to point out that even in the absence of implementing tenure activities outside the project areas, the fact remains that when an area is protected, there is less opportunity and thus it will be less attractive to people interested in land sales in the project area and the leakage belt. Thus the overall interest (demand) for land grabbing in the area will have gone down.

The land grab dynamics in Oddar Meanchey are no different than elsewhere in the world. For example, consider the Homestead Acts within the United States, where entrepreneurs were able claim land with an open title given that they settle in the area causing a national land-grab. In the example of the Western Homestead Acts, thousands of people rushed to claim land, causing huge immigration into many states in the West. As the "good land" or easily accessible, flat or water-rich land was no longer in abundance, the immigration slowed as the inaccessible and marginalized land was not as desired. The would-be homesteaders took jobs in their native lands, or otherwise did not come to the area of the Homestead Act as the interest decreased. We believe that the project actions of strengthening land tenure in Oddar Meanchey will have a similar effect in that the area is not desired as it once was. Entrepreneurs with interest in land grabbing activities will shift their income to another occupation.

**Auditor Response 2:** The text of the finding requested "compelling evidence" to indicate that the project has implemented specific activities to reduce the likelihood that activity shifting leakage related to land-grabbing will occur. Although information has been added to the monitoring report regarding activities undertaken by the Children's Development Association (CDA), the specific activities in question were

never discussed with the CDA during the on-site audit activities. Therefore, the audit team is unable to confirm that the activities were actually implemented and that they actually reduced land-grabbing within the leakage areas.

With respect to the more general theoretical argument that was made, it remains unclear that reduced availability of land has actually decreased the attractiveness of land in the leakage area for land-grabbing. It is anticipated that this lack of clarity will remain in the absence of documentary evidence to indicate that the project activities have led to a decrease in the quantity of land grabbing in the leakage areas.

**Closing Remarks:** Subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit and the finding is closed.

## **NIR 2013.27 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.2

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. In describing the factor "Project activities directly reduce demand for land sales", the methodology deviation summary document states that "The reduced demand for land sales due to project activities is estimated as the amount of land in the project area (49,846.5 ha) relative to the sum of the land in the project area and the leakage area (a total of 164,876.4ha) which is 30%. Hence, the appropriate leakage factor is 0.7." The logic behind this calculation is unclear. Please provide a detailed justification for the appropriateness of the quantitative approach undertaken. In addition, please provide a reference for the source values used. Table 5 of the validated project description indicates that the project area is 56,050 ha, and the revised leakage area (as confirmed during the 17 December 2012 visit to the Terra Global Capital offices) is 114,968 ha. These values are inconsistent with those referenced by the methodology deviation summary document.

**Client Response:** Related to "the logic behind this calculation is unclear"

As elaborated in the response to the previous NIR (NIR 26), the threat of deforestation from land sales is proportional to the amount of land that has unclear or unenforced land tenure. Therefore, if due to project activities, 33% of the land within the combined leakage and project areas become protected, the opportunity to proportion of land that has effective protection also decreases with 33%.

Related to "these values are inconsistent"

The values have been updated with the correct values in the deviation document

**Auditor Response:** As a justification for the approach taken has been provided, and as the values in Section 4.2 of the methodology deviation summary document have been corrected, this finding can be closed. However, NCR 2013.37 has been opened to address non-conformities in the approach undertaken.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NIR 2013.28 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.2

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. The methodology deviation summary document states "There are three main factors that are important to consider when evaluating leakage from forest clearing for land sales. The impact of each of these factors is independent." However, it is not clear that the factor "Agents engaged in land sales leave the leakage area" is independent from the factor "Project activities directly reduce demand for land sales", as both factors involve the reduced presence of land speculators within the leakage area. Please provide a detailed justification of the independence of these two factors.

**Client Response:** Even though "Agents engaged in land sales leave the leakage area" and "Project activities directly reduce demand for land sales" both result in the reduced presence of land speculators within the leakage area, they are driven by completely different and unrelated factors. The "Agents engaged in land sales leave the leakage area" factor is related to the mobility of the population of agents. Some of the agents will have greater financial means and may own a car or a truck, for example, and can easily move to other provinces or to other countries, even. The "Project activities directly reduce demand for land sales" factor is unrelated to mobility, and is simply related to the availability of land. We do not see any reason why the availability of land would be related to the mobility of a specific class of agents of deforestation.

**Auditor Response:** The information provided is sufficient as a clarification of the rationale for the independence of the two factors. However, NCR 2013.38 has been opened to address non-conformities in the approach undertaken.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NIR 2013.29 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.2; Validated Project Description, Table 53

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. In describing the factor "Agents engaged in land sales leave the leakage area", the methodology deviation summary document states "...since the middlemen engaged in this activity are often very mobile as described in the previous bullet point, the PD has already substantiated that only 50% of the leakage from this driver will occur in the leakage belts. Hence, a factor of 0.5 can immediately be applied as a leakage deduction." It is true that the validated project description indicates a leakage cancellation factor of 50% (as seen in Table 53) for geographically unconstrained leakage. However, it is not clear that this factor is relevant for quantification of geographically constrained leakage, as the project description specifically indicates that it is relevant for geographically unconstrained leakage. Please provide a detailed justification for the application of this factor to the quantification of geographically constrained leakage.

**Client Response:** By definition, leakage is the sum of geographically constrained leakage and geographically unconstrained leakage. Since the PD states that only 50% of the leakage from this driver will occur in the leakage belts, only 50% of this driver is geographically unconstrained. To calculate the constrained leakage:  $1 - 0.5$  (the geographically unconstrained leakage) = 0.5 (for geographically constrained leakage).

**Auditor Response:** The project description does justify a leakage cancellation factor of 50% for the driver in question. However, the leakage cancellation factor is not defined by the methodology as the percentage of leakage for a given driver that is considered to be geographically unconstrained leakage; rather, it is defined as "the driver-specific relative amount of leakage for the amount of deforestation or degradation that is avoided". Therefore, a leakage cancellation factor of 50% indicates that 50% of potential geographically unconstrained leakage related to the factor "Agents engaged in land sales leave the leakage area" is considered to be avoided due to project activities. However, it is not clear that the methodology establishes any inherent link between the leakage cancellation factor for geographically unconstrained leakage and the leakage cancellation factor for geographically constrained leakage. Therefore, please provide a detailed justification for the use of this factor in the methodology deviation summary document.

**Client Response 2:** The 50% factor was intended to be a conservative estimate to ensure that the total number of hectares of forest conversion attributed to leakage from the land sales driver can never exceed the amount of hectares that were avoided to be deforested due to this driver within the project area in the first place. Let's calculate this percentage directly. The hectares that were avoided from deforested by the land sales driver can be calculated by multiplying the total gross emission reductions by the relative importance of a driver. The total gross - i.e., without leakage and secondary emissions - emission reductions during this period were 873,542 t CO<sub>2</sub>e (sum of cells Q17 – R20). Given that the contribution of land sales to the total amount of deforestation is 13%, the gross emission reductions specific to the land-sales without leakage and secondary emissions is 113,560 t CO<sub>2</sub>e (see Section 4.1). Given an average EF in the project area of 292 t CO<sub>2</sub>e (calculated as  $0.67 \times \text{EF}(\text{DCD\_BAR}) + 0.33 \times \text{EF}(\text{EVG\_BAR})$ ), with the project area consisting of 67% DCD and 33% EVG), the 113,560 t CO<sub>2</sub>e represent 389 ha. In our calculation spreadsheet, the total amount of leakage from geographically unconstrained leakage that we already have subtracted from our credits is 127,830 t CO<sub>2</sub>e for the 4 years in the monitoring period (sum of cells S17 – S20 of the worksheet "7. Gross Emission Reductions" in workbook "1. Gross Emission Reductions"). Since the forest clearing for land sales driver is the only driver that is causing geographically unconstrained leakage, all of the 127,830 t CO<sub>2</sub>e are attributed to leakage from the land sales driver. The 127,830 t CO<sub>2</sub>e represent 278 ha, given that the leakage from geographically unconstrained leakage must be calculated using the greatest EF, which is 459.5 t CO<sub>2</sub>e ha<sup>-1</sup>. Hence, only 111 ha are available for geographic constrained leakage. Given the same average EF as the one in the project area (differences in forest cover percentages are included in a different factor under this driver), these 111 ha represent 32,424 t CO<sub>2</sub>e, or 25% of the gross emission reductions.

Hence, the impact of this factor is 25%.

