VALIDATION REPORT FOR THE JARI/AMAPÁ REDD+ PROJECT

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Project Title	Jari/Amapá REDD+ Project
Version	1.0
Report ID	10 May 2013

Report Title	Validation report for the Jari/Amapá REDD+ Project
Client	Biofílica Investimentos Ambientais S.A.
Pages	105
Date of Issue	10-May-2013
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Summary:

This report describes the validation audit of the Jari/Amapá REDD+ Project ("the project"), a Reduced Emissions from Deforestation and Degradation (REDD) project located in the state of Amapa, Brazil, that was conducted by SCS. The purpose of the validation audit was to assess the conformance of the project with the validation criteria. The validation audit was performed through a combination of document review, interviews with relevant personnel and on-site inspections. The project complies with all of the validation criteria, and the assessment team has no restrictions or uncertainties with respect to the compliance of the project with the validation criteria.

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1 INTRODUCTION

1.1 Objective

The purpose of the validation audit activity was to conduct an independent assessment of the Jari/Amapá REDD+ Project ("the project") to determine whether the project complies with the validation 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 project crediting period, as discussed in Section 3.1.4 of this report.

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

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

Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document. It should be noted that, while the project complies with the prevailing versions of the VCS guidance documents as of the issuance of this report, the assessment criteria changed during the course of the provision of assessment services, and therefore some findings (described in Section 2.5 below) refer to previous versions of various VCS guidance documents.

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 located in the state of Amapa, in Brazil, and is aimed at reducing emissions related to unplanned deforestation.

2 VALIDATION PROCESS

2.1 Method and Criteria

The validation was performed through a combination of document review, interviews with relevant personnel and on-site inspections, as discussed in Sections 2.2 through 2.4 of this report. At all times, the project was assessed for conformance to the criteria described in Section 1.2 of this report. As discussed in Section 2.5, findings were issued to ensure that the project was in full conformance to all requirements.

2.2 Document Review

The project description (Version 1.4, dated 12 April 2013) and supporting documentation were carefully reviewed for conformance to the validation criteria.

Particular attention was focused on the project description, given its central role in the description of "the project and its context" (VCS Standard, Section 3.19.1). Through review of the project description, the audit team ensured that:

- The project design, as described in the project description, is in conformance with the VCS rules and the requirements of the methodology
- The project description satisfies all applicable documentation requirements of the VCS rules and the methodology

In addition to the project description, the following written documents (e.g., reports, memos, land deeds and titles) were reviewed to ensure conformance of the project to the VCS rules and the methodology:

Document (Date Created)	**Date Reviewed**
"Título de Reconhecimento de Domínio N^{o} 02/2009" (5 March 2009)	November 2012
"Certidão de Legitimidade e Autenticidade do Título no 4.000.653/95" (20 November 2011)	November 2012
"Certidão de Inteiro teor de Registro de Imóveis" (30 March 2012)	November 2012
"Relatório Técnico (Planta do Imóvel)" and Geographic Information System (GIS) under the area of the responsibility of Reneval Tupinambá C. Júnior, Agrimensor, CREA 319-D, Código Credenciamento CA4; ART: 0006068/06.	November 2012
"Título de Reconhecimento de Domínio N^{o} 12/2006" (30 August 2006)	November 2012
"Certidão de Legitimidade e Autenticidade do Título no 4.000.664/95" (20 November 2011)	November 2012
"Certidão de Inteiro teor de Registro de Imóveis" (30 March 2012	November 2012

Document (Date Created)	Date Reviewed
"Relatório Técnico (Planta do Imóvel)" and Geographic Information System (GIS) under the area of the responsibility of Leonardo Venturim, Engenheiro Agrimensor, CREA 167269-D, Código Credenciamento BW5	November 2012
"Plano de Manejo Florestal Sustaneval" (2011)	November 2012
"Memorial Descritivo" document for Gleba Porto Salvo (11 September 2006)	November 2012
"Memorial Descritivo" document for Gleba Santo Antônio da Cachoeira (16 May 2006)	November 2012
"Estimativa de abertura de áreas nas UPAs do PMFS do Amapá" (date unknown)	November 2012
"PA-MFS 003, Parcelas Permanentes" (30 August 2010)	November 2012
"PA-MFS 0016, Inventário Florestal Diagnóstico" (30 August 2010)	November 2012
"Biofílica Investimentos Ambientais S.A.: Demonstrações financeiras em 31 de dezembro de 2011 e 2010" (16 March 2012)	February 2013
"Declaration of capital destination" (28 January 2012)	February 2013

2.3 Interviews

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

*Due to a change in the identity of several of the entities which collectively comprise the project proponent, as described in Section 3.1.2 below, the affiliation of the individuals whose names are marked with a star have changed since the site visit. For full transparency, the affiliations listed below are those held by the individuals at the time of the site visit.

Individual	Affiliation* and Role	Date Interviewed
Gabriela Lopes Jorge	Project Coordinator, Biofílica Investimentos Ambientais S.A.	Throughout audit
Rogério Marinho	GIS Analyst and Land Use Modeling, Biofílica Investimentos Ambientais S.A.	Throughout audit

Individual	Affiliation* and Role	Date Interviewed
Mariama Vendramini	Financial and Commercial Manager, Biofílica Investimentos Ambientais S.A.	Throughout audit
Plínio Ribeiro	President Director, Biofílica Investimentos Ambientais S.A.	Throughout audit
Thaís Hiramoto	Administrative and Stakeholder Relations Staff, Biofílica Investimentos Ambientais S.A.	29 October-2 November 2012
Augusto Praxedes Neto*	Manager of Institutional Relations and Sustainability, Grupo Orsa	29 October-2 November 2012
Paulo Roberto da Silva*	Manager of Forest Control [FUNDIARIO] and Security, Grupo Orsa	29 October-2 November 2012
Luiz Garcia Almeida	Asset Security, Grupo Orsa	29 October-2 November 2012
Kátia Regina Silva*	Forest Management and Research Manager, Grupo Orsa	29 October-2 November 2012
Felipe Nascimento de Faria*	Forest Management, Grupo Orsa	29 October-2 November 2012
João Nilson Cunha	Forest Management, Grupo Orsa	29 October-2 November 2012
Jorge Rafael Barbosa Almeida*	Fundação Orsa – Unidade Jari, Grupo Orsa	29 October-2 November 2012
Márcio Sales	Assistant Research II, Instituto do Homem e Meio Ambiente da Amazôni (Imazon)	2 November 2012, 5 April 2013
Amintas Brandão Jr.	Assistant Research II, Instituto do Homem e Meio Ambiente da Amazôni (Imazon)	26 March 2013

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

Individual	Affiliation and Role	Date Interviewed

Individual	Affiliation and Role	Date Interviewed
Individual(s) residing in the community listed under "affiliation and role"	Comunidade Igarapé das Pacas	week of 29 October 2012
Individual(s) residing in the community listed under "affiliation and role"	Comunidade Nova Conquista	week of 29 October 2012
Individual(s) residing in the community listed under "affiliation and role"	Ramal do Valdomiro	week of 29 October 2012
Individual(s) residing in the community listed under "affiliation and role"	Ramal do Barbudo	week of 29 October 2012
Individual(s) residing in the community listed under "affiliation and role"	Ramal França Rocha	week of 29 October 2012
Balbino Carlos Silva Lira	Director, Sindicato dos Trabalhadores Rurais de Vitória do Jari (the "Rural Workers' Union of Vitória do Jari)	week of 29 October 2012
Manoel d Costa Brito	Rural Extension Technician, Instituto de Desenvolvimento Rural do Estado do Amapá (RURAP)	week of 29 October 2012
Osvaldo José de Carvalho Sanches	Rural Extension Technician, Instituto de Desenvolvimento Rural do Estado do Amapá (RURAP)	week of 29 October 2012

2.4 Site Inspections

The objectives of the on-site inspections performed were to:

- Ensure that the geographic area of the project, as reported in the project description and the accompanying KML file, is in conformance with Section 3.11.1 of the VCS Standard;
- Select samples of data from on-the-ground measurements for validation in order to meet a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 5.1.3 of the VCS Standard;

- Perform a risk-based review of the project area to ensure that the project is in conformance the eligibility requirements of the VCS rules and the applicability conditions of the methodology; and

- Perform a risk-based review of the project area to ensure that the project conforms to all other requirements of the VCS rules and the methodology.

In fulfilment of the above objectives, the audit team performed an on-site inspection of the project area on the dates 29 October 2012-2 November 2012. The main activities undertaken by the audit team were as follows:

- Interviewed project personnel (see Section 2.3 of this report) to gather information regarding the design of the project;

- Interviewed project personnel (see Section 2.3 of this report) for the purpose of seeking evidence of conformance with respect to the specific requirements of the methodology and the VCS rules;

- Interviewed residents of several communities (Comunidade Igarapé das Pacas, Comunidade Nova Conquista, Ramal do Valdomiro, Ramal do Barbudo and Ramal França Rocha) located in the immediate vicinity of the project area to confirm the claims of the project proponents with respect to the extent of community engagement, the determination of the baseline scenario and the demonstration of additionality.

- Viewed representatives of Orsa Florestal conducting re-measurements on two clusters of inventory plots. The representatives were asked to replicate the measurement protocol that was applied, for the purpose of providing the audit team with reasonable assurance that the measurements were collected to appropriate quality standards.

Following the site visit described above, the audit team held two web-based meetings with project personnel, on 26 March 2013 and 5 April 2013, for the purposes of obtaining further information regarding the measurement procedures employed for the project.

2.5 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 validation 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 validation 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 validation process have been closed. In accordance with Section 5.3.6 of the VCS Standard, all findings issued during the validation process, and the impetus for their closure, are described in Appendix A of this report. As the validation and initial verification audits occurred concurrently, the findings documented in Appendix A of this report are for both validation and verification.

3 VALIDATION FINDINGS

3.1 Project Design

3.1.1 Project scope, type, technologies and measures implemented, and eligibility of the project

The project exists under sectoral scope 14 (AFOLU). As described in Section 4.2 of the VCS AFOLU Requirements, the project falls under the category of Reduced Emissions from Deforestation and Degradation (REDD).

3.1.2 Project proponent

At the time of the site visit, the project proponents were described as Biofílica Investimentos Ambientais S.A., Orsa Florestal S.A. and Jari Celulose, Papel e Embalagens S.A. The audit team confirmed, through the various on-site audit activities undertaken, that the roles and responsibilities of the various project proponents were as stated in the project description. Although Orsa Florestal S.A. and Jari Celulose, Papel e Embalagens S.A. were technically two separate entities, they shared a collective identity as “Grupo Orsa", having a common website (www.grupoorsa.com.br) and public presence under that name. The design of the business cards for employees of both entities prominently displayed the Grupo Orsa mark and name, with no information provided as to whether the individual was employed by Orsa Florestal S.A. or Jari Celulose, Papel e Embalagens S.A.

The cooperation between Biofílica Investimentos Ambientais S.A. and Grupo Orsa in project design and implementation was clearly evident throughout the on-site audit activities. Although the audit team did not deem it necessary to review any legal agreements between Biofílica Investimentos Ambientais S.A. and Grupo Orsa, it was clear to the audit team that both parties are active partners in design and implementation of the project.

Subsequent to the site visit, it was communicated to the audit team that, as one implication of a corporate re-structuring effort, the identity of the entity Orsa Florestal S.A. had been changed to Jari Florestal S.A., the name that is stated in the project description. The audit team was provided with documentation, including news articles, official press release and an attestation from the senior management of the firm now known as Grupo Jari, to substantiate the authenticity of the change in identity. While the entity known as Jari Celulose, Papel e Embalagens S.A. has retained the same name, this entity also holds the “nome fantasia”, or “doing business as” identity of Jari Celulose S.A. Thus, the entities Orsa Florestal S.A. and Jari Celulose S.A., now collectively known as “Grupo Jari”, are two of the entities now known collectively as the project proponent. It is opinion of the audit team that, for the purposes of the project, these entities are functionally equivalent to the entities known as Grupo Orsa at the time of the site visit.

Although the audit team understands that, for contractual reasons, the entities formerly known as Orsa Florestal S.A., Fundação Orsa and Grupo Orsa are now known as Jari Florestal S.A., Fundação Jari, and Grupo Jari, respectively, this report will reference the prior name of each entity where reference is made to observations made or information provided during the site visit, or to official records. This is for purposes of transparency. The reader may wish to read "Orsa Florestal S.A.", "Jari Celulose, Papel e Embalagens S.A.", "Fundação Orsa" and "Grupo Orsa" as "Jari Florestal S.A.", "Jari Celulose S.A.", and "Fundação Jari", respectively.

In full consideration of the above, the audit team agrees that the entities described in the project description have collective "overall control and responsibility for the project", as required by the VCS Program Definitions.

3.1.3 Project start date

As set out in Section 1.5 of the project description, the project start date is justified as the date on which the first first socio-economic and environmental assessment planning meeting was held. It was explained to the audit team that such date was the date when the project proponents started the activities and started moving forward with the project as a whole. In substantiation of the above date, the audit team was presented with receipts demonstrating that airplane tickets and a hotel stay, coinciding with project start date set out in the project description, had been purchased. Given the justification and substantiation provided to the audit team, the audit team concludes that the signing of these initial documents can be reasonably concluded to have commenced the generation of GHG emission reductions or removals by the project, and therefore that the project meets the requirements for project start date set out in Section 3.7.1 of the VCS Standard.

3.1.4 Project crediting period

As described in Section 1.6 of the project description, the initial project crediting period is set at 30 years. This period is consistent with the requirements of Section 3.8.1 of the VCS Standard.

3.1.5 Project scale and estimated GHG emission reductions or removals

As stated in Section 1.7 of the project description, the project is considered a "project" according to the requirements of Section 3.9.1 of the VCS Standard. The project is estimated to result in GHG emission reductions and removals equivalent to 3,450,278.3 tCO_2e over the project crediting period.

3.1.6 Project activities

The project proponents are well-situated to implement the activity entitled "Forest Stewardship Council Certified Management". The audit team confirmed, through review of the relevant Forest Stewardship Council (FSC) website (http://info.fsc.org/; accessed 28 March 2013), that Orsa Florestal S.A. holds several active FSC certificates. Through interviews with project personnel and review of project documentation (including standard operating procedures and the management plan for the project area), the audit team has attained a reasonable level of confidence that the project proponents hold the necessary technical competencies to succeed in the implementation of FSC-certified management in the project area.

The project proponents are also well-situated to implement the project activity entitled “Complementary activities for Reducing Emissions from Deforestation and Degradation”. As indicated to the audit team during the site visit, these activities will be implemented in partnership with Fundação Orsa. The audit team is aware of the strong reputation for planning and implementation of effective social projects which Fundação Orsa has attained. Although the plans for social activities are not yet fully developed, the audit team is reasonably confident as to the ability of the entities involved to implement projects that meet the intended purpose.

3.1.7 Project location

As described in Section 1.9 of the project description, the project is located in the state of Amapá in Brazil. The project conforms to all applicable VCS rules with respect to project location.

3.1.8 Project compliance with applicable laws, statutes and other regulatory frameworks

Through interviews with project personnel, review of project documentation and knowledge obtained prior to the audit, the audit team obtained a reasonable level of confidence as to the competence of Grupo Orsa as a forest management organization. As of the site visit, Grupo Orsa had obtained a wealth of experience in implementing activities similar to the project activity, including those activities with a high potential for conflict (e.g., forest patrolling and enforcement of land tenure), on its holdings in the adjoining state of Para. The activities of Grupo Orsa in the state of Para were demonstrated to be subject to review through FSC auditing (see Section 3.1.6 above) and it was indicated to the audit team that FSC certification is intended for the project area. The oversight inherent in FSC auditing acts as a further check to minimize the risk of violation of applicable laws, statutes and other regulatory frameworks, as all FSC Principle 1 requires certificate holders to “comply with all laws, regulations, treaties, conventions and agreements...” (https://ic.fsc.org/the-ten-principles.103.htm; accessed 9 May 2013).

3.1.9 Ownership and other programs

3.1.9.1 Right of use

The tract of land encompassing the project area is comprised of two parcels, Gleba Porto Salvo and Gleba Santo Antônio da Cachoeira. Each parcel is supported by a “Memorial Descritivo” document (see Section 2.2 above), which indicates that a survey has been conducted and accepted by a government agency (in this case, the municipality of Laranjal do Jari). It is the experience of the audit team that a “memorial descritivo” document provides a reasonable level of confidence regarding the accuracy of ownership boundaries.

It was indicated to the audit team that two GIS shapefiles (one for Gleba Porto Salvo and one for Gleba Santo Antônio da Cachoeira) for the tract of land encompassing the project area had been provided by Orsa Florestal. The audit team compared these shapefiles against the respective memorial descritivo documents by selecting, for each document, a risk-based sample of corner points (as indicated in the document) and comparing the indicated coordinates with the coordinates of the corresponding corner point in the GIS shapefile, with an emphasis on sampling points at the polar extremes of the ownership area. For the Gleba Santo Antônio da Cachoeira shapefile, it was found that there was a shift in the project boundary has been systematically shifted to the northeast by approximately 62 meters, with respect to the coordinates set out in the memorial descritivo document. For the Gleba Porto Salvo parcel,

there was a perfect correspondence in coordinates between the memorial descritivo document and the shapefile.

Because the 62-meter discrepancy in the Gleba Santo Antônio da Cachoeira shapefile appeared to be systematic, it can reasonably be concluded that any resulting bias in area calculations was minimal. The discrepancy between then memorial descritivo document and the shapefile is well within tolerances in the location of property boundaries that are typically considered acceptable in this context.

Finally, the audit team confirmed, through a review of the relevant ownership documents for Gleba Porto Salvo ("Título de Reconhecimento de Domínio No 02/2009", "Certidão de Legitimidade e Autenticidade do Título no 4.000.653/95" and "Certidão de Inteiro teor de Registro de Imóveis"; see Section 2.2 above) that the area described in the "Memorial Descritivo" document for Gleba Porto Salvo is owned in fee simple by Jari Celulose, Papel e Embalagens S. A. The audit team also confirmed, through a review of the relevant ownership documents for Gleba Santo Antônio da Cachoeira ("Título de Reconhecimento de Domínio No 12/2006", "Certidão de Legitimidade e Autenticidade do Título no 4.000.664/95" and "Certidão de Inteiro teor de Registro de Imóveis"; see Section 2.2 above) that the area described in the "Memorial Descritivo" document for Gleba Santo Antônio da Cachoeira is owned in fee simple by Jari Celulose, Papel e Embalagens S. A.

Thus, the audit team has been able to confirm that the project proponent holds right of use over the project area, in accordance with the definition set out in Section 3.11.1(4) of the VCS Standard.

3.1.9.2 Emissions trading programs and other binding limits

As the project has not reduced GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading, this section is not applicable. It is the audit team's understanding that emissions from unplanned deforestation activities in Brazil are not included in any emissions trading programs.

3.1.9.3 Participation under other GHG programs

As the project has not been registered under any other GHG program, this section is not applicable.

3.1.9.4 Other forms of environmental credit sought or received

As the project has not sought or received other forms of environmental credit, this section is not applicable.

3.1.9.5 Rejection by other GHG programs

As the project has not been rejected by any other GHG programs, this section is not applicable.

3.1.10 Additional information relevant to the project

3.1.10.1 Eligibility criteria for grouped projects

This section is not applicable, as the project is not a grouped project.

3.1.10.2 Leakage management for AFOLU projects

As discussed in Section 3.1.6 above, social activities are planned in order to help reduce drivers of deforestation. As evidence of the planned activities, the audit team viewed a work plan and budget. In addition, through interviews with project personnel, the audit team gained additional information regarding the planned activities. While many of these plans are still in the design phase, the audit team is confident that the project team have the necessary technical expertise to implement activities that will reduce leakage attributable to the project.

3.1.10.3 Commercially sensitive information

As no commercially sensitive information was excluded from the public project description, this section is not applicable.

3.1.10.4 Any further information

In accordance with Section 3.7.3 of the VCS AFOLU Requirements, the project's non-permanence risk report was assessed by the audit team. The risk analysis assessment was based on the Version 1.2 of the non-permanence risk report, which is dated 5 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	Validation Findings	Risk Rating
a)	It is not anticipated that any tree planting will take place within the project area, and therefore the factor is not applicable.	0
b)	Although the audit team observed that land invasion has historically been strongly associated with deforestation activities around the project area, this factor is not applicable at this time, as GHG credits have not previously been issued.	NA
c)	The audit team agrees with the conclusion stated in the risk report. Personnel of the entity that was known as Grupo Orsa as of the site visit hold significant experience in the conduct of natural forest management activities in the region, as demonstrated through the Forest Stewardship Council certification of their forest management operation in the neighboring state of Para. During the site visit, Fundação Orsa personnel had a vast wealth of experience in the development of social projects and is therefore ideally suited to assist with those activities. Biofílica Investimentos Ambientais S.A. personnel are competent to carry out the monitoring, GHG accounting and documentation tasks required to facilitate periodic verification audits and ensure that the project remains in accordance with	0

	VCS rules.	
d)	Grupo Orsa and Fundação Orsa are headquartered in the immediate vicinity of the project area. Biofílica Investimentos Ambientais S.A. is headquartered in the city of São Paulo, which is approximately a day's travel from the project area by air.	0
e)	The management team includes an individual, Gabriela Lopes Jorge, with significant experience in AFOLU project design and implementation under the CDM Program (an approved GHG program). The audit team confirmed this through review of the project description and validation report for the project "Vale Florestar. Reforestation of degraded tropical land in Brazilian Amazon", along with a time report confirming Ms. Jorge's work on the project. Additional information has been provided to demonstrate that Carlos Souza Jr. has prior experience in AFOLU project design and implementation under the VCS Program, although it is not clear to the audit team that Carlos Souza Jr. necessarily is "responsible for day-to-day project management and the implementation of project activities" (the criteria for management team members as set out by Section 2.2.1(2) of the AFOLU Non-Permanence Risk Tool). Nonetheless, as Ms. Jorge is a member of the management team, the claimed mitigation risk score is justified.	-2
f)	As documented in the risk report, an adaptive management plan is in place that, together with the documents referenced by the adaptive management plan, complies with the criteria of the AFOLU Non-Permanence Risk Tool. During the site visit, the audit team observed that monitoring programs, particularly with respect to encroachment by outside actors and communities within project area, were actively and effectively carried out.	-2
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero.		**-4**