**Auditor Response 2:** As the factor of 50% is no longer used, this finding is no longer relevant and can be closed.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NIR 2013.30 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.2

**Finding:** The VCS Standard requires that “Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification.” In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. In describing the factor “Agents engaged in land sales occupy non-forest area in the leakage area”, the assumption is made that forest land in the leakage area will be converted to non-forest land proportional to the percentage of land within the leakage area that was forested at the project start date. However, the validity of this assumption has not been justified. Please provide a justification that this is a valid assumption within the leakage area.

**Client Response:** Please see the document “Oddar Meanchey VCS Verification Responses v3-0.docx”

**Auditor Response:** The information provided regarding the approach taken is helpful. If additional documentary evidence can be provided to support the assertion that agents of deforestation are likely to preferentially seek out non-forest land (rather than forest land) for agricultural activities, then the proposed factor can be justified. However, the quote from Hansen and Top (2006) is not (by itself) sufficient, as it does not specifically indicate that agents of deforestation are likely to preferentially seek out non-forest land for agricultural activities. Therefore, the finding remains open.

**Client Response 2:** (1) The fact that agents of deforestation are preferentially seeking out non-forest land for agricultural activities is demonstrated through the results of the household survey in 2010, in which only 37% of the respondents indicated that the land-use before cropping fields was forest. This fact is substantiated at length in section 4.3.2 – factor 1 of “Conversion to cropland”. We do not understand why this result from the household survey is insufficient as documentary evidence to assert that agents of deforestation are not preferentially seeking out forest land to convert into agricultural land.

(2) The auditor may have been confused in his response as this NIR is not about the “conversion of cropland” driver, but rather the “forest clearing for land sales” driver. The quote provided is not relevant to agriculture, but is very relevant if it comes to land grabs and local encroachers.

(3) While we are making the claim that agents of deforestation are likely to preferentially seek out non-forest land (rather than forest land) for land sales, our calculation procedures assumes the more conservative claim that agents of deforestation are not preferentially seeking out forest land compared to non-forest land to the same extent. It is evident that the latter claim is much less stringent and we hope that the audit team is assessing the level of assurance of the latter claim and not the claim stated by the audit team in its response.

It is appropriate to assume that non-forest land in the leakage belt would be occupied at a higher rate than forest land. Individuals and companies engaged in land clearing activities are very concerned about the economics of clearing land, and are interested in the “highest profit in the shortest period.” In the case of Oddar Meanchey, the cost of land clearing ranges between \$ 1 and \$ 10 per hectare, with an average of \$3.44 (PRA 2010). All CFs interviewed gave a range of costs, as the cost of land clearing is proportional to the vegetation present or the amount of work needed. The HH survey (2010) shows that 21% community members received payment for land clearing within the past 12 months. This land clearing activity is not for the community members themselves, but from outsiders paying to clear the land to show ownership. These outsiders have enough capital to pay individuals during the agriculture harvest season –i.e. the price for land clearing must be more of an incentive than agricultural activities (land clearing is done by cutting vegetation and burning which can only be done during the dry season, or harvest time). As most community members live below the national poverty level (PRA 2012) the community members are not paying each other to clear land. Since land clearing for land sales is purely for economic gain, clearing land with less vegetation (non-forest land) will be more desirable to the outsider making payments.

On a global scale, it is well established that land grabs are more common on degraded lands than on forest lands. Many countries promote conversion on degraded lands to conserve forest areas and have degraded lands reserved for this purpose. , On an international land-grabbing front, land most commonly considered by investors (or potential investors) and their allies (in government, business, and the scientific-academic community in both the North and the South) is considered idle, marginal, or degraded.9

**Auditor Response 2:** As indicated in the Client Response, it is indicated on page 39 of the Household Survey that "... of those who cultivated new land, 37% reported that the land was forest before cultivation..." The information provided is sufficient as evidence that it is common to preferentially seek out non-forested areas for conversion.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

## **NIR 2013.31 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.3

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. The methodology deviation summary document states that "In fact, one of the questions in the household survey (2010) specifically asked about the previous land-cover of new cropping fields. In total, 43% of the respondents who answered this question indicated that they cleared new areas for cultivation in forest areas while most of the new cropping fields were established in open areas, grassland and bush." Please provide a specific reference (including a page or section number, as applicable) indicating where the quoted summary statistic of 43% may be found within the household survey report. Alternatively, if the quoted summary statistic is not sourced from the household survey report, please provide evidence of the calculations used to arrive at the quoted summary statistic.

**Client Response:** There was an error in the deviation document; the correct percentage is that 51% of the respondents cleared forest or other land. Though only 37% actually reported that they cleared forest, "other land" (representing 14% of respondents) may have included some forest land. To be conservative "Other Land" was included in the forest category, totaling  $37\% + 14\% = 51\%$ . These data is found in section 4.1.1 on page 39-40 of the Household Survey Data Report. The Deviation document has been updated to include the corrected values.

**Auditor Response:** As indicated, the values referenced in the Client Response are located within Section 4.1.1 of the household survey report. Therefore, the information request has been resolved.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NIR 2013.32 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.3

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. In describing the factor "Yields are continuously increasing, reducing the need to clear land on a per-capita basis", the methodology deviation summary document states that "...Specifically, we conservatively assumed that 20% less land would be needed to produce the same amount of rice in the leakage area as the land that would have been cleared in the project area, resulting in an additional factor of 0.8. This number is very conservative as yields are expected to have doubled in Oddar Meanchey between 2005 and 2012." While evidence has been provided to support the assertion that per-hectare rice yields have increased in Cambodia overall, no evidence has been provided to support the assertion that per-hectare rice yields have increased (let alone doubled) in Oddar Meanchey between 2005 and 2012 (or any other relevant time period). Please provide evidence to support the specific leakage factor that is being claimed. Please also provide evidence that it is valid to ignore any potential increase in the demand for rice that may have accompanied the increase in per-hectare yield of rice, or provide evidence that no increase in the demand for rice occurred.

**Client Response:** Section 4.3.1 has been significantly updated to include more appropriate descriptions of each factor used in the final leakage deduction factor for the driver Conversion to Cropland. It is appropriate to not assess the increase in demand for rice as (1) the increase for the demand for rice has not been influenced by project activities, (2) the leakage calculation is relative to the amount of avoided deforestation in the project area, which has any increased forest threats due to increases in population already factored. (3) an independent study by Michinaka et al. (2012) concluded that deforestation is unrelated to increases in rice production across provinces in Cambodia. Therefore, the appropriate leakage deduction factor is 0. However, since there is some uncertainty associated with the remote sensing approach, we will set the leakage deduction factor to 0.21 (as calculated by combining factors 1,2,3), the upper bound found through a social analysis.

**Auditor Response:** While some additional information has been provided, no evidence has been provided regarding any specific increase in rice production in Oddar Meanchey. In addition, the justification for excluding possible increases in demand from consideration is not adequate. While it is certainly true that the demand for rice has not increased due to project activities, it is equally true that the supply of rice has not increased (i.e., the ability to grow rice on a given hectare) has not increased due to project activities. It is not appropriate to only consider changes in the supply of rice while not considering changes in the demand of rice, as both factors will have an impact on the deforestation pressure experienced by forestland within the leakage area. In addition, it has not been possible to fully assess the article by Michinaka et al. (2013), as the article has not been provided to the audit team. Therefore, the finding remains open.

**Client Response 2:** The project team has provided conclusive evidence based on a remote sensing analysis that there is no leakage caused in the leakage belt from conversion of forest land to cropland. Hence, the project team has removed all references to our line of argumentation related to rice production. Hence, this NCR is no longer relevant.

**Auditor Response 2:** As indicated in the Client Response, all references to increased rice yields have been removed from the methodology deviation summary document. Therefore, this finding is no longer relevant.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NIR 2013.33 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Sections 4.3 and 4.4

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. In describing the factors "Migration inherently decreases as incentives decrease" and "Migration will decrease as opportunity to convert land is decreased" in Sections 4.3 and 4.4, respectively, the methodology deviation summary document states that "About 66% of the population increase in Oddar Meanchey is due to migration and not natural population increase (Commune Database 2005 and 2010)". Please provide evidence that will allow the audit team to confirm the validity of the information cited.