Financial Viability		
Risk Factor	Validation Findings	Risk Rating
a) b) c) d)	The audit team was provided with a spreadsheet documenting the projected expenditures and revenue streams for the project. The spreadsheet accounted for revenue to Grupo Orsa from forest management activities (projected to begin in 2014) and revenue to Biofílica Investimentos Ambientais S.A. from sale of GHG offset credits. The spreadsheet also accounted for actual and projected expenditures by Grupo Orsa (attributable to planning and implementation of forest management activities), actual and projected expenditures by Biofílica Investimentos Ambientais S.A., and projected expenditures by Fundação Orsa which were extrapolated from the projected expenditures for the first year of operation. The audit team was able to	1

	review the spreadsheet and confirm that the various assumptions made appeared to be reasonable, and that the quantification was performed in accordance with generally accepted accounting principles. Thus, the spreadsheet provided to the audit team supports the assertion that project cash flow breakeven point is between 4 and 7 years from the time of assessment (the third quarter of 2012).	
e) f) g) h)	The audit team was provided with a financial audit report ("Biofílica Investimentos Ambientais S.A.: Demonstrações financeiras em 31 de dezembro de 2011 e 2010"; see Section 2.2 above) indicating the financial standing of Biofílica Investimentos Ambientais S.A.as of December 2011. In addition, the audit team was provided with an attestation from a senior management representative of Biofílica Investimentos Ambientais S.A. ("Declaration of capital destination"; see Section 2.2 above) indicating that, of the funds available to Biofílica Investimentos Ambientais S.A., a sufficient quantity has been earmarked to cover approximately 16% of the total cash out required before the project reaches breakeven.	2
i)	The mitigation risk score was not claimed in the risk assessment.	NA
Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)] Total may not be less than zero.		**3**

Opportunity Cost		
Risk Factor	Validation Findings	Risk Rating
a) b) c) d) e) f)	Through visits with communities surrounding the project area, the audit team confirmed that the majority of baseline activities are subsistence driven. The audit team's findings regarding the expected net impacts on the communities surrounding near the project area are discussed under the "Community Engagement" sub-category.	0
g)	All project proponents are for-profit organizations.	NA
h)	The audit team was not presented with a legally binding agreement as required for the mitigation risk score.	NA
i)	The audit team was not presented with a legally binding agreement as required	NA

	for the mitigation risk score.	
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g or h)] Total may not be less than 0.		**0**

Project Longevity		
Risk Factor	Validation Findings	Risk Rating
a) b)	The audit team was not presented with any legal agreement to continue the management practice. The project longevity of 30 years is covered by a management plan, entitled "Plano de Manejo Florestal Sustaneval" (see Section 2.2 of this report), which has been submitted to the government for approval. This plan complies with all criteria of Section 2.2.4(3) of the AFOLU Non-Permanence Risk Tool. The duration of the plan is 25 years, but the plan is renewable. It will be necessary for future verification audit teams to ensure that the plan is renewed at the appropriate time so that it appropriately covers the 30-year crediting period.	18
Total Project Longevity (PL) May not be less than zero		**18**

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

Land Ownership and Resource Access/Use Rights		
Risk Factor	Validation Findings	Risk Rating
a) b)	The audit team confirmed, during the site visit, that ownership and resource access/use rights were held collectively by Grupo Orsa (see Section 3.1.9.1 above).	0
c)	No disputes over land tenure or ownership were noted by the audit team during the on-site audit activities. The ownership status of the project area is very clearly documented, as described in Section 3.1.9.1 above.	NA
d)	No disputes over access/use rights, or overlapping rights, were noted by the audit team during the on-site audit activities. As no entities other than those entities which comprise the project proponent hold access/use rights over the project area, and as the project area is held in fee simple, the risk of any disputes or	NA

	overlapping rights is very small.	
e)	Not applicable for this project type.	NA
f)	The audit team was not presented with a legally binding commitment to continue management practices that protect carbon stocks over the length of the project crediting period.	NA
g)	As no disputes over land tenure, ownership or access/use rights exist, this item is not applicable.	NA
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e+ f)] Total may not be less than zero.		**0**

Community Engagement		
Risk Factor	Validation Findings	Risk Rating
a)	As per the requirements of the methodology, the project area has been defined to include only the area that has been forested for the last 10 years. As the predominant settlement pattern in the region is to clear for forest to make room for home sites and agricultural enterprise, the project area has therefore been defined so as to exclude any households. As no households are living within the project area, this risk score is not applicable.	NA
b)	The audit team confirmed, through visits to various locations of the project area and interviews with residents of the communities that are located near the project area, that some of the households located within the communities that are located near the project area are dependent on the project area, to varying degrees, as a source of wood. The audit team was able to confirm that, as documented in Section 10 of the project description, consultation was undertaken with over 20% of these households. It should be noted that consultation was also made with non-governmental organizations (e.g., Sindicato dos Trabalhadores Rurais de Vitória do Jari, Instituto de Desenvolvimento Rural do Estado do Amapá (RURAP)), although such organizations are not legally recognized to represent the households.	NA
c)	Through discussions with residents of several communities surrounding the project area, and through interviews with representatives of several local non-governmental organizations that perform important work in the area, the audit team has confirmed that the project is likely to have net positive community impacts over the course of the crediting period. The social activities of the project are likely to result in benefits to the communities that outweigh the negative	-5

	impacts of the project on said communities. While project activities do constrain the expansion of unplanned deforestation into the project area (thus presenting an opportunity cost for residents of communities located near the project area, who may have benefited from the availability of additional land), they are also planned to deter new squatters from entering the area, which may lead to greater stability in the surrounding communities than would have been present in the baseline scenario. In addition, the anticipated project activities are likely to provide substantial benefits for residents of local communities. Thus, the net impacts of the project are likely to be positive. In interviews with residents and representatives of non-governmental organizations, the comments made regarding the project were generally positive. Section 9.2 of the project description contains a reasonable demonstration of net positive benefits on the social and economic well-being of the households who derive livelihoods from the project area.	
Total Community Engagement (CE) [where applicable, (a+b+c)] Total may be less than zero.		**-5**

Political Risk		
Risk Factor	Validation Findings	Risk Rating
a) b) c) d) e)	The audit team assessed the calculation of governance score by downloading the required dataset (on 12 November 2012) and replicating the analysis. As the most recent year of data is 2011, the correct data range should actually be 2007-2011, rather than 2006-2010, as used within the risk analysis. Therefore, the audit team arrived at a slightly different value than that depicted within the risk analysis. However, both governance scores fell within category (c), and therefore the audit team agrees with the assigned risk score.	2
f)	The audit team can confirm that Brazil has an established national FSC standards body, thus meeting at least one of the criteria necessary to claim the mitigation risk score.	-2
Total Political (PC) [as applicable ((a, b, c, d or e) + f)] Total may not be less than zero.		**0**

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

Natural Risk		
Risk Factor	Validation Findings	Risk Rating
F	Although it was communicated to the audit team that no instance of natural fire has been recorded since the purchase of the project area by Grupo Orsa in 2000, it is unknown whether any fires occurred in the project area prior to the date of purchase. However, the audit team can confirm, based on professional experience, that natural fire is practically unknown in the region in which the project area is located. Therefore, the risk is not applicable to the project area.	0
PD	Although it was communicated to the audit team that no instance of pest and disease outbreaks has been recorded since the purchase of the project area by Grupo Orsa in 2000, it is unknown whether any such outbreaks occurred in the project area prior to the date of purchase. However, the audit team can confirm, based on professional experience, that pest and disease outbreaks capable of cause substantial, non-transient losses of carbon (as defined within the AFOLU Non-Permanence Risk Tool) are unknown in "natural forests" (as opposed to plantations) in the region in which the project area is located. Therefore, the risk is not applicable to the project area.	0
W	The audit team agrees that extreme drought is a very rare occurrence in the region surrounding the project area, and that the effect of the largest known drought on carbon stocks, as indicated within the peer-reviewed publication referenced by the risk report, is insignificant. With respect to cyclones and gales, the audit team was able to confirm, through review of the references provided by the risk report, that no cyclones or gales have been noted in the project area over a period of 20 years (1991-2010). The reports referenced are credible, third party sources produced by the Centro Universitário de Estudos e Pesquisas Sobre Desastres (CEPED), and are therefore sufficient to meet the requirements of Section 2.4.1(1) of the AFOLU Non-Permanence Risk Tool. The audit team agrees that, when no cyclones or gales have occurred within the project area in the previous 20 years, the risk of carbon stock damage from such events can be conservatively determined to be insignificant.	0
G	In addition to the information provided within the risk analysis, the audit team was able to review the Brazil Earthquake Information website of the United States Geological Survey's Earthquake Hazards Program (http://earthquake.usgs.gov/earthquakes/world/index.php?regionID=47). From review of this website, it is clear that the region surrounding the project area has a low seismic hazard rating and has experienced no notable historic earthquakes.	0
ON	The audit team has confirmed, through a review of the reference indicated in the risk report, that the frequency of recurrence of large blowdowns in the region surrounding the project area is very low. Thus, when a conservative	0

	extrapolation is made, the audit team agrees that the likelihood of blowdowns can be considered to be "Once every 100 years or more", and therefore the risk can be conservatively considered to be not applicable.	
Total Natural Risk (as applicable, F + PROJECT DESCRIPTION + W + G + ON)		**0**

In summary, the overall risk rating that was determined for the project, in accordance with the VCS Non-Permanance Risk Tool, was 17%. The audit team has concluded that the above risk rating is in conformance with the VCS rules.

3.2 Application of Methodology

3.2.1 Title and Reference

The VCS approved methodology applied to the project (hereafter termed “the methodology”) is entitled the Methodology for Avoided Unplanned Deforestation (VM0015), Version 1.1. As of the date of issuance of this report, the methodology was eligible under the VCS Program. It should be noted that, while the project complies with the prevailing version of the methodology (except as noted in Section 3.2.7 below), the version of the methodology against which the assessment was performed changed during the course of the provision of assessment services, and therefore some findings (described in Section 2.5 above) refer to previous versions of the methodology.

3.2.2 Applicability

The audit team’s conclusions and the justification for such conclusions, regarding the conformance of the project to the applicability conditions of the REDD-MF methodology framework, are summarized below.

Applicability Condition	**Validation Findings**
Baseline activities may include planned or unplanned logging for timber, fuel-wood collection, charcoal production, agricultural and grazing activities as long as the category is unplanned deforestation according to the most recent VCS AFOLU requirements.	Through review of historical satellite imagery acquired for the reference region, which exhibits a “patchwork” pattern characteristic of unplanned deforestation, as well as interviews with members of local communities, the audit team has been able to confirm that the baseline deforestation in the area surrounding the project area can predominately be categorized as unplanned deforestation.
Project activities may include one or a combination of the eligible categories defined in the description of the scope of the methodology (table 1 and figure 2).	The audit team can confirm that the planned project activity is “Protection with controlled logging, fuel wood collection or charcoal production” and the pre-deforestation scenario in the baseline activity is “Old-growth without logging” (category B). The predominant settlement pattern, as documented in

Applicability Condition	Validation Findings
	Section 3.2 of the project description and visually confirmed by the audit team, is one in which undisturbed forest is converted to agricultural land.
The project area can include different types of forest, such as, but not limited to, old-growth forest, degraded forest, secondary forests, planted forests and agro-forestry systems meeting the definition of "forest".	The project area does comprise only of land meeting the definition of forest (see the condition below).
At project commencement, the project area shall include only land qualifying as "forest" for a minimum of 10 years prior to the project start date.	The audit team can confirm that this condition has been met. See Section 3.2.3.2 below for a further description of methods used to confirm such.
The project area can include forested wetlands (such as bottomland forests, floodplain forests, mangrove forests) as long as they do not grow on peat. Peat shall be defined as organic soils with at least 65% organic matter and a minimum thickness of 50 cm. If the project area includes a forested wetlands growing on peat (e.g. peat swamp forests), this methodology is not applicable.	The project area is not known to be located in an area in which peat is present, and the audit team observed no evidence, during the site visit, of conditions that would lead the audit team to believe that peat is located anywhere near the project area.

3.2.3 Project Boundary

The findings of the audit team with respect to the selection of the project boundary, as compared against the requirements of Part 2, Step 1 of the methodology, are as follows.

3.2.3.1 Reference Region

It was determined that no sub-national or national baselines exist, and the audit team was provided with evidence that a workshop and meetings were held with relevant officials from the state governments of Amapa and Para to determine the status of jurisdictional REDD efforts within those states (including determination of whether the state of Amapa has "been divided in spatial units for which deforestation baselines will be developed". As no such division has occurred, a project-specific baseline was developed.

Although the current situation within the project area is expected to change, the reference region was not stratified as required by the methodology, as described in Section 2.6 of the project description. This discrepancy is within the scope of deviations that are allowed under Section 3.5.1 of the VCS Standard, as it is a deviation to the criteria and procedures for measurement of area deforested in the baseline scenario. Given the documented causal relationship between dam construction and deforestation in other areas of the Brazilian Amazon (see Section 3.2.4.3 below for further discussion), it is most likely that the inclusion of such a stratum in this case would result in a greater percentage of area deforested, as

weighted by stratum across the entire reference region, than has been quantified through the analysis undertaken by the project. Therefore, it is the opinion of the audit team that the methodology deviation is unlikely to negatively impact the conservativeness of the quantification of GHG emission reductions.

The following criteria of the methodology, with respect to selection of the reference region, have been met by the project:

Criterion	**Validation Findings**
Agents and drivers of deforestation expected to cause deforestation within the project area in absence of the proposed AUD project activity must exist or have existed elsewhere in the reference region.	On the basis of expert knowledge, the audit team agrees that the baseline agents of deforestation have existed, and continue to exist, elsewhere in the reference region. As indicated above, the reference region does not include a stratum where such a hydroelectric dam was built in the past and where the impact on forest cover was similar to the one expected from the hydroelectric dam expected to develop near the project area.
Landscape configuration and ecological conditions	It was demonstrated to the audit team that the project area is within the required similarity thresholds for the forest/vegetation classes, elevation and slope criteria. This demonstration included replication of the analysis that is reported in Section 2.3 of the project description.
Socio-economic and cultural conditions	On the basis of expert knowledge, the audit team agrees that the legal status of the land and the land tenure (i.e., private ownership) that exists within the project area does exist elsewhere in the reference region (including, as an obvious example, the "Gleba Jari I" property described in Section 2.3 of the project description), and that current and project classes of land-use in the project area are found elsewhere in the reference region. Regarding enforced policies and regulations, the audit team agrees that the main legislation regarding forest use in Brazil is the forest code, a federal law. In addition, while part of the reference region is in the state of Para, part of the reference region is in the state of Amapá, and thus any Amapá-specific forest rules that may impact the project area would also impact a significant proportion of the rest of the reference region.

3.2.3.2 Project Area

As discussed in Section 3.1.9.1 above, the audit team confirmed that the entire project area is under the control of the project proponents. In addition, the audit team confirmed that the entire project area includes area that was forested at the project start date and that also (in accordance with the applicability condition) forested for 10 years prior to the project start date. The audit team confirmed this by observing the replication of the process for delineating the project area, beginning with a single shapefile that was created by combining the two shapefiles discussed in Section 3.1.9.1 above. This shapefile was to exclude all land that was classified, by the PRODES-Digital dataset (described further in Section 3.2.4.1 below), as non-forest from 2000 through 2010. As the data for the year 2010 contained a large quantity of cloud cover, the classification was confirmed through the methods described in Section 3.2.4.1 below. In addition, areas of Eucalyptus plantation that were considered within the PRODES-Digital dataset to be forested were excluded from the project area. The resulting project area was confirmed to equal 65,980 hectares, as stated in the project description.

The boundaries of the project area have been defined unambiguously, as required by the methodology. Please note that the "description of current land-tenure and ownership" and the "List of the project participants" are the same for both of the parcels discussed in Section 3.1.9.1 above, and have been adequately described within the project description.

3.2.3.3 Leakage Belt

The approach used to determine the leakage belt, Option II, is always allowed by the methodology. It was indicated to the audit team that expert opinion, from the project implementing partner Imazon, was used to determine "all relevant criteria that facilitate (at least one criterion) and constrain (at least one criterion) the mobility of the main deforestation agents identified in step 3". The audit team was provided with evidence that the Imazon personnel interviewed for this purpose can be considered experts for these purposes. As demonstrated to the audit team, the criteria that were considered to facilitate and constrain the mobility of deforestations agents were similar to the criteria that were considered to incentivize and constrain deforestation for purposes of the baseline analysis, as discussed in Section 3.2.4.3 below. Through review of the factor maps created for each criterion and the resulting risk map, the audit team is reasonably assured of the "multi-criteria analysis that was undertaken. This analysis revealed that deforestation risk is very low to the north, northwest and northeast of the project area, and thus the leakage belt does not extend in that direction. The leakage belt was clipped to exclude areas lying within three conservation units--Resex Jari, Resex do Cajari and RDS do Rio Iratapuru—that are located partially within the reference region. As explained to the audit team, the presence of the conservation units is considered to constrain the mobility of deforestation agents. On the basis of expert opinion, the audit team agrees that, due to freedom from process-related constraints that encumber land tenure enforcement on private land, the managers of the conservation units are able to enforce the boundaries far more effectively than is possible on private land, such that the land invasion is very difficult to undertake successfully in such areas.

On the basis of the above, the audit team agrees that the leakage belt has been determined in accordance with Option II as described by the methodology. The audit team can confirm, through review of the VCS Project Database (http://www.vcsprojectdatabase.org/; accessed 1 April 2013), that the leakage belt described above does not include the area of a registered VCS AFOLU project.

3.2.3.4 Leakage Management Areas

Through review of spatial information, the audit team was able to confirm that the leakage management areas are not forested. The audit team observed that the boundaries of these areas are defined using the same projection and GIS software formats used for the other boundaries (e.g., project area, reference region, leakage belt). It is the opinion of the audit team that Section 6 of the project description constitutes the "plans related to the proposed AUD project activity" that are required by the methodology.

3.2.3.5 Forest

The project complies with all requirements of Step 1.1.5 of the methodology. The definition of "forest" is specified in Section 2.3 of the project description. The minimum mapping unit of the PRODES-Digital dataset is one hectare, as confirmed through review of Table 1 of the article "Historic emissions from deforestation and forest degradation in Mato Grosso, Brazil: source data uncertainties", by Morton et al. (2011) (accessed at http://www.cbmjournal.com/content/6/1/18/table/T1 on 20 December 2012). The measures used to account for cloud cover are described in Section 3.2.4.1 below).

3.2.3.6 Temporal Boundaries

The start and end dates of the historical reference period comply with the requirements of the methodology. As described in Section 3.1.3 above, the project start date complies fully with the VCS rules. The start and end dates of the first fixed baseline period are defined, as is the duration of the monitoring period.

3.2.3.7 Carbon Pools

The findings of the audit team with respect to the carbon pools included in the project boundary are as follows.

Pool	Included/Excluded	Validation Findings
Above-ground	Tree: included	Included by the methodology
	Non-tree: included	The methodology allows this pool to be included in all cases
Belowground	Included	The methodology allows this pool to be included in all cases
Dead wood	Included	The methodology allows this pool to be included in all cases
Litter	Excluded	As this pool will generally be higher in forest than in agricultural land uses, it is conservative to exclude
Soil organic	Excluded	As this pool will generally be higher in forest than in agricultural land uses, it is conservative to

Pool	Included/Excluded	Validation Findings
carbon		exclude

3.2.3.8 Sources of GHG Emissions

The findings of the audit team with respect to the GHG sources included in the project boundary are as follows.

Source		Gas	Included?	Validation Findings
Baseline	Biomass Burning	CO_2	No	Excluded by the methodology
		CH_4	No	Conservatively excluded, as allowed by the methodology
		N_2O	No	Excluded by the methodology
	Livestock Emissions	CO_2	No	Excluded by the methodology
		CH_4	No	It is conservative to exclude this source in the baseline
		N_2O	No	It is conservative to exclude this source in the baseline
Project	Biomass Burning	CO_2	No	Excluded by the methodology
		CH_4	Yes	The methodology requires that “non-CO2 emissions from forest fires must be counted in the project scenario when they are significant” (page 29); monitoring procedures are included in Section 4.3 of the project description.
		N_2O	Yes	The methodology requires that “non-CO2 emissions from forest fires must be counted in the project scenario when they are significant” (page 29); monitoring procedures are included in Section 4.3 of the project description.
	Livestock Emissions	CO_2	No	Excluded by the methodology
		CH_4	No	Livestock emissions are not expected to occur in the project area, and the methodology does not require accounting of such emissions
		N_2O	No	Livestock emissions are not expected to occur in the project area, and the methodology does not require accounting of such emissions

Source		Gas	Included?	Validation Findings
Leakage	Biomass Burning	CO_2	No	Excluded by the methodology
		CH_4	No	As emissions from biomass burning are excluded from the baseline, the methodology does not require them to be included in accounting of leakage emissions
		N_2O	No	Excluded by the methodology
	Livestock Emissions	CO_2	No	Excluded by the methodology
		CH_4	Yes	Monitoring procedures are included in Section 4.3 of the project description
		N_2O	Yes	Monitoring procedures are included in Section 4.3 of the project description

3.2.4 Baseline Scenario

The audit team's findings with respect to the implementation of Steps 2 through 4 of Part 2 of the methodology are as follows.

3.2.4.1 Step 2

The PRODES-Digital dataset was used to carry out the analysis required by Step 2. The PRODES-Digital dataset uses 30-meter resolution Landsat imagery, and thus complies with the resolution requirements of the methodology. While the methodology contains a warning about the use of "already interpreted data", the audit team has observed that the PRODES-Digital dataset is the product of a government agency (the Ministério da Ciência, Tecnologia e Inovação), is thoroughly documented, and is used in scientific publications (e.g., "Historic emissions from deforestation and forest degradation in Mato Grosso, Brazil: source data uncertainties", by Morton et al. [2011]), and can thus be considered of sufficient integrity to warrant its use in this context. The audit team confirmed that the data used for the baseline analysis is functionally equivalent to the data that was downloaded from the PRODES-Digital website (http://www.dpi.inpe.br/prodesdigital/prodes.php).

SPOT 5 imagery, as accessed via Google Earth, was used to carry out the accuracy assessment required by the methodology. The audit team confirmed, through review of information that can be obtained Google Earth, that the accuracy assessment was limited to locations viewable with SPOT 5 imagery, and that SPOT 5 imagery has a resolution of <5 meters.

The land cover classification system used for the project, as described in Section 2.4 of the project description, is the same as that used by the PRODES-Digital dataset. The classification system used is generally compliant with the methodology. It is relatively simple (i.e., it has only one defined forest class and only one defined post-deforestation class), but such simplicity is justifiable, given that the forests in

the project area are not secondary forest and different types of baseline activities are not expected to have occurred within the project area in the absence of the project.

It should be noted that the methodology indicates that ""Forest-land" will in most cases include strata with different carbon stocks. Forest-land must therefore be further stratified in forest classes having different average carbon densities within each class." While forest-land was stratified into different forest classes, such stratification was not included in the definition of LU/LC classes. However, it is the opinion of the audit team that, to the extent that the project deviated from the requirements of Step 2 of the methodology, such deviation is justified, as it is related to the criteria and procedures for measurement of GHG emission reductions. Carbon stocks in the three defined forest classes were fairly similar, with a 28% difference between the carbon stocks of the highest-stock and lowest-stock strata. Given the similarity in carbon stock values, rather than include the different forest strata as different, LU/LC classes, only one forest LU/LC class was defined. The carbon stock values used for the quantification of baseline GHG emissions in the forest class were weighted average values that were appropriately weighted by the area of each stratum. The same weighted average carbon stock values will be used for the quantification of carbon stock changes attributable to unplanned deforestation in the project scenario, thus maintaining consistency in the quantification of GHG emissions. This weighted average approach results in greatly simplified accounting of baseline and project GHG emissions while not compromising the conservativeness of the quantification of GHG emission reductions. Therefore, it is the opinion of the audit team that the deviation complies with Section 3.5.1 of the VCS Standard.