In describing the above factors, the methodology deviation summary document states that "According to the 2012 PRA every CF with the exception of Phaav experienced emigration, where families left the area. All people who left the CF went to other provinces or abroad, most commonly to Thailand. Reasons why they left include; escaping poverty, to find land, to find employment, or to follow relatives/the creation of new families. From this data two important conclusions can be made, (1) land ownership in the area has increased to the point where the economic incentives are no longer present to attract people to the area and (2) the people who leave the area travel outside of the leakage belt." However, evidence that some families have left the leakage area does not constitute evidence that immigration to the leakage area has decreased. Please provide evidence that immigration to the leakage area has decreased. In describing the above factors, the methodology deviation summary document states that "the leakage cancellation factor] can conservatively be logically estimated as the relative area of the project area to the project and leakage area for the proportion of the population increase that represents migrants. The representative factor would be  $1 - 0.66 \times 0.3 = 0.8$ ." The logic behind this calculation is unclear. Please provide a detailed justification for the appropriateness of the quantitative approach undertaken.

**Client Response:** The population of Oddar Meanchey has increased from 144,371 in 2004 (see the Atlas of Cambodia National Poverty Maps) to 183,353 in 2010 (see Commune Database 2010). In assuming that the natural birth rate is 1.7% , the percent of population increase that represents migrants would be 66%. For calculation of migrants, please see Separating Immigration from Natural Population Increase.xlsx. This data is updated in the deviation document.

**Auditor Response:** Please provide the document "Separating Immigration from Natural Population Increase.xlsx" (this document has not been provided to the audit team). In addition, please provide evidence to support the assumed natural birth rate (and any other assumptions made in the document "Separating Immigration from Natural Population Increase.xlsx").

**Client Response 2:** The document Separating Immigration from Natural Population Increase has now been provided to the audit team. References can be found within the workbook.

**Auditor Response 2:** As an impact from decreased immigration is no longer claimed with respect to the methodology deviation, this finding is no longer relevant and can be closed.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NIR 2013.34 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.4

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. In describing the factor "Accounting for the ratio Non-forest Land Cover in the Leakage Area", the methodology deviation summary document states that "To be conservative, we assumed 36% of the area within the leakage belt is non-forest, and forest would only be cleared for agriculture at a rate of 62% each time the practice was displaced." In justifying that this is a conservative assumption, the document states that "Settlements commonly form on areas that were previously cut and have been depleted of nutrients, and are no longer prime areas for cultivation (Brown and Pearce 1994). There are also many cultural beliefs and a history of predatory animals living in the jungle that cause people not to settle deep within forest, but on more open areas. For these reasons it is assumed that a settlement displaced from the project area, would more likely settle in a non-forest area in the leakage belt, then a forested area." While general theories are cited to indicate that people tend to construct settlements in non-forest areas, specific evidence to support the validity of this claim, in the context of the region in which the project is located, has not been provided. Please provide this evidence.

**Client Response:** There are many cultural beliefs in Cambodia that the forest or "prei" is dangerous and quite the opposite of civil society. Brown and Pearce 1994 could not be located, and the reference was removed from the Deviation Summary. Please see the document "Oddar Meanchey VCS Verification Responses v3-0.docx" for additional references to cultural understanding and folklore of the forest in Cambodian society.

**Auditor Response:** The information provided in the document "Oddar Meanchey VCS Verification Responses v3-0.docx" is sufficient to justify that settlements, in the specific context of the leakage area, are likely to be preferentially constructed in non-forest areas. Therefore, the information request has been satisfied.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NIR 2013.35 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1; VM0006 V1.0, Section II.3.2

**Document Reference:** Deviation summary v3-0.docx

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. The methodology deviation summary document states that "...we have used the same quantification framework used for the ex-ante calculation of constrained leakage, but provide additional justification for the selected leakage cancellation rates to get the exact leakage cancellation rates to the required level of reasonable assurance." In describing the ex-ante approach for calculation of constrained leakage, the methodology states that "The relative impact of leakage is quantified by ex-ante leakage cancellation factors, which express the driver-specific relative amount of leakage for the amount of deforestation or degradation that is avoided. This quantity describes the proportion of the (expected) gross emission reductions inside the project area that are lost again due to leakage outside of the project area. Only changes that are directly attributed to project activities shall be included in the cancellation rate." It is not clear that the following factors, which are included in the calculation of the cancellation rate for each driver, are directly attributable to project activities. Please provide evidence that each of the below factors is directly attributable to project activities:

"Project activities directly reduce demand for land sales" (Section 4.2)

"Agents engaged in land sales leave the leakage area" (Section 4.2)

"Agents engaged in land sales occupy non-forest area in the leakage area" (Section 4.2)

"Agents engaged in cropland conversion convert non-forest land to cropping fields" (Section 4.3)

"Yields are continuously increasing, reducing the need to clear land on a per-capita basis" (Section 4.3)

"Migration inherently decreases as incentives decrease" (Section 4.3)

"Migration will decrease as opportunity to convert land is decreased" (Section 4.4)

"Accounting for the ratio Non-forest Land Cover in the Leakage Area" (Section 4.4)

**Client Response:** While we believe that each of the factors are attributable to project activities, we do not believe that we are subject to the quoted sentence from the methodology, and therefore should justify that we have met this specific requirement in the methodology. The sentence quoted by the audit team was copied from a section in the methodology detailing the quantification of leakage ex-ante. However, technically, our proposed deviation is not subject to this section and should be assessed independently from the ex-ante calculations. The fact that we explain how the quantification framework of the proposed deviation is the same as the quantification approach for ex-ante leakage in the methodology does not necessarily tie us to meet every single sentence and requirement within this section of the methodology. Furthermore, this conclusion was made by the audit team when it was communicated that strictly applying the procedures for the ex-ante calculations for leakage may not lead to sufficient accuracy.

**Auditor Response:** It is true that the proposed methodology deviation (if otherwise acceptable under the VCS rules) is not subject to the requirements of the methodology. Therefore, the information request has been satisfied. However, it will be noted that the deviation is not just a deviation to the ex-post procedures for leakage quantification, but also a deviation to ex-ante procedures.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NIR 2013.36 dated 06/19/2013**

**Standard Reference:** VCS Standard V3.3, Section 3.5.1; VM0006 V1.0, Section II.3.1

**Document Reference:** Deviation summary v3-0.docx, Section 4.6

**Finding:** The VCS Standard requires that "Methodology deviations shall not negatively impact the conservativeness of the quantification of GHG emission reductions or removals, except where they result in increased accuracy of such quantification." In order to determine whether the proposed methodology deviation would result in increased accuracy of the quantification of GHG emission reductions or removals, relative to the requirements of the methodology, please provide the following information. Although the methodology deviation summary document indicates that a deviation is proposed to the criteria and procedures for monitoring of parameter MN7, the methodology deviation summary document does not indicate that a deviation is proposed to any of the other criteria and procedures within the methodology. Footnote 34 of the methodology requires that "Any statistically significant increase in fire occurrence relative to a 10-yr baseline period must be considered as leakage." In order to assume a leakage cancellation factor of 100%, the methodology appears to require a demonstration that there has not been a "statistically significant increase in fire occurrence relative to a 10-yr baseline period". While evidence has been provided to support the assertion that there has been a decrease in fire frequency over the period 2008-2012, evidence has not been provided to demonstrate that such a decrease (or, at a minimum, lack of statistically significant increase) has occurred relative to the 10-year baseline period. Please provide this evidence.

**Client Response:** As indicated in our response to NIR 35, the deviation is a deviation from the methodology and the deviation should be assessed independently from the methodology. In this case, we have carefully detailed that relaying on a historical baseline, as specified in the quoted text, is NOT adequate. In the deviation, we proposed to use the land use dynamics in the reference region during the same period as the monitoring period as a reference for the occurrence of fires. In Section 4.3.5 of the revised deviation summary, we show that the decrease in fires is one fifth more pronounced in the leakage area than in the reference region, indicating strongly that, if anything, the project has cause positive leakage in the leakage area.

**Auditor Response:** It is true that the proposed methodology deviation (if otherwise acceptable under the VCS rules) is not subject to the requirements of the methodology. Therefore, the information request has been satisfied. However, it will be noted that the deviation is not just a deviation to the ex-post procedures for leakage quantification, but also a deviation to ex-ante procedures.

**Closing Remarks:** The Client's response adequately addresses the finding. However, subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit.