The description of the land cover classes, including the technical information required by the methodology, is contained within the document "Metodologia para o calculo da taxa annual de desmatamento na Amazonia legal" (http://www.obt.inpe.br/prodes/metodologia.project descriptionf), which is a work product of the PRODES-Digital team.

The PRODES-Digital dataset divides, for each year of coverage, the reference region into polygons representing the areas within the different land cover classes. Through review of document "Metodologia para o calculo da taxa annual de desmatamento na Amazonia legal" (http://www.obt.inpe.br/prodes/metodologia.project descriptionf), the audit team confirmed that geometric and radiometric correction, as required by the methodology, is part of the standard operating procedure for creation of the PRODES-Digital dataset. The PRODES-Digital dataset classifies areas with clouds into a separate category. It was demonstrated to the audit team that cloud removal is undertaken by project personnel using ALOS/PALSAR and COSMO SKY MED imagery. The process of confirming the forest/non-forest status of areas covered by clouds was replicated for the benefit of the audit team using the PRODES-Digital data for 2010 (a year of heavy cloud cover) and COSMO SKY MED.

The audit team reviewed the points used for the accuracy assessment and confirmed the process undertaken to classify the points using high-resolution imagery. In addition, the audit team reviewed the workbook used to calculate the accuracy statistics reported in Section 3.2.4 of the project description and confirmed that the statistics were accurately reported.

Finally, the audit team reviewed the "methodology annex to the PD", as is contained within Section 3.2.4 of the project description, and confirmed that it met all requirements of the methodology.

3.2.4.2 Step 3

Section 3.2.4 of the project description contains a thorough presentation of the information required by Step 3 of the methodology. The audit team has confirmed that all of the information required by the methodology is presented therein. In addition, the information that is presented with respect to agents, drivers and events leading to deforestation is consistent with the experiential knowledge of the audit team regarding areas similar to the project area.

3.2.4.3 Step 4

The “historical average approach” has been used to project future deforestation rate. This is appropriate because, as indicated in Figure 13 of the project description, the yearly deforestation rates during the historical reference period have been so variable that no clear trend exists. Initially, conclusive evidence did not exist to explain the deforestation rates; therefore, as required by Step 4.1.1 of the methodology, additional assessments were undertaken (as documented in the sub-section “(4.1.1 VM0015) Selection of baseline approach” within the project description) to find conclusive evidence explaining the different historical deforestation rates. The audit team agrees that it has been appropriate, in this assessment, to focus extensively on the reactions to the management undertaken by Grupo Orsa in the valley of Jari, given the large proportion of the private forest land in the reference region that is currently owned by Grupo Orsa. The information provided is consistent with the understanding gained by the audit team during the site visit, and is sufficient to constitute the “conclusive evidence” required by the methodology.

As required by the methodology, the location of future deforestation was projected through the creation of factor maps. It was indicated to the audit team that the Land Change Modeler (LCM) program, as implemented within IDRISI, was used to perform this work. Through review of two studies provided to the audit team (Sangermano et al., "Land cover change in the Bolivian Amazon and its implications for REDD+ and endemic biodiversity", Landscape Ecol (2012) 27:571–584; Fuller et al., “Deforestation Projections for Carbon-Rich Peat Swamp Forests of Central Kalimantan, Indonesia”, Environmental Management (2011) 48:436–447), the audit team confirmed that LCM is “internationally peer-reviewed”, as required by the methodology. In addition, the audit team confirmed that LCM is appropriate to project circumstances and complies with all relevant criteria of Section 4.1.6(2)-(6), as required by Section 3.1.4 of the VCS Standard. LCM has been developed by a team of appropriately qualified experts, such as Dr. Ronald Eastman (http://www.clarku.edu/faculty/facultybio.cfm?id=61; accessed 2 April 2013), with the benefit of a large suite of studies in land use and cover change modeling. In the Fuller et al. (2011) manuscript referenced above, LCM was appropriately reviewed and tested and found to perform well. It is the opinion of the audit team that that the LCM can be considered to be a "simpler" (if not completely simple) model for purposes of Section 4.1.6(4)-(6), as its use in the context of the methodology is limited to the prediction of the areas of the reference region in which deforestation will take place. In this context, it is not clear how a "conservative factor" could be applied to discount for uncertainty in the model, and therefore it does not appear that criteria (4)-(6) of Section 4.1.6 apply in this case.

The audit team observed the factor maps “accessibility of new deforestations” and “accessibility of villages”, and confirmed that these products appeared to be reasonable. In addition, the audit team observed the replication of the creation of factor maps “accessibility to sustainable use conservation unit” and “accessibility to secondary roads” within IDRISI.

It should be noted that the approach taken for the production of distance maps is different than that required by the methodology, which requires that that, for the "empirical approach" to creating factor maps, the user "Categorize each Distance Map in a number of predefined distance classes (e.g. class 1 = distance between 0 and 50 m; class 2 = distance between 50 and 100 m, etc.)". The distance maps used for the project contain continuous rather than categorical data, and therefore are not consistent with the methodology. However, the discrepancy is considered to be an appropriate methodology deviation in accordance with Section 3.5.1 of the VCS Standard, as it relates to the criteria and procedures for measurement of area deforested in the baseline scenario. Furthermore, the deviation results in increased accuracy of the prediction of deforestation because it avoids the degradation of accuracy that inevitably accompanies the dissolution of continuous data into categorical data. It appears that perhaps the methodology was written with special consideration of a specific program that only accepts categorical data, but the LCM program can work with both continuous and categorical data, and there does not appear to be a scientifically justifiable reason for the exclusion of continuous data from the analysis required by Step 4.2.1 of the methodology.

As documented in Section 3.2.4 of the project description and as demonstrated to the audit team, the SimWeight algorithm was implemented in IDRISI to automatically assign weights to the various factor maps for production of the risk map. Although the methodology states that “several Risk Maps should be produced using different combinations of Factor Maps and modeling assumptions in order to allow comparison and select the most accurate map”, it is the understanding of the audit team that the term “should”, as used within the context of the VCS Program, does not imply a requirement. It was indicated to the audit team that only one risk map was produced because the risk map that was produced met with the accuracy requirements of the methodology (discussed below). The audit team agrees that, as the risk map was produced automatically through the SimWeight procedure of LCM, and as it complies with the methodology accuracy requirements, it is justifiable not to create additional risk maps.

The calibration and confirmation process described in Section 3.2.4 was shown to the audit team, and the audit team observed the replication of the process used to predict deforestation in 2010 using LCM. The audit team then observed the replication of the process used to compare the map of predicted deforestation in 2010 with the map of actual deforestation in 2010 for purposes of calculating the Figure of Merit statistic. The audit team confirmed the accuracy of all input values for the Figure of Merit statistic, as well as the “net observed change in the reference region”, as defined by the methodology. Finally, the audit team confirmed the accuracy of the calculation of the Figure of Merit statistic and the net observed change. The audit team agrees that the Figure of Merit value is less than the net observed change value.

As described in Section 2.6 of the project description, a “masking” approach was implemented to modify the risk map that was created following the guidance of Step 4.2.2 of the methodology. In this approach, the following maps were combined in IDRISI:

- A map showing the standard deviation of elevation (a continuous variable)
- A binary map showing the locations of conservation units (a categorical variable)
- A “fuzzy” map showing the proximity to the planned location of the Santo Antonio do Jari hydroelectric dam project (a continuous variable)

The maps were combined to create a constraint/incentive map such that the first two maps were considered to constrain deforestation, while the third map was considered to incentivize deforestation. The risk map was modified, using the constraint/incentive map, to produce a final map that was used to implement Step 4.2.4 of the methodology.

Because the masking approach occurs outside the scope of the guidance of the methodology, it must be considered a discrepancy with respect to the methodology. However, it is the opinion of the audit team that the discrepancy should be considered an allowable methodology deviation in accordance with Section 3.5.1 of the VCS Standard, as it is a deviation from the criteria and procedures relating to measurement of baseline deforestation in the project area and leakage belt. The deviation is considered appropriate because it will increase the accuracy of the quantification of baseline GHG emissions, as further described below.

Factor	**Constraint /Incentive**	**Validation Findings**
Standard deviation of elevation	Constraint	The audit team agrees that areas of more variable elevation are generally more difficult to cultivate. In addition, it was indicated to the audit team that the project personnel conducting the analysis have specific knowledge of the reference area to indicate that the areas of more variable elevation are less suitable to cultivate. Most of these areas are in the north of the reference region, where risk of deforestation is relatively low anyway, and are far away from the project area and leakage belt, and therefore the additional constraint imposed will have very little impact on the measurement of baseline deforestation in the project area and leakage belt. However, to the extent that such measurement is affected, its accuracy will be improved slightly.
Locations of conservation units	Constraint	As explained in Section 3.2.3.3 above, laws regulating land tenure are much more effectively enforced in conservation units, such that that land invasion is very difficult to undertake successfully in such areas. Therefore, the audit team agrees that an approach to minimize the quantity of deforestation predicted to occur in these areas will improve the accuracy of the quantification of baseline deforestation within the project area and leakage belt.
Proximity to the planned location of the Santo Antonio do Jari hydroelectric dam project	Incentive	In the creation of factor maps, Step 4.2.1 of the methodology requires that "In case of planned infrastructure (e.g. roads, industrial facilities, settlements) provide documented evidence that the planned infrastructure will actually be constructed and the time table of the construction. In case of planned new roads, road improvements, or railroads provide credible and verifiable information on the planned construction of different segments (e.g. how many kilometers will be constructed, where and when). Evidence includes: approved plans and budgets for the construction, signed construction contracts or at least an open bidding process with approved budgets and finance. If such evidence is not available exclude the planned

Factor	Constraint /Incentive	Validation Findings
		infrastructure from the factors considered in the analysis." In addition, the methodology requires that "If new or improved infrastructure (such as roads, railroads, bridges, hydroelectric reservoirs, etc.) is expected to develop near or inside the project area, the reference region must include a stratum where such infrastructure was built in the past and where the impact on forest cover was similar to the one expected from the new or improved infrastructure in the project area." As the quoted requirement of the methodology has not been followed (as discussed in Section 3.2.3.1 above), it was not possible to confirm the accuracy of predictions regarding the effect of dams on deforestation through the implementation of Step 4.2.3. Therefore, as a proxy for this step, the audit team was provided with evidence that, in locations similar to the reference region, construction of hydroelectric dams has been directly linked with increased likelihood of deforestation. The audit team was provided with evidence, including an installation license from a relevant authority ("Oficio nº 529/2011/DILIC/IBAMA"; see Section 2.2 above) that the Santo Antonio do Jari dam will actually be constructed. The audit team confirmed this through review of several news articles, such as "EDP Wins Brazil Hydro License in Energy Auction; Wind Prices Drop", dated 14 December 2012, by Dow Jones Newswires (http://www.euroinvestor.no/nyheter/2012/12/14/edp-wins-brazil-hydro-license-in-energy-auction-wind-prices-drop/12163987; accessed 11 April 2013). The audit team was also provided with several references substantiating a causal relationship between dam construction and direct and indirect deforestation. Most compelling of these articles is a retrospective case study (Fearnside, Environmental Management (2001) Vol. 27, No. 3, pp. 377–396, "Environmental Impacts of Brazil's Tucuruí Dam: Unlearned Lessons for Hydroelectric Development") on the installation of the Tucuruí dam. The Tucuruí dam, located in the adjoining state of Para, directly caused the deforestation of area flooded by the dam, and indirectly caused deforestation in the surrounding area, as stated on page 382 of that study: "The loss of forest caused by Tucuruí is not limited to the area flooded. Deforestation is also done by persons resettled from the submergence area, plus others who are drawn to the area because of its roads, market, and off-farm employment opportunities (Schmink and Wood 1992). Much of the reservoir shoreline has already been deforested. Deforestation by displaced persons has been greater than it otherwise would have been in the case of Tucuruí because a plague of Mansonia mosquitos caused much of the resettled population in the Gleba Parakana˜ to relocate to a new settlement area along logging roads built by mahogany cutters linking the

Factor	Constraint /Incentive	Validation Findings
		Transamazon Highway with the town of Tucumã." The audit team was provided with references supporting the causal relationship between dam construction and deforestation in other contexts, such as a recent study (Barreto et al., Imazon (2011), "Risco de desmatamento associado à hidrelétrica de Belo Monte"), suggesting that the Belo Monte dam will also lead to such deforestation. The conclusions of the study by Barreto et al. (2011) were developed largely on the basis of relationships observed in the aftermath of the closing of the Belo Monte dam. Finally, the audit team agrees, on the basis of the evidence provided, that the Belo Monte and Tucuruí dams are sufficiently similar to the Santo Antonio do Jari dam to allow for adequate comparisons between the effects of the three projects. All three dams are situated in the same geographical area, and are (by definition) on large rivers that share certain characteristics. On the basis of the above, the audit team agrees that the incentivization of deforestation in areas nearer the planned Santo Antonio do Jari hydroelectric dam will result in increased accuracy of the quantification of baseline deforestation in the project area and leakage belt.