**NCR 2013.37 dated 07/10/2013**

**Standard Reference:** VCS Standard V3.3, Sections 2.4.1 and 3.1.1

**Document Reference:** Deviation summary v4-0.docx, Section 4.3.1

**Finding:** Section 3.1.1 of the VCS Standard requires that "Projects shall be guided by the principles set out in Section 2.4.1." The principle of conservativeness, as defined in Section 2.4.1, as described as using "use conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated." In describing the factor "Project activities directly reduce demand for land sales within the boundary of the leakage area", the methodology deviation summary document states that "The opportunity to grab land within the appropriate boundary (i.e., the leakage and project area since we are only considering leakage from geographically constrained drivers) is proportional to the amount of land that is available to grab. Therefore, the reduction in opportunity to grab land after the project has started is roughly equivalent to the reduction in available land after the project start. Since the project area (56,050 ha) represents about 33% of the sum of the project area and leakage area (56,050 ha + 114,968.1 ha), the reduction in opportunity to grab land is 33% as well. Hence, the appropriate leakage factor is 0.67."

The extent to which land within the project area has been protected is captured by monitoring of deforestation within the project boundary (as has been done for the purpose of quantification of the GHG emission reductions that have been assessed as part of the present verification audit). Therefore, it is fundamentally inappropriate to combine the land area within the project area and leakage area within the denominator of the equation, as is described above. Such a procedure would not ensure that net GHG emission reductions are not overestimated.

**Client Response:** We do not understand at all why the audit team believes our rationale is fundamentally inappropriate. For the agents of deforestation staying within the boundary of the leakage area (which includes the leakage area AND the project area), the opportunity to grab land has decreased equal to the proportion of land that is now protected. It seems as if the auditor assumes that protecting 30% of the land has no impact at all for the people that are not leaving the leakage area. However, it is completely counterintuitive to assume that all land encroachers who are turned away from the project area through social fencing, whose chainsaws may be confiscated, who are prosecuted or confronted with law enforcement, will not lose their motivation to grab land and simply continue encroaching. We substantiated that the amount of deforestation under this driver is directly related to the opportunity to deforest. As a hypothetical example to make our point, imagine that almost all of the land within the leakage area would have been protected and no opportunity to grab land exists, does this not mean that there would be virtually no leakage from this driver? Under this scenario, there is no more opportunity to make money through land grabs, so people will find a different way to support their living. Obviously, this scenario is unrealistic, but the point is that the opportunity or desire to grab land even outside of the project area decreases as more and more land is protected and actors wanting to grab land are being turned away or prosecuted.

**Auditor Response:** The audit team is not convinced that protection of land within the project area has led to a decrease in deforestation pressure on land within the leakage areas. The audit team does not agree that the procedure described in the methodology deviation summary document is appropriate. The finding remains open.

**Closing Remarks:** Subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit and the finding is closed.

**NCR 2013.38 dated 07/10/2013**

**Standard Reference:** VCS Standard V3.3, Sections 2.4.1 and 3.1.1

**Document Reference:** Deviation summary v4-0.docx, Section 4.3.1

**Finding:** Section 3.1.1 of the VCS Standard requires that "Projects shall be guided by the principles set out in Section 2.4.1." The principle of conservativeness, as defined in Section 2.4.1, as described as using "use conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated." Section 4.3.1 of the methodology deviation summary document states that "the impact of each of these three factors is independent." However, it does not appear to the audit team that the impact of the factors "Agents engaged in land sales leave the leakage area" and "Project activities directly reduce demand for land sales within the boundary of the leakage area" are independent. A direct reduction in demand for land sales within the boundary of the leakage area may be a direct result of agents engaged in land sales leaving the leakage area. Therefore, there may be a causal relationship between the two factors. Therefore, given the lack of independence, it is inappropriate to multiply the values attributed to the two factors. Such a procedure would not ensure that net GHG emission reductions are not overestimated.

**Client Response:** The independence of the factors "Agents engaged in land sales leave the leakage area" and "Project activities directly reduce demand for land sales within the boundary of the leakage area" does not mean that the reduction in demand is only relevant for the agents staying within the project area and that the agents leaving the project area will not have reduced the demand. We are claiming, however, that agents leaving the project area are equally impacted by the reduction in opportunity to deforest than agents staying in the project area. Hence, both groups of agents are impacted by the reduced opportunity. If these factors would be dependent in such a way that our quantification approach is not conservative, this would mean that agents staying in the project area are less impacted by the reduction in opportunity than the agents leaving the project area. However, this is completely counterintuitive as agents that are staying within the leakage area are most likely more impacted by the reduction in demand and will have to find a different income source compared to agents leaving the leakage area, to other areas where more land may be available. Hence, the assumption of independence is likely conservative in this case.

**Auditor Response:** As the two factors are not independent, the assumption of independence is not appropriate. The audit team does not agree that it will result in a more conservative quantification of leakage emissions. The finding remains open.

**Closing Remarks:** Subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit and the finding is closed.

## **NCR 2013.39 dated 07/10/2013**

**Standard Reference:** VCS Standard V3.3, Sections 2.4.1 and 3.1.1

**Document Reference:** Deviation summary v4-0.docx, Section 4.3.2

**Finding:** Section 3.1.1 of the VCS Standard requires that "Projects shall be guided by the principles set out in Section 2.4.1." The principle of conservativeness, as defined in Section 2.4.1, as described as using "use conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated." In describing the factor "Conversion of forest to cropland by migrants inherently decreases as the availability of land decreases", the methodology deviation summary document states that "Similarly to the "forest clearing for land sales" driver, this effect can be quantified as the decrease in area of available land due to the securing and enforcement of land tenure - which is 33% (i.e., the proportion of project area to the combined project and leakage area), but adjusted for the percentage of the population that are migrants as local residents will likely be less impacted by this factor. Since 66% of the population increase is represented by an influx of migrants, the representative factor would be  $1 - 0.66 \times 0.33 = 0.78$ . The 0.78 factor is conservative since the 0.33 factor is conservative as the project has strengthened land tenure not only in the project area, but also in the immediate vicinity of the project area, in the leakage belts. Therefore, more than 33% of the land of the combined leakage and project area is protected." However, as indicated in NCR 2013.37, the 0.33 factor is not conservative or appropriate. Therefore, the quantification approach summarized above, which is reliant on the 0.33 factor, is not appropriate. Such a procedure would not ensure that net GHG emission reductions are not overestimated.

**Client Response:** See our response above to NIR 37.

**Auditor Response:** As the two factors are not independent, the assumption of independence is not appropriate. The audit team does not agree that it will result in a more conservative quantification of leakage emissions. The finding remains open.

**Closing Remarks:** Subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit and the finding is closed.

## **NCR 2013.40 dated 07/30/2013**

**Standard Reference:** VM0006 V1.0, Section II.3.3

**Document Reference:** Deviation summary v5-0.docx

**Finding:** Under Factor 1, Section 4.3.1 of the methodology deviation summary document describes a procedure to determine that "the impact of this factor is 25%". However, the quantitative approach undertaken is rooted in the assumption that the quantification of geographically unconstrained leakage emissions is correct. As NCR 2013.12 is currently open regarding the quantification of geographically unconstrained leakage emissions, the approach undertaken cannot be confirmed to be correct. The methodology states that "The only other geographically unconstrained driver [besides leakage from reducing commercial timber operations] is cropland clearing from migrants moving beyond the leakage belts", and Table 53 of the validated project description indicates that the leakage cancellation rate for this driver is 0%. Therefore, the approach undertaken for quantification of Factor 1 is also incorrect.

**Closing Remarks:** Subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit and the finding is closed.

**NCR 2013.41 dated 07/30/2013**

**Standard Reference:** VCS Standard V3.3, Sections 2.4.1 and 3.1.1

**Document Reference:** Deviation summary v5-0.docx

**Finding:** Section 3.1.1 of the VCS Standard requires that "Projects shall be guided by the principles set out in Section 2.4.1." The principle of conservativeness, as defined in Section 2.4.1, as described as using "use conservative assumptions, values and procedures to ensure that net GHG emission reductions or removals are not overestimated." The analysis described in Section 4.3.2 of the methodology deviation summary document assumes that "If project activities would have caused a significant amount of cropland conversion outside of the project area, we would expect a strong decrease in cropland conversion rate with increasing distance from the project area." It is reported that "there is absolutely no evidence that more cropland conversion takes place closer to the project area" and that therefore "the appropriate leakage deduction factor for conversion to cropland is 0". However, there is no inherent reason to believe the assumption that "If project activities would have caused a significant amount of cropland conversion outside of the project area, we would expect a strong decrease in cropland conversion rate with increasing distance from the project area" to be true, as many different factors may impact the location of forest conversion. As described in Section 3.10.2 of the validated project description, the entire leakage belt was determined to be easily accessible to agents of deforestation that have been displaced from the project area. Absence of a clear trend of decreased deforestation with increased distance from the project area does not constitute compelling proof that "the appropriate leakage deduction factor for conversion to cropland is 0". Therefore, the leakage deduction factor of 0 has not been appropriately substantiated. It is the determination of the audit team that the procedure currently in place would not ensure that net GHG emission reductions are not overestimated.