Once a final risk map was produced, this map was used to predict deforestation, for each period, in accordance with Step 4.2.4 of the methodology. The audit team confirmed, through observation of the process of predicting deforestation for the first 10 years of the project, that deforestation was predicted within the reference region for each year of the baseline period (i.e., the first 10 years of the project) so as to correspond to the quantity of deforestation determined using Step 4.1.2.1 of the methodology. The audit team then confirmed that the quantity of deforestation within the project area and leakage belt for the first 10 years of the project was reported accurately.

3.2.4.4 Step 5

Step 5 of the methodology requires the user to "Combine the Maps of Annual Baseline Deforestation of each future year produced in the previous step with the Land-Use and Land-Cover Map produced for the current situation in step 2 to produce a set of maps showing for each forest class the polygons that that would be deforested each year in absence of the AUD project activity." As only one forest LU/LC class was defined (see Section 3.2.4.1 above), these maps (and the tables created from them) are equivalent to the products produced using Step 4 of the methodology.

Only one zone was defined by project. This was considered by the audit team to be appropriate, given the overall homogeneity in deforestation drivers and post-deforestation land uses throughout the reference region, as affirmed through the general knowledge of the audit team. Method 1 option, as described in Step 5 of the methodology, was used to determine the most likely post-deforestation carbon stocks.

However, the areas of each post-deforestation class were not reported, as required by the methodology. Rather, a peer-reviewed publication was used to determine the "equilibrium proportion" of each post-deforestation land use, and a weighted carbon stock value (weighted by the "equilibrium proportion" was sourced from that publication. As discussed in Section 3.2.6.1 below, this procedure is considered appropriate to the audit team. The area of each post-deforestation class in the reference region could have been reported in the format specified by the methodology (this would simply have been the "equilibrium proportion" for each post-deforestation class multiplied by the area of the reference region), but this would have had no impact on the quantification of GHG emission reductions. Therefore, the deviation to the methodology is a deviation to the criteria and procedures for measurement of GHG emission reductions that does not impact the conservativeness of such quantification, and therefore conforms to the requirements of Section 3.5.1 of the VCS Standard.

3.2.5 Additionality

As required by the methodology, VT0001 ("Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities", Version 3.0) has been correctly used to demonstrate additionality. In addition, as required by Section 3.18.2(2), sufficient information has been provided so that a reader can reproduce the analysis and obtain the same results. The audit team's specific comments regarding the demonstration of additionality are as follows.

3.2.5.1 Step 1

The identified land use scenarios identified in Section 2.5 of the project description include those scenarios required by VT0001. The audit team can confirm that all identified land use scenarios are credible and either currently exist (as in scenario (i), as defined within the project description) or could potentially exist (as in scenarios (ii) and (iii), as defined within the project description), given the ownership status of the project area (as described in Section 3.1.9.1 above) and the competency of Grupo Orsa with respect to the forest management enterprise (as discussed in Section 3.1.6 above). The audit team was provided with provisional management plan, "Plano de Manejo Florestal Sustaneval" (see Section 2.2 above), which indicates the intent of Grupo Orsa to proceed with FSC-certified forest management. In addition, as discussed below, a financial analysis has demonstrated the economic feasibility of scenario iii. As reported in Section 2.5 of the project description, scenario ii is not necessarily feasible economically, but is required for inclusion by VT0001.

On the basis of expert knowledge, the audit team can confirm that scenarios (ii) and (iii) comply with all mandatory applicable legal and regulatory requirements. However, as discussed in the project description, scenario (i) does not comply with all mandatory applicable legal and regulatory requirements. Nonetheless, the project description contains a demonstration that the applicable mandatory legal or regulatory requirements are systematically not enforced and that non-compliance with those requirements is prevalent on at least 30% of the area of the state of Amapá (the smallest administrative unit that encompasses the project area). On the basis of expert knowledge and review of some of the references provided, the audit team can confirm that non-compliance with land tenure regulations is widespread in the state of Amapá, particularly on private lands where enforcement opportunities are more limited.

3.2.5.2 Step 2

As the project activity is intended to generate financial or economic benefits other than VCS related income, the audit team agrees that investment comparison analysis in an appropriate analytical tool. The audit team agrees, on the basis of professional judgment, that net present value (NPV) is an appropriate indicator for consideration of forestry investments. The audit team also agrees that it is only appropriate to consider scenarios (ii) and (iii) in the investment analysis, as scenario (i) does not provide produces no costs or revenues for the project proponent. The exclusion of scenario (i) from further analysis does not impact the determination of additionality.

A financial model showing the NPV of the three scenarios considered was provided to the audit team for review. Some data checks were made and no errors in the model were detected.

As required by the additionality tool, the investment analysis has been presented in a transparent manner in Section 2.5 of the project description, with critical economic parameters and assumptions clearly presented and justified. The audit team inquired into the source of assumptions regarding harvest volume, log prices, leasing and production costs, taxes and social activities and found all assumptions to be justifiable. Of particular note was the discount rate of 20% that was used in the analysis, as this rate is much higher than the rates that are typically used for forestry investment analysis in the United States. However, the audit team confirmed that the discount rate is used by Grupo Orsa for internal planning purposes. The audit team can also confirm, through personal experience, that the rate is within the range of rates commonly used for forestry investment analysis in Brazil.

The audit team confirmed that the sensitivity analysis required by the additionality tool was implemented correctly within the financial model. The audit team also undertook an informal sensitivity analysis by changing assumptions within the model (e.g., the real discount rate and the relative volume of timber that can be harvested under scenarios (ii) and (iii)). The audit team confirmed that the profitability rank among scenarios (ii) and (iii) was unchanged by reasonably modifications to the investment assumptions (i.e., scenario (iii) had a higher NPV than scenario (ii) in all cases).

3.2.5.3 Step 3

Step 3 was not required by the additionality tool, as barrier analysis was not elected, and was not completed.

3.2.5.4 Step 4

On the basis of personal experience, the audit team agrees with the determination, as reported in Section 2.5 of the project description, that the activities in the geographical area of the proposed project activity are those undertaken on Grupo Orsa's landholdings in the neighboring state of Para. However, the audit team agrees that the "essential distinctions" between the two activities, as documented in the project description, are sufficient to confirm the additionality of the proposed project activity. Among the arguments advanced, the audit team finds most compelling those related to the distinctions between the social programs undertaken in the state of Para and those that are planned to be undertaken in the state of Amapa. The audit team learned, through discussion with personnel associated with Fundação Orsa, that the social activities included as part of the project activity are planned to be funded separately from

the social activities implemented by Fundação Orsa in the state of Para, thus providing additional confirmation of the project's additionality.

3.2.6 Quantification of GHG Emission Reductions and Removals

3.2.6.1 Quantification of baseline emissions

Baseline carbon stock changes were quantified using the approach mandated by Step 6, Part 2 of the methodology. Baseline carbon stocks were estimated for the forest classes existing within the project area and leakage belt using the existing forest inventory dataset described in Section 3.1 of the project description. As described in the project description, the dataset complies all required criteria for existing data, as set out in Step 6.1.1 of the methodology.

In order to gain a reasonable level of assurance as to the quality of the dataset used to quantify baseline carbon stocks, the audit team observed project personnel measure an inventory plot of the same sampling design as that employed for the existing inventory, in the immediate vicinity of a particular inventory plot. As the plots had not been monumented, it was impossible to re-establish the exact corners of the plot. However, GPS navigation was used to ensure that the two plots (the original and re-measurement) were undertaken in roughly the same area. The audit team observed that the inventory team collected information to a reasonable degree of accuracy. It was indicated to the audit team that Orsa Florestal employs a team of 80 trained, full-time forest inventory professionals. The audit team was provided with the field protocol "PA-MFS 0016, Inventário Florestal Diagnóstico" (see Section 2.2 above) and other documents (e.g., a species code sheet) to indicate the level of training provided to inventory personnel. The audit team observed the inventory personnel to be competent and confident in the quality of their measurements. In addition, the audit team observed that care was taken in the collection of circumference measurements and the ocular estimation of tree height. Therefore, the audit team is reasonably assured as to the quality of the inventory measurements collected.

The audit team assessed the model used to estimate the fresh biomass of each tree, which was derived from a study conducted in the Brazilian Amazon (Higuchi et al., "Biomassa da parte aérea da vegetação da floresta tropical úmida de terra-firme da Amazônia Brasileira", Acta Amazonica (1998) 28(2): 153-166), against the criteria of Section 4.1.6(2)-(6) of the VCS Standard, as required by Section 3.1.4 of the VCS Standard. The audit team confirmed that the study by Higuchi et al. was peer reviewed (as Acta Amazonica is a peer-reviewed journal) and is appropriate to project circumstances (having been conducted in the Brazilian Amazon). The input parameter of the model, diameter at breast height, has been identified as an important driver of biomass through a large suite of studies in tree allometry. Although the model does not contain any procedures to assess and account for uncertainty, it is understood by the audit team that, as the model is a relatively "simple" model, the criteria of Section 4.1.6(4)-(6) are not applicable.

A factor of 0.5997 was used to convert fresh biomass into dry biomass, as described in Section 3.1 of the project description. The audit team assessed this factor against Section 4.5.6 of the VCS Standard, as required by Section 3.1.5 of the VCS Standard. The audit team confirmed that the methods used to create the factor were reasonable, and that the data were collected from a credible, peer-reviewed secondary source (the Higuchi paper described above). In addition, as described above, the data are appropriate to the methodology's scope.

In addition, a suite of default factors were used to quantify biomass in belowground biomass, trees with a diameter at breast height lower than 10 centimeters, palm trees, vines, dead above-ground biomass and non-tree components, as described in Section 3.1 of the project description. All of these factors were sourced from a peer-reviewed secondary source (Nogueira et al., "Estimates of forest biomass in the Brazilian Amazon: New allometric equations and adjustments to biomass from wood-volume inventories", Forest Ecology and Management 256 (2008) 1853–1867), and are specific to the Brazilian Amazon. Therefore, they are also considered to comply with Section 4.5.6 of the VCS Standard.

The audit team traced the process of calculation of carbon stocks from the raw data, as provided by Grupo Orsa, through the calculation of plot-level aboveground biomass in an Access database and the quantification of biomass across the reference region using a "kriging" approach as implemented in Matlab, and finally resulting in forest-type-level carbon stock estimates that were averaged to produce the final carbon stock estimate for the project area and leakage belt. The audit team confirmed that no material errors existed in this process. The audit team did note that three tree records were apparently dropped (apparently inadvertently) from the data as originally provided by Grupo Orsa, but this constitutes a discrepancy that was not quantitatively material.

In the kriging approach described previously, a method described by Wang et al. ("Modeling Spatial Means of Surfaces With Stratified Nonhomogeneity", IEEE Transactions on Geoscience and Remote Sensing, Vol. 47, No. 12, December 2009) was used to produce an estimate, and associated standard error, for aboveground biomass within the project area. While less conventional than other approaches, this method is statistically defensible, and the audit team confirmed, through review of Matlab script, that the method was appropriately implemented. In addition, estimated average biomass from the kriging approach was similar to that which would have resulted from application of the standard simple random sampling equations, thus providing additional assurance of the correctness of the approach. Because the total of each forest type, as estimated through the methods described above, was less than 10% of the estimated average biomass for that type, no uncertainty adjustment was required by Step 6.1.1, Part 2 of the methodology.

As allowed by the methodology, the project uses values from the literature to estimate the post-deforestation classes projected to exist in the project area in the baseline and project scenarios case (the same estimate is used in all cases). As described in Section 3.1 of the project description, the carbon stock estimate is derived from a study by Fearnside ("Amazonian deforestation and global warming: carbon stocks in vegetation replacing Brazil's Amazon forest", Forest Ecology and Management 80(1996):21-34). The audit team confirmed that the estimate is equal to the weighted average of the biomass values presented in Table 4 of the Fearnside study, with the weights being the equilibrium proportion, as also derived in that study. The audit team affirms that the values in the study are sufficiently accurate, being specific to the Amazon region, and conservative in that they represent the author's estimate of the long-term average carbon stock, which is likely to be somewhat higher than the immediate post-deforestation carbon stock in that allowance is made for some regrowth into forest. The audit team agrees with the determination, as documented in Section 3.1 of the project description, that the derivation of the default values from the Fearnside study is consistent with Section 4.5.6 (as referenced indirectly by Section 3.1.4) of the VCS Standard. The weighted average biomass value was then converted into CO2-equivalent and increased by 30%, as required by the methodology, in order to deal account for uncertainty.

Finally, calculation of carbon stock change factors was undertaken as required by Steps 6.1.2 and 6.1.3 of Part 2 of the methodology. Because the use of procedures to account for decay in some carbon pools over time increased the difficulty of the analysis and thus signified a higher risk of material error, the audit team replicated the entire analysis. The audit team's calculated values matched those presented in the project description in all respects, thus confirming the accuracy of the quantification of carbon stock changes in the baseline.

The audit team has confirmed, through review of the relevant Excel spreadsheets, that the ex ante estimate of baseline emissions has been correctly quantified.

3.2.6.2 Quantification of project emissions

As described within Section 3.2 of the project description, while most of the project area is anticipated to remain forested in the project scenario, a small quantity of deforestation will likely be necessitated in order to allow access to harvest the project area. The audit team confirmed that the number of hectares as reported, in the project description, to be deforested in each year of the project were sourced from the document "Estimativa de abertura de áreas nas UPAs do PMFS do Amapá" (see Section 2.2 above), as required by the methodology. Although some quantity of temporary carbon stock loss may be attributed to the actual act of timber harvest, it was indicated to the audit team that accounting for such loss was omitted in the project scenario. The audit team agrees that carbon stock changes attributable to harvesting in the project scenario may be negligible, as the planned harvest intensity for each UPA as fairly light (20 cubic meters per hectare, over approximately 50% of each UPA, on a 10-year entry cycle). However, the project does have procedures to monitor such carbon stock changes, as discussed in Section 3.2.8 below. Thus, carbon stock changes attributable to planned project activities have been appropriately estimated in accordance with Step 7.1.1 of the methodology.

As required by Step 7.1.2 of the methodology, a conservative adjustment has been applied to consider unplanned deforestation that may occur in the project scenario. The audit team affirms that the approach undertaken to perform this adjustment ex ante is reasonable, with the understanding that actual unplanned deforestation will be monitored, and accounted for, ex post.

The audit team has confirmed, through review of the relevant Excel spreadsheets, that the ex ante estimate of project emissions has been correctly quantified.

3.2.6.3 Quantification of leakage

In accordance with Section 3.6.4 of the VCS AFOLU Requirements, the quantity of market leakage caused by the project was assessed at validation. The information upon which the market leakage assessment was based is contained within project description.

The market leakage assessment findings and conclusion are as follows.

The methodology does not contain require accounting of market leakage. Therefore 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_2e over the project crediting period. The audit team has concluded that the reporting of market leakage emissions is in conformance with the VCS rules and the methodology.

As no carbon stock changes or GHG emissions are planned to be attributable to leakage prevention activities, Step 8.1 of the methodology does not require such leakage emissions to be estimated. However, the project does have procedures to monitor such carbon stock changes and GHG emissions, as discussed in Section 3.2.8 below. In accordance with Step 8.2 of the methodology, a "leakage displacement factor" has been applied for ex ante estimation of activity shifting leakage for each year of the project. The audit team agrees that approach undertaken to estimate activity shifting leakage is reasonable and conforms to the requirement of the methodology that "where leakage prevention activities are implemented the factor shall be equal to the proportion of the baseline agents estimated to be given the opportunity to participate in leakage prevention activities and project activities".

The audit team has confirmed, through review of the relevant Excel spreadsheets, that the ex ante estimate of leakage emissions has been correctly quantified.

3.2.6.4 Summary of GHG emission reductions or removals

The ex ante quantification of GHG emission reductions was conducted in accordance with the requirements methodology. The audit team has confirmed, through review of the relevant Excel spreadsheets, that the ex ante quantification of GHG emission reductions was implemented correctly.

3.2.6.5 Uncertainties associated with the calculation of emissions

Uncertainties related to the carbon stock estimates used to quantify baseline carbon stock changes was assessed as described in Section 3.2.6.1 above. The methodology does not require any further adjustments related to statistical uncertainty of emissions.

3.2.7 Methodology Deviations

The following deviations have been proposed in the application of the methodology by the project:

- The reference region has not been stratified, even though the current situation is expected to change within the project area, due to construction of the hydroelectric Santo Antonio dam (see Section 3.2.3.1 above).

- While the Santo Antonio hydroelectric dam is expected to develop near the project area, the reference region does not include a stratum where hydroelectric dam infrastructure was built in the past and where the impact on forest cover was similar to the one expected from the new or improved infrastructure in the project area (see Section 3.2.3.1 above)

- The LU/LC classification system employed only includes one forest class (see Section 3.2.4.1 above).

- The distance maps used for predicting the location of unplanned deforestation, which are produced using the "empirical approach", are not categorized in a number of predefined distance classes but rather use continuous data (see Section 3.2.4.3 above).

- A "masking" approach was implemented to modify the risk map that was created following the guidance of Step 4.2.2 of the methodology (see Section 3.2.4.3 above).

- A minor deviation was employed in not reporting the area each post-deforestation LU/LC class, as required by Step 5 of the methodology (see Section 3.2.4.4 above).

All of the deviations described above are considered by the audit team to conform to the requirements of Section 3.5.1 of the VCS Standard, as described more fully in the relevant sections.

3.2.8 Monitoring Plan

3.2.8.1 Data and parameters available at validation

Section 4.1 of the project description contains a concise summary of data and parameters available at validation. Between the information and this section and that available elsewhere in the project description (e.g., the tables indicating baseline deforestation for the duration of the baseline period), all of the data and parameters available at validation have been thoroughly documented.

3.2.8.2 Data and parameters monitored

Section 4.2 of the project description contains a thorough list of all the data and parameters to be monitored, which includes all of the information needed for monitoring until the end of the first baseline period.

3.2.8.3 Applicability and eligibility of monitoring equipment and procedures

The monitoring plan contains all of the information required by the VCS Standard and the methodology. The procedures for monitoring of land-use and land-cover change are very similar to those that have been approved at validation, and the “methodology annex to the PD” provided within Section 2.4 of the project description will also serve to inform future monitoring of land-use and land-cover change. The procedures for monitoring of carbon stock changes following harvest are clearly described in the monitoring plan, and the audit team was able to confirm, through review of document “PA-MFS 003, Parcelas Permanentes” (see Section 2.2 of this report), that the monitoring protocol for these procedures is complete and appropriate. The procedures for monitoring carbon stock changes due to unavoidable unplanned deforestation within the project area and leakage belt are also described. These procedures are consistent with the procedures set out in Part 2, Step 6.1.3 of the methodology for quantification of carbon stock change in the baseline scenario, and therefore conform to the VCS principle of consistency, as described in Section 2.4.1 of the VCS Standard. The monitoring plan also contains procedures for monitoring of emissions from leakage management activities that conform to the requirements of the methodology. The procedures for monitoring of project implementation and overall quality control are appropriate to the task. Finally, as required, the monitoring plan contains a brief description of procedures for conducting the baseline update.

3.3 Environmental Impact

Section 5 of the project description contains a great deal of information regarding the anticipated environmental impacts of the project. The audit team agrees that the planned FSC certification will help to ensure that any such impacts are minimized to the extent possible.

3.4 Comments by stakeholders

The stakeholder consultations undertaken by the project proponent are appropriately documented in Section 10 of the project description. The audit team was able to discuss the project with residents of nearby communities and representatives of non-governmental organizations working in the area, as documented in Section 2.3 above. The comments provided by these individuals regarding the project were generally favorable.

4 VALIDATION CONCLUSION

The project conforms with the validation criteria for projects, as set out in the VCS Version 3 guidance documents referenced in Section 1.2 of this report. No qualifications or limitations exist with respect to the validation opinion reached by the audit team.

The project is likely to achieve the estimated GHG emission reductions and removals that are described in the project description.

APPENDIX A: LIST OF FINDINGS

Note: Because the validation and verification audits were conducted concurrently, the findings issued for the two audits were not separated. Therefore, the findings documented below may pertain solely to the validation audit or solely to the verification audit, or may apply equally to both audits.

NCR 2012.1 dated 10/10/2012

Standard Reference: VCS Standard V3.3, Sec. 3.18.1; Project Description Template, V3.1

Document Reference: AMAPA_Plan_de Gestao_English.pdf

Finding: The VCS Standard requires that "The project and its context shall be described in the project description using the VCS Project Description Template (or approved GHG program project description template where the project is requesting registration under an approved GHG program)". A new version of the Project Description Template (V3.1) was released on 4 October 2012 and is effective immediately. Therefore, use of the out-of-date template constitutes a non-conformity with respect to the VCS rules.

Client Response: [No response to this finding was necessary.]

Auditor Response: Subsequent to the issuance of this finding, the audit team received written confirmation from VCSA, on 29 October, indicating that a grace period has been instated with respect to the use of a pre-existing version of the template referenced by this finding. Therefore, the project is in conformance with the cited requirement of the VCS rules, and the finding may be withdrawn.

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

NCR 2012.2 dated 10/10/2012

Standard Reference: VCS Standard V3.3, Sec. 3.18.2(1)(e)

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 1.12.3 and 1.12.5

Finding: The VCS Standard requires that the PD contain "an indication of whether the project has been registered or rejected under any other GHG program and provision of information relevant to the demonstration of compliance with VCS requirements with respect to such". Under Sections 1.12.3 and 1.12.5 of the PD (which have the headers "Participation In Other GHG Programs" and "Projects Rejected by Other GHG Programs", respectively), the PD states "Does not apply." While it is understood that the above implies that the project has not been registered or rejected under any other GHG program, the PD nonetheless does not contain an explicit indication of whether the project has been registered or rejected under any other GHG program.