**Closing Remarks:** Subsequent to the issuance of this finding, the proposed methodology deviation referenced in the finding text was withdrawn, and a revised methodology deviation was proposed. Thus, this finding does not pertain to the methodology deviation that was approved as part of the verification audit and the finding is closed.

## **NIR 2013.42 dated 08/21/2013**

**Standard Reference:** NA

**Document Reference:** 1. Gross Emission Reductions v1-6.xlsm

**Finding:** The following discrepancies appear to exist with respect to worksheet "2c. RR - DF, RF, DG, RG" of workbook "1. Gross Emission Reductions v1-6.xlsm".

It appears that the equation of cell H74 is averaging two annual deforestation rates—one rate from a period of approximately two years, from December 2008 to December 2010, and one rate from a period of approximately one year, from December 2010 to November 2011. This is inconsistent with the (previously approved) approach undertaken in worksheet "5. Net", where the first rate is used for the first three years of the monitoring period, while the second rate is used for the last year of the monitoring period. It is not clear why an arithmetic average (rather than a weighted average) of the two rate values has been used in the equation of cell H74.

As confirmed during discussions with project personnel, the value of 5.73% (as quantified in cell I74) has been multiplied by the value 1,278,110 (the total number of pixels in the leakage area) to quantify the baseline deforestation rate (in pixels/year) in the leakage area in each year of the monitoring period. It was explained to the audit team that the value of 5.73% was quantified by dividing the deforestation in the reference region by the total area in the reference region, to allow for a consistent analytical approach. However, it appears from the equation in cell I74 that the value of 5.73% was actually quantified using the forested area of the reference region in 2008 (254919.69 hectares) rather than the total area of the reference region (554595.66 hectares).

For both of the apparent discrepancies noted above, please explain the approach taken and justify the consistency of the analytical methods employed.

**Client Response:** [No formal response to this finding was provided.]

**Auditor Response:** In response to this finding, it was indicated to the audit team that both of the discrepancies noted in the finding represented errors in the workbook "1. Gross Emission Reductions v1-6.xlsm" that required correction. During a subsequent screen-share session, it was demonstrated to the audit team that the required corrections had been made (i.e., a weighted average was adopted to determine the average deforestation rate in the reference region during the monitoring period and a revised value for the baseline deforestation rate in the leakage area was used to run the land-use model). The audit team was able to confirm that the necessary corrections are appropriately reflected in the workbook "1. Gross Emission Reductions v2-0.xlsm". Therefore, the discrepancies have been resolved and the finding may be closed.

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

## **NCR 2013.43 dated 08/21/2013**

**Standard Reference:** NA

**Document Reference:** 1. Gross Emission Reductions v2-0.xlsm; Biomass Field Inventory v9-3.xlsx

**Finding:** This is a follow-up to NIR 2013.4.

The emission factors shown in the "6. Emission Factor - Transition" worksheet within the "1. Gross Emission Reductions v2-0.xlsm" workbook do not correspond with those shown in the "1.c.Sampling and Discount" worksheet within the "Biomass Field Inventory v9-3.xlsx" workbook.

**Client Response:** [No formal response to this finding was provided.]

**Auditor Response:** In response to this finding, the audit team was provided with an updated workbook, "1. Gross Emission Reductions v3-0.xlsm", that contained emission factors that were consistent with those in the "Biomass Field Inventory v9-3.xlsx" workbook. The audit team confirmed that all other aspects of the workbook "1. Gross Emission Reductions v3-0.xlsm" were correct. Therefore, the discrepancy has been resolved.

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

**NIR 2013.44 dated 08/22/2013**

**Standard Reference:** VM0006 V1.0, page 19

**Document Reference:** 1. Gross Emission Reductions v3-0.xlsm; Biomass Field Inventory v9-3.xlsx

**Finding:** Sub-Equations 1 and 2 within Equation 1 of the methodology require that the net carbon stock change in the project and leakage areas be discounted for uncertainty. In worksheet "1.c.Sampling and Discount" of workbook "Biomass Field Inventory v9-3.xlsx", the uncertainty discounts for the transitions "deciduous to bare" and "bare to deciduous" are provided as 0.85 in cells F18 and F20, respectively. This is not consistent with the values for these discounts that are provided in worksheet "6. Emission Factor - Transition" of workbook "1. Gross Emission Reductions v3-0.xlsm" and that are provided in Table 16 of the monitoring report. Please explain the discrepancy.

**Client Response:** The correct data The correct datasheet, titled "Biomass Field Inventory v8-9.xlsx", was sent to you on Jan 8, 2013 and was sent in response to Finding number 2013.4. All carbon calculations in subsequent workbooks (1. Gross Emission Reductions, 2. Calculate emissions sources, 3. Combine calcs..overview tables), use the correct biomass figures from v8-9.

However in response to a later finding, Finding Number 2013.16, the older version of the Biomass Field Inventory v8-8.xls was used to address the Finding, instead of the correct version v8-9.xlsx, which resulted in v9.3 which has the incorrect value from the old workbook.

Please find the provided document Biomass Field Inventory v9-4.xlsx. Please note that the emission factors on the worksheet "1.c Sampling and Discount" in Biomass Field Inventory v9-4" and "6. Emission Factor – Transition" match. The only difference between workbooks v8.9 and v9-4, are that the worksheet "2.b. Potential Total Error" has been added to show the insignificance of buttresses.

**Auditor Response:** The audit team was able to confirm that the workbook "Biomass Field Inventory v9-4.xlsx" contains emission factors and associated uncertainty values that are equivalent to those provided in response to NIR 2013.4. The audit team was able to confirm that the updated monitoring report ("Oddar Meanchey VCS Monitoring Report v3-4.docx"), as well as worksheet "6. Emission Factor - Transition" of workbook "1. Gross Emission Reductions v3-1.xlsm", contain the correct information from the "Biomass Field Inventory v9-4.xlsx" workbook. Therefore, the discrepancy has been resolved.

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

**NCR 2013.45 dated 08/22/2013**

**Standard Reference:** VM0006 V1.0, page 19

**Document Reference:** 2. Calculate emissions sources v3-0.xlsm; 3. Combine calcs overview tables v3-1.xlsx

**Finding:** The methodology requires the output of Sub-Equation 9 within Equation 1 of the methodology, "GHG from sources", to be used to quantify the net emission reductions, as set out in Equation 1 of the methodology. The output of Sub-Equation 9 has been provided in workbook "2. Calculate emissions sources v3-0.xlsm"; however, this output has not been included in the quantification of net emission reductions, as indicated in worksheet "Tables for Monito. Rep '08-12" within workbook "3. Combine calcs overview tables v3-1.xlsx".

**Client Response:** We understand that this Finding is now closed.

**Auditor Response:** In response to this finding, it was confirmed that the exclusion of emissions from biomass burning was not accidental, but was done because biomass burning has been excluded as an emissions source, as in the following text (copied from an email dated 23 August 2013): "We excluded the emissions from biomass burning was found be insignificant as per the methodology and therefore were excluded. Please see below for the justification of how the methodology allows for the exclusion of emissions due to biomass burning.

Per VCS AFOLU Requirements (4.3.3) - "Specific carbon pools and GHG sources, including carbon pools and GHG sources that cause project and leakage emissions, may be deemed de minimis and do not have to be accounted for if together the omitted decrease in carbon stocks (in carbon pools) or increase in GHG emissions (from GHG sources) amounts to less than five percent of the total GHG benefit generated by the project."

Conforming to this requirement, Section I.4.1 of methodology states the following regarding the accounting of emissions related to biomass burning-

"This methodology requires accounting of emissions of all three biogenic greenhouse gases (CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub>) from sources not related to changes in carbon pools, henceforward referred to as —emission sources|| (Table 2). Project proponents may omit certain emission sources, but only if they can prove that their contributions are insignificant. The VCS defines significant sources as those accounting for more than 5% of the total GHG benefits generated."

The significance of the emissions from biomass burning was tested using the procedure prescribed in the methodology. The result is shown in 'Summary, E\_sources' worksheet of workbook 2. Calculate emission sources v2.2.xlsx. The significance test (table directly below the table describes the ex-post emissions) demonstrates that the emissions, including emissions from fire, are less than 5% of the total GHG emissions reduction benefits generated by the project."

The audit team was able to confirm that, as indicated, emissions from biomass burning constitute far less than 5% of the net GHG emission reductions of the project. As indicated in worksheet "Summary, E\_sources" of workbook "2. Calculate emissions sources v3-1.xlsm", these emissions total 20,835 metric tonnes of CO<sub>2</sub>-equivalent. When divided by the overall GHG benefit (over the present monitoring period) of 745,712 metric tonnes of CO<sub>2</sub>-equivalent, the resulting value is 2.8%.

The methodology is not internally consistent regarding rules for determination that specific sources are de minimis. While the language in the response above has been accurately quoted from the methodology, the next sentence states "As explained in section 0, this methodology uses the procedure outlined in EB31 Appendix 16 ([http://cdm.unfccc.int/EB/031/eb31\\_repan16.pdf](http://cdm.unfccc.int/EB/031/eb31_repan16.pdf)) to calculate the significance of emission sources." EB31 Appendix 16 is also known as the CDM tool "Tool for testing significance of GHG emissions in A/R CDM project activities". For a variety of reasons, the determination of significance that would result from application of this tool is likely to be materially different from the determination of significance that would result from determining whether emissions from biomass burning comprise more than 5% of the "total GHG emission reductions benefits". In addition, no section 0 exists within the methodology, but when the user clicks on the words "section 0", they are directed to Section II.4.2.1 of the methodology. Section II.4.2.1 contains a procedure that is somewhat similar (although not completely) identical to the CDM tool, but the procedure appears to apply only to emissions resulting specifically from project activities (e.g., fencing), and it is not clear how the significance of emissions from biomass burning is to be considered as part of this activity. Finally, all of the language above is inconsistent with Sections III.2.3.1 and III.2.3.2 of the methodology, which state that "If emissions from fire were found to be significant at validation, the emissions from fire must be calculated using the following equation..." (the

section of the validated project description entitled "Step 10D – Test Whether CH<sub>4</sub> Emissions from Small-Scale Fires Must be Monitored" is completely blank, so it is unclear whether such emissions need to be included according to Section III.2.3.1) and "Methane emissions from large-scale (>10 ha) catastrophic fires must always be included as secondary emissions, even if they occur in areas for which no fires were observed during the historical reference period", respectively.

In summary, the methodology sets out multiple, conflicting criteria for whether emissions from biomass burning must be accounted for in this case. Given the inconsistency, and given that the approach selected by the project is (as noted above) consistent with Section 4.3.3 of the AFOLU Requirements, that approach is deemed to conform to the VCS rules, and the finding can be withdrawn.

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

## **NCR 2013.46 dated 08/22/2013**

**Standard Reference:** VM0006 V1.0, page 19

**Document Reference:** 3. Combine calcs overview tables v3-1.xlsx

**Finding:** The methodology requires that the number of Verified Carbon Units be calculated using Equation 2. As indicated in worksheet "Overview Table" within workbook "3. Combine calcs overview tables v3-1.xlsx", the following non-conformities exist with respect to the requirement of Equations 2. Equation 2 requires that the "Buffer withholding percentage according to the VCS's tool for AFOLU non-permanence risk analysis and buffer determination" be used in the calculation. According to the risk report submitted to the audit team, "OM REDD Risk Assessment 1st Verification v2-0.docx", the buffer withholding percentage is 17%. The quantity used in the calculation of worksheet "Overview Table" is not consistent with this amount.

Equation 2 requires that the buffer withholding percentage be multiplied by the sum of the respective outputs of Sub-Equations 1, 3, 6 and 7. The calculation used in worksheet "Overview Table" multiplies the buffer withholding percentage by the total quantity of net emission reductions instead.

**Client Response:** The workbook 3. Carbon Calcs overview tables v3-3 is provided with the correctly calculated VCUs. Please note that the buffer withholding percentage is now 17% and the buffer withholding percentage be multiplied by the sum of the respective outputs of Sub-Equations 1, 3, 6 and 7. The corrected values are also updated Oddar Meanchey VCS Monitoring Report v3-3.

**Auditor Response:** Through review of the updated "3. Combine calcs overview tables v3-4.xlsx", the audit team was able to confirm that both of the corrections described in the Client Response have been adequately implemented. The calculations now use the correct risk buffer percentage and the calculation procedure is consistent with the requirements of the methodology. Therefore, the non-conformity has been resolved.

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

**NCR 2013.47 dated 08/27/2013**

**Standard Reference:** AFOLU Non-Permanence Risk Tool V3.2, Section 2.5.4

**Document Reference:** OM REDD Risk Assessment 1st Verification v2-0-CLEAN.docx, Section 4.2

**Finding:** The AFOLU Non-Permanence Risk Tool requires the following: "To determine the number of buffer credits that shall be deposited in the AFOLU pooled buffer account, the overall risk rating shall be converted to a percentage (eg, an overall risk rating of 35 converts to 35%). This percentage shall be multiplied by the net change in the project's carbon stocks (stated in the verification report), as set out in the VCS document Registration and Issuance Process."

While the number of buffer credits has been reported in Section 4.2 of the risk report, this quantity is consistent with the quantity reported in the monitoring report. In addition, the number of buffer credits reported in the risk report is incorrect, as it does not reflect corrections that have been made since the risk assessment was originally submitted for verification.

**Client Response:** Table 4.2 has been updated in the risk report, in the document OM REDD Risk Assessment 1st Verification v2-2.docx

**Auditor Response:** There was an error in the text of this finding, as it should have stated "While the number of buffer credits has been reported in Section 4.2 of the risk report, this quantity is inconsistent with the quantity reported in the monitoring report". Nonetheless, the quantity of buffer credits reported in the risk report is now consistent with the quantity reported in the monitoring report, and the non-conformity has been resolved.

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

## APPENDIX B: AFOLU NON-PERMANENCE RISK ASSESSMENT

In accordance with Section 3.7.3 of the AFOLU Requirements, the project's non-permanence risk report was assessed by the audit team. The findings from the assessment, and the project proponent's response, are included in Appendix A above. The non-permanence risk report upon which the risk analysis assessment was based is contained within the risk report, Version 2-2, dated 3 April 2013. The findings and conclusion regarding the non-permanence risk analysis undertaken for the project are summarized below for each risk category and factor. Unless noted otherwise, the audit team agrees with the conclusion stated in the non-permanence risk report.

The findings of the audit team regarding the risk scores applied for each factor are as follows.

| Project Management |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Risk Factor        | Assessment Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Risk Rating |
| a)                 | No GHG credits have previously been issued, and therefore this risk is not applicable to the project at this time.                                                                                                                                                                                                                                                                                                                                                    | NA          |
| b)                 | No GHG credits have previously been issued, and therefore this risk is not applicable to the project at this time.                                                                                                                                                                                                                                                                                                                                                    | NA          |
| c)                 | The audit team can confirm that the management team includes individuals with significant experience in all skills necessary to successfully undertake all project activities, including forest protection, forest biomass inventory, community surveys and project activity design. Most of the representatives of the management team with whom the audit team spoke were highly competent in their respective areas of expertise.                                  | 0           |
| d)                 | The audit team can confirm that both the Forestry Administration (the project proponent) and Pact (an implementing partner) hold offices in Phnom Penh, which is less than a day's drive from all parts of the project area. Other implementing partners, such as Children's Development Association, The Monks Community Forestry and The Community Forestry Federation of Oddar Meanchey Province, are located in Samroung, which is very near to the project area. | 0           |
| e)                 | Terra Global Capital, LLC, a carbon project development partner with contractual commitments to support the activities of the project (see "AGREEMENT Between The Cambodia's Forestry Administration And Terra Global Capital, LLC In Relation to Community Forestry Carbon Project in Oddar Meanchey"), contains the relevant expertise in AFOLU project design and implementation, carbon accounting and reporting under the VCS Program.                           | -2          |
| f)                 | The audit team was not provided with any evidence to indicate that this factor is applicable to the project.                                                                                                                                                                                                                                                                                                                                                          | NA          |

|                                                                               |           |
|-------------------------------------------------------------------------------|-----------|
| <b>Total Project Management (PM) [as applicable, (a + b + c + d + e + f)]</b> | <b>-2</b> |
| Total may be less than zero.                                                  |           |

| Financial Viability                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |             |
|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Risk Factor                                                                                  | Assessment Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Risk Rating |
| a)                                                                                           | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NA          |
| b)                                                                                           | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NA          |
| c)                                                                                           | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NA          |
| d)                                                                                           | The audit team was provided with a financial model demonstrating that the cash flow breakeven point was less than four years from the date of the risk assessment. Many of the projected costs for the model were derived from the 30-year work plan (further described below in discussion of the project longevity category), which was confirmed during interviews to be approved by all partners in the project. Additional costs were derived from a detailed analysis of future project development and maintenance costs, which was examined and found to be reasonable. Projected revenues were derived from estimates of future Verified Carbon Unit (VCU) issuance, which reflects the values provided in Section 4.3 of the monitoring report for the monitoring period (i.e., years 2008-2012) and the values provided in Table 64 of the validated project description for the following years. An \$8/tonne selling price was substantiated by a "REDD Price Report" for the third quarter of 2012 by Thompson-Reuters, which indicated that "bids for issued Verified Carbon Units (VCUs) were reported at around \$6.00–\$8.00/t". The conclusion of the risk report was found to be valid when a selling price within this range was used. | 0           |
| e)                                                                                           | During discussions with project personnel, it was indicated to the audit team that the project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3           |
| f)                                                                                           | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NA          |
| g)                                                                                           | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NA          |
| h)                                                                                           | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | NA          |
| i)                                                                                           | The audit team was not provided with any evidence to indicate that this factor is applicable to the project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NA          |
| <b>Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)]</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>3</b>    |

Total may not be less than zero.

| Opportunity Cost                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Risk Factor                                                                             | Assessment Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Risk Rating |
| a)                                                                                      | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NA          |
| b)                                                                                      | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NA          |
| c)                                                                                      | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NA          |
| d)                                                                                      | As determined ex-ante and reported in Table 27 of the validated project description, the majority of baseline activities over the length of the project crediting period are subsistence driven. A positive validation statement with respect to conformance to the Climate, Community & Biodiversity Standards ("CCB Standards") was issued on 17 October 2012, and therefore the project can be considered certified against the CCB Standards, thus demonstrating net positive impacts in accordance with Section 2.3.2 of the AFOLU Non-Permanence Risk Tool. | 0           |
| e)                                                                                      | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NA          |
| f)                                                                                      | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NA          |
| g)                                                                                      | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NA          |
| h)                                                                                      | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NA          |
| i)                                                                                      | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | NA          |
| <b>Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)]</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>0</b>    |
| Total may not be less than 0.                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |

| Project Longevity |                     |             |
|-------------------|---------------------|-------------|
| Risk Factor       | Assessment Comments | Risk Rating |
| a)                | Not applicable      | 0           |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| b)                                  | The audit team can confirm that a legally binding agreement requires the project proponent to ensure that, for each of 12 Community Forests, “the Community shall not engage in activities that might lead to the reduction of the amount of stored carbon sequestered by the Community Forest” (see clause V(F)(8) of document “AGREEMENT Between The Cambodia’s Forestry Administration And Terra Global Capital, LLC In Relation to Community Forestry Carbon Project in Oddar Meanchey”). This agreement was later amended to include the thirteenth Community Forest (see document “Amendment to AGREEMENT Between The Cambodia’s Forestry Administration and Terra Global Capital, LLC Signed March 30, 2009 In Relation To Community Forestry Carbon Project in Oddar Meanchey”). Representatives of both signatories confirmed that the agreement remained in effect as of the audit team’s site visit of February 2013, and as the agreement does not include a sunset clause, it can reasonable be anticipated that the agreement will last for the entire project longevity. The project longevity of 30 years is covered by a work plan that has been provisionally agreed to by all parties (the audit team was told that the final work plan would be approved once additional resources are available for its development), as confirmed by the audit team. As one of the parties that has approved the 30-year work plan is the project proponent (itself a government institution), the proposed project longevity of 30 years is valid. | 15        |
| <b>Total Project Longevity (PL)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>15</b> |
| May not be less than zero           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |

|                                                |  |           |
|------------------------------------------------|--|-----------|
| Internal Risk                                  |  |           |
| <b>Total Internal Risk (PM + FV + OC + PL)</b> |  | <b>16</b> |
| Total may not be less than zero.               |  |           |

|                                         |                                                                                                                                                                                                                                                       |             |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Land Tenure and Resource Access/Impacts |                                                                                                                                                                                                                                                       |             |
| Risk Factor                             | Assessment Comments                                                                                                                                                                                                                                   | Risk Rating |
| a)                                      | Not applicable                                                                                                                                                                                                                                        | NA          |
| b)                                      | The audit team can confirm that, as the project area is owned by the project proponent, access/use rights have been granted to the individual Community Forestry Groups that have been charged with management of their respective Community Forests. | 2           |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| c) | Not applicable. The audit team confirmed that, as of the time of the site visit of February 2013, no ownership or land tenure disputes were noted in the project area. In interviews with a range of community members, the audit team were told of no incidents wherein the project's proponent's ownership of the project area was under dispute.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | NA |
| d) | <p>During the site visit of February 2013, the audit team learned from multiple independent sources that the Cambodian military had established bases and other infrastructure within the borders of the Dung Beng, Andong Bor and Romdoul Veasna Community Forests. It was unclear that the military received specific authorization from the Forestry Administration to locate camps within the specific Community Forests noted above, but the audit team was told that the military was provided with authorization (by the Prime Minister) to undertake any necessary action to secure the border. Therefore, the nature of any rights held by the Cambodian military to the project area was closely examined to determine whether it constituted an overlapping access/use right.</p> <p>The audit team examined both the official Khmer version and the unofficial English translation of the "Sub-Decree on Community Forest Management" and confirmed that Article 14 of that document states "Secondary users may have the rights to access and use a Community Forest consistent with Community Forest Management Plans and Community Forestry Regulations." The Community Forestry Regulations for the Dung Beng, Angdong Bor and Romdoul Veasna Community Forests all contain the same Article 43 and Article 44, which confirm that users of the Community Forests that are not members of the Community Forestry Groups and live outside of the local village have rights to access the Community Forests (with approval from the Community Forest Management Committee) but do not have the right to cut down any trees. As the Cambodian military has not obtained approval from any of the relevant Community Forest Management Committees, and as an access right following from that approval would not include the right to cut down trees (and, thus, the right to use the resources within the project area), the Cambodian military does not have an access/use right to the project area, as defined by the AFOLU Non-Permanence Risk Tool.</p> <p>In order to confirm that the Community Forestry Sub-Decree and Community Forestry Regulations have not been over-ruled by a higher-level legal framework that may exist in wartime in Cambodia, the audit team interviewed a law professor regarding the presence of any such framework. The law professor confirmed that, while the Cambodian military have the right to establish infrastructure wherever it is most convenient (and thus, they may hold access rights to the project area even in the absence of approval from the Community Forest Management Committees), they do not have the right to use any materials within the project area. Thus, the military does not have rights to resources within the project area. Therefore, as access/use rights most include "rights to use or have access to the project area and the resources within it" (AFOLU Non-Permanence Risk Tool, Section 2.3.1(4)), the Cambodian military</p> | NA |

|                                                                               |                                                                                                                      |          |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------|
|                                                                               | does not have access/use rights to the project area.                                                                 |          |
| e)                                                                            | Not applicable                                                                                                       | NA       |
| f)                                                                            | The audit team was not provided with any evidence to indicate that this factor is applicable to the project.         | NA       |
| g)                                                                            | As no disputes over land tenure, ownership or access/use rights exist, this factor is not applicable to the project. | NA       |
| <b>Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e + f + g)]</b> |                                                                                                                      | <b>2</b> |
| Total may not be less than zero.                                              |                                                                                                                      |          |

| Community Engagement |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Risk Factor          | Assessment Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Risk Rating |
| a)                   | Although it does not appear that too many households are actually located within the project area, the audit team was able to confirm, during on-site audit activities, that the majority of households who are reliant on the project area have been received some sort of consultation. Individuals who are reliant on the project area (typically, as a source of resin and other non-timber forest products) are often members of their local Community Forestry Group, and are thus consulted, indirectly, through meetings with the Community Forest Management Committees that are charged with management of the Community Forests that comprise the project area, in accordance with Section 2.3.2 of the AFOLU Non-Permanence Risk Tool. Participatory rural appraisals, in which residents of 13 different villages were interviewed regarding natural resource issues and strategies to resolve said issues, provided another avenue for consultation. The audit team was provided with an Excel workbook, pictures and work products from participatory rural appraisals as evidence that they were carried out. Finally, a household survey was undertaken in 2010. According to the summary report "Oddar Meanchey REDD+ Project, Report on 2010 Household Survey, Pact-Cambodia, July 2011", 294 households were contacted during this survey. While not all households that were interviewed can be considered reliant on the project area (52% of those interviewed were Community Forestry Group members, according to the report, and most likely an even smaller percentage of those interviewed were actually reliant on the project area), this was certainly an additional avenue for consulting those households who are reliant on the project area. | NA          |
| b)                   | The conclusion discussed above also applies to this factor. The audit team is confident that at least 20% of those households that are reliant on the project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | NA          |

|                                                                        |                                                                                                                                                                                                                                                                                                                                                                  |           |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|                                                                        | area have been consulted.                                                                                                                                                                                                                                                                                                                                        |           |
| c)                                                                     | A positive validation statement with respect to conformance to the Climate, Community & Biodiversity Standards ("CCB Standards") was issued on 17 October 2012, and therefore the project can be considered certified against the CCB Standards, thus demonstrating net positive impacts in accordance with Section 2.3.2 of the AFOLU Non-Permanence Risk Tool. | -5        |
| <b>Total Community Engagement (CE) [where applicable, (a + b + c)]</b> |                                                                                                                                                                                                                                                                                                                                                                  | <b>-5</b> |
| Total may be less than zero.                                           |                                                                                                                                                                                                                                                                                                                                                                  |           |

| Political Risk |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Risk Factor    | Assessment Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Risk Rating |
| a)             | The risk score in the risk report correctly reflects the fact that the governance score for Cambodia, when calculated across the last five years of data that were available at the time of the risk assessment (2007-2011), is less than -0.79. The audit team calculated a governance score of -0.823, which is different from the claimed governance score of -0.832, but the score is the same in either case. However, it should be noted that the information is entered into the box for the wrong factor in the risk report, which incorrectly indicates that factor (a) is "Not applicable".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 6           |
| b)             | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NA          |
| c)             | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NA          |
| d)             | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NA          |
| e)             | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | NA          |
| f)             | Through review of several internet sources provided to the audit team ( <a href="http://www.un-redd.org/Newsletter21/Four_Countries_Start_NP_Implementation/tabid/54804/Default.aspx">http://www.un-redd.org/Newsletter21/Four_Countries_Start_NP_Implementation/tabid/54804/Default.aspx</a> ; <a href="http://www.un-redd.org/Key_results_achievements_Cambodia/tabid/106626/Default.aspx">http://www.un-redd.org/Key_results_achievements_Cambodia/tabid/106626/Default.aspx</a> ; and <a href="http://www.un-redd.org/Newsletter35/REDD_Progress_in_Bhutan_and_Cambodia/tabid/105794/Default.aspx">http://www.un-redd.org/Newsletter35/REDD_Progress_in_Bhutan_and_Cambodia/tabid/105794/Default.aspx</a> ; all accessed 4 April 2013), all of which are products of the UN-REDD Programme, the audit team was able to confirm that Cambodia is in the process of implementing a REDD+ policy framework. Although the process appears to be in its inception, the audit team was able to confirm that progress is being made on the development of national measurement, reporting and verification systems and | -2          |

|                                                                     |                                                                                                                                                                     |          |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                                                                     | stakeholder engagement, and that therefore the selected factor applies to the project in accordance with Section 2.3.3(2)(a) of the AFOLU Non-Permanence Risk Tool. |          |
| <b>Total Political (PC) [as applicable ((a, b, c, d or e) + f)]</b> |                                                                                                                                                                     | <b>4</b> |
| Total may not be less than zero.                                    |                                                                                                                                                                     |          |

|                                           |          |
|-------------------------------------------|----------|
| External Risk                             |          |
| <b>Total External Risk (LT + CE + PC)</b> | <b>1</b> |
| Total may not be less than zero.          |          |

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comments regarding natural risk scores selected |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Fire (F)</b>                                 | It is the understanding of the audit team, based on communication with the VCSA, that this risk is only intended to apply to fire ignited by natural sources. Conversations with Forestry Administration Cantonment personnel have indicated that natural fires do not exist in Oddar Meanchey. Therefore, the risk is not applicable to the project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Pest and Disease Outbreaks (PD)</b>          | The audit team was provided with national survey reports demonstrating that this risk is not applicable to the project area. Table 4.1 of the report "Global Forest Resources Assessment 2010", published by the Food and Agriculture Organization (FAO) of the United Nations, indicates that only 1.2% of the forest area in South and Southeast Asia has been affected by insects. In addition, the "Global Review of Forest Pests and Diseases", dated 2009 and also published by FAO, provides a review of prominent insect pests. None of the species profiled in this report is likely to have a substantial impact on the carbon stocks in trees within the project area. The only insects observed during on-site audit activities were termites (which typically are only present in dead trees or unhealthy living trees) in a few scattered trees; these observations are consistent with conditions that would generally be expected in a tropical, mixed-species forest. In addition, as the dead wood carbon pool has been included in the project boundary, the significance of any attack on live trees in the project area would be further limited by the fact that the carbon within any dead trees will remain within the project's carbon stocks, at least in the short term. |
| <b>Extreme Weather (W)</b>                      | The audit team was able to review the report "Climate Change Vulnerability Mapping for Southeast Asia" (published by the Economy and Environment Program for Southeast Asia), and confirm the information provided in the risk report. The report confirms that no tropical cyclones or droughts have occurred near the project area since 1980. While some floods have impacted the region in which the project area is located, such hazards are likely to pose a greater risk to human settlements than to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | forested areas, given that natural forests tend to be adapted to climatic events such as flooding. Therefore, the audit team agrees that the risk of extreme weather is not applicable to the project area, on the basis of the historical record since 1980. It should be noted that the report does predict Cambodia to be one of counties in Southeast Asia that is most vulnerable to projected climate change impacts. However, the AFOLU Non-Permanence Risk Tool does not require consideration of projected climate change impacts, stating only that “The frequency and significance of events ... may include projected climate change impacts”. |
| <b>Geological Risk (G)</b>     | The audit team was able to confirm, through review of the United States Geological Survey report “Documentation for the Southeast Asia Seismic Hazard Maps” (accessed 6 June 2013 from <a href="http://pdf.usaid.gov/pdf_docs/PNADS391.pdf">http://pdf.usaid.gov/pdf_docs/PNADS391.pdf</a> ), that the project area is not located near any plate boundaries, volcanic centers or other structures that may pose geologic risk to the project. Therefore, the audit team agrees that the risk is not applicable to the project area.                                                                                                                       |
| <b>Other Natural Risk (ON)</b> | The audit team agrees that no other known natural risk is likely to impact the project area.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

The overall risk rating, as approved by the risk assessment, is as follows.

| Risk Category                          | Rating    |
|----------------------------------------|-----------|
| a) Internal Risk                       | 16        |
| b) External Risk                       | 1         |
| c) Natural Risk                        | 0         |
| <b>Overall Risk Rating (a + b + c)</b> | <b>17</b> |

The calculation of the number of buffer credits and the number of GHG credits eligible to be issued as VCUs, as quantified and verified in accordance with the VCS rules, is included below.

| Year | Buffer credits | VCUs    |
|------|----------------|---------|
| 2008 | 27,074         | 119,402 |
| 2009 | 30,064         | 121,219 |
| 2010 | 31,188         | 113,924 |
| 2011 | 60,175         | 242,665 |

**APPENDIX C: MARKET LEAKAGE ASSESSMENT**

In accordance with Section 3.6.4 of the AFOLU Requirements, the quantity of market leakage caused by the project was assessed at verification. The market leakage assessment was not based upon information contained in any project documentation. The market leakage assessment findings and conclusion are as follows.

The methodology does not contain any procedures that require accounting for market leakage. Section II.3.3 of the methodology states “All leakage from reducing commercial timber operations is considered through the VCS market leakage approach and is accounted for through the buffer withholding mechanics from the VCS, subject to dual validation”. This language is out of date and is based upon prior procedures for market leakage accounting that are no longer contained within the VCS rules. The prevailing version of the VCS rules does not contain any project-level requirements for market leakage accounting.

As the methodology does not contain requirements for accounting of market leakage, market leakage attributable to project activities has not been accounted for, in accordance with the methodology.

In summary, the total quantity of market leakage emissions is estimated to be 0 tCO<sub>2</sub>e over the monitoring period. The audit team has concluded that the reporting of market leakage emissions is in conformance with the VCS rules and the methodology.