Client Response: Corrections were made, and the following is now statet under the section 1.12.3 of the PD: "The Jari/Amapá REDD+Project has not been registered under any other GHG program. However, the Project proponents intend on submitting this project to validation/verification under the CCB Standard

(Climate, Community and Biodiversity Standard). It is important to mention that the CCB Standard does not issue or register any type of carbon certificates. Also, currently there is no national or international REDD+ regulatory regime applicable to the Jari/Amapá REDD+Project. However, the Jari/Amapá REDD+ Project is being developed in order to integrate and comply with possible future regulatory regimes."; Under the Section 1.12.5 the following was stated: "The Jari/Amapá REDD+Project has not been submitted to validation/verification under any other GHG Program. Therefore, it has not been rejected by any other GHG Program."

Auditor Response: The PD submitted for review on 8 January 2013 contains a clear indication that the project has not been registered or rejected under any other GHG program. Therefore, the non-conformity has been resolved.

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

NCR 2012.3 dated 10/10/2012

Standard Reference: VCS Standard V3.3, Sec. 3.18.2(1)(e)

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 1.12.4

Finding: The VCS Standard requires that the PD contain "a demonstration that the project neither has nor intends to generate other forms of GHG related environmental credits for VCUs claimed under the VCS Program (noting that the project may be registered under the VCS Program and another GHG program, as set out in Section 3.11.4)". Under Section 1.12.4 of the PD (which has the header "Other Forms of Environmental Credit"), the PD states "Does not apply." While it is understood that the above implies that the project has not generated (and does not intend to generate) other forms of GHG related environmental credits for VCUs claimed under the VCS Program, the PD nonetheless does not contain an explicit demonstration that the project neither has nor intends to generate other forms of GHG related environmental credits for VCUs claimed under the VCS Program.

Client Response: Corrections were made in the PD, under section 1.12.4, whith an explicit declaration that Jari/Amapá REDD+Project neither has nor intends to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program.

Auditor Response: The PD submitted for review on 8 January 2013 contains an attestation that the project neither has nor intends to generate other forms of GHG related environmental credits for VCUs claimed under the VCS Program. Although it is always difficult to know how to demonstrate the absence of a condition (in this case, the condition being that the project has generated or intends to generate other forms of GHG related environmental credits), it is clear to the audit team that such a condition is highly unlikely in the context of the project. Therefore, the attestation within the PD is considered sufficient to comply with the requirement of the VCS Standard, and the non-conformity can be considered to be resolved.

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

NCR 2012.4 dated 10/10/2012

Standard Reference: VCS Standard V3.3, Sec. 3.1.3

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 1.12.4, Sec. 2.1

Finding: The VCS Standard requires that "Projects shall apply methodologies eligible under the VCS Program... The list of methodologies and their validity periods is available on the VCS website." The PD states that the project applies the methodology "VCS Approved Methodology VM0015 – Methodology for Avoided Unplanned Deforestation, version 1.0". The webpage for the VM0015 methodology (http://v-c-s.org/methodologies/VM0015), accessed on the date of issuance of this finding, states "As of 30 September 2012, VM0015, v1.0 is no longer valid. Projects that have not completed validation by 30 September can no longer apply VM0015, v1.0." Therefore, at this time the VM0015 methodology is not an eligible methodology under the VCS Program.

Client Response: As a new version of the methodology has been released, the finding is no longer relevant and will be closed.

Auditor Response: Version 1.1 of the VM0015 methodology was approved by VCSA on 3 December 2012. Therefore, at this time, VM0015 is an eligible methodology under the VCS Program, and the non-conformity has been resolved. However, it should be noted that the project must now be assessed against Version 1.1 of the methodology, thus signifying a change to the assessment criteria.

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

NCR 2012.5 dated 10/10/2012

Standard Reference: VM0015 V1.0, Part 1, Sec. 2(d)

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 1.12.4, Sec. 2.2 and Fig. 10; Limits of REDD+ Jari-Amapá Project.kml

Finding: The methodology requires that "At project commencement, the project area shall include only land qualifying as "forest" for a minimum of 10 years prior to the project start date."

The PD states that "Only areas qualified as "forest" for a minimum of 10 years prior to the Project starting date have been included in the Project area (Figure 10)." However, Figure 10 indicates that the project area contained some area labeled as "deforestation", both in 2000 and 2010. This has been further supported by the KML file that has been provided, which (when viewed in Google Earth) clearly shows that the project area includes some land that has been converted to a non-forest land type. Therefore, it does not appear that the project area, as shown in Figure 10, conforms to the applicability condition.

Client Response: Changes were made in the Figure 10: deforestation that ocurred until 2010 was included and it is now clear that Project Area includes only area covered by forest between 2000 and 2010. The vetorial arquive forest_cover_benchmark_PA.shp used to creat Figure 10 was made available

to the auditor.

Auditor Response: During the site visit, it was clarified to the audit team that the project area does exclude area that was deforested prior to 2010, and the audit team was able to observe replication of the process used to delineate the project area. As shown within the PD submitted for review on 8 January 2013, Figure 10 has been adjusted to more clearly show the project area as excluding areas of prior deforestation, and this should limit the potential for any future confusion. Therefore, the non-conformity has been resolved.

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

NCR 2012.6 dated 10/10/2012

Standard Reference: VCS Standard V3.3, Sec. 3.18.2(2); VM0015 V1.0, Part 1, Sec. 3; VT0001 V3.0, Sec. 2.1.2

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 1.12.4, Sec. 2.5

Finding: The VCS Standard requires that "a demonstration of additionality" by contained within the PD and that "with respect to the demonstration of additionality, sufficient information shall be provided so that a reader can reproduce the analysis and obtain the same results". The methodology requires that "Additionality of the proposed AUD project activity must be demonstrated using either the most recent VCS-approved 'Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities'". The VCS-approved "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities" (VT0001) requires that, in sub-step 1b, the user "Demonstrate that all land use scenarios identified in the sub-step 1a: are in compliance with all mandatory applicable legal and regulatory requirements" and that "If an alternative does not comply with all mandatory applicable legislation and regulations then show that, based on an examination of current practice in the region in which the mandatory law or regulation applies, those applicable mandatory legal or regulatory requirements are systematically not enforced and that non-compliance with those requirements is widespread, i.e., prevalent on at least 30% of the area of the smallest administrative unit that encompasses the project area".

The analysis within the PD indicates that "The practices of the scenario (i) are not in compliance with applicable mandatory legislation and regulations." The PD also contains evidence that deforestation is common throughout the Amazon region. However, the PD does not specifically contain evidence that regulatory requirements are systematically not enforced and that non-compliance with relevant laws is "widespread, i.e., prevalent on at least 30% of the area of the smallest administrative unit that encompasses the project area", as required.

Client Response: The following was added to the step 1b of the PD: "Acording to Higuchi et al (2009) from 1997 to 2003 the authorized/ unauthorized deforestation rate was 19%, that is, from all deforestation carried in the Brazilian Amazon, 81% was not authorized by the Public Power". Figure 28 was added, showing all illegal deforestation occurred in all municipalities of Amapá State in the period between 2002 and 2009. This evidences that regulatory requirements are systematically not enforced and that non-

compliance with relevant laws is "widespread, i.e., prevalent on at least 30% (100% of the municipalities of Amapá State) of the area of the smallest administrative unit (Amapá State) that encompasses the project area".

Auditor Response: The PD that was submitted on 8 January 2013 contains a demonstration that non-compliance with land use laws is present in every municipality within the state of Amapa, as at least 2,000 ha were illegally deforested within every municipality within the state of Amapa. However, this does not constitute a demonstration that non-compliance with land use laws is prevalent in every municipality within the state of Amapa. Additional evidence will be required to show that non-compliance with land use laws is prevalent in every municipality within the state of Amapa.

Client Response 2: A demonstration that non-compliance with land use laws is prevalent in every municipality within the state off Amapá was added to the PD.

Auditor Response 2: The additional information that has been added to the PD is sufficient to demonstrate that non-compliance with relevant land-use laws is prevalent throughout Amapa, including the specific municipalities in which the project area is situated. The information provided complements the findings of the audit team during on-site audit activities. Therefore, the non-conformity has been resolved.

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

NCR 2012.7 dated 10/10/2012

Standard Reference: VCS Standard V3.3, Sec. 3.18.2(2); VM0015 V1.0, Part 1, Sec. 3; VT0001 V3.0, Sec. 2.2.5

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 1.12.4, Sec. 2.5

Finding: The VCS Standard requires that "a demonstration of additionality" be contained within the PD and that "with respect to the demonstration of additionality, sufficient information shall be provided so that a reader can reproduce the analysis and obtain the same results". The methodology requires that "Additionality of the proposed AUD project activity must be demonstrated using either the most recent VCS-approved 'Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities'". The VCS-approved "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities" (VT0001) requires that the user "Present the investment analysis in a transparent manner and provide all the relevant assumptions in the VCS AFOLU project description, so that a reader can reproduce the analysis and obtain the same results. Clearly present critical economic parameters and assumptions (such as capital costs, lifetimes, and discount rate or cost of capital). Justify and/or cite assumptions in a manner that can be validated." The end results of the investment analysis are presented in the PD. However, all the relevant assumptions and critical economic parameters have not been presented in the PD, and therefore it is not possible for a reader to reproduce the analysis and obtain the same results.

Client Response: All the relevant assumptions and critical economic parameters are now presented in the PD, and therefore it is possible for a reader to reproduce the analysis and obtain the same results.

Auditor Response: From review of the PD provided on 8 January 2013, it is clear that all of the relevant assumptions have been adequately documented. In addition, the critical economic parameter in the analysis, the discount rate, has been justified in a manner that can be validated. Therefore, the non-conformity has been resolved.

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

NCR 2012.8 dated 10/10/2012

Standard Reference: AFOLU Requirements V3.3, Sec. 3.7.3; Non-Permanence Risk Report Template, V3.1

Document Reference: AMAPA_Risk analysis and buffer determination.pdf

Finding: The VCS Standard requires that "The project and its context shall be described in the project description using the VCS Project Description Template (or approved GHG program project description template where the project is requesting registration under an approved GHG program)". A new version of the Non-Permanence Risk Report Template (V3.1) was released on 4 October 2012 and is effective immediately. Therefore, use of the out-of-date template constitutes a non-conformity with respect to the VCS rules.

Client Response: The newest version of the Non-permancence risk Report template (version 3.1) is now in use.

Auditor Response: While the footer of the risk report provided on 8 January 2013 continues to state "v3.0", the substantive changes made to the Non-Permanence Risk Report Template in the new Version 3.1 appear to have been incorporated into the risk report, including changes to the titles of risk sub-categories and the addition of a new risk factor in the Land Tenure and Resource Access/Impacts sub-category. The audit team considers this sufficient to demonstrate adoption of the updated Non-Permanence Risk Report template, and thus the discrepancy has been resolved.

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

NCR 2012.9 dated 10/10/2012

Standard Reference: VCS Standard V3.3, Sec. 3.16.6; Non-Permanence Risk Report Template, V3.2

Document Reference: Amapa_MonitoringReport.pdf

Finding: The VCS Standard requires that "The monitoring report shall... be prepared using the VCS Monitoring Report Template...". A new version of the Monitoring Report Template (V3.2) was released on 4 October 2012 and is effective immediately. Therefore, use of the out-of-date template constitutes a non-conformity with respect to the VCS rules.

Client Response: [No response to this finding was necessary.]

Auditor Response: Subsequent to the issuance of this finding, the audit team received written confirmation from VCSA, on 29 October, indicating that a grace period has been instated with respect to the use of a pre-existing version of the template referenced by this finding. Therefore, the project is in conformance with the cited requirement of the VCS rules, and the finding may be withdrawn.

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

NCR 2012.10 dated 10/10/2012

Standard Reference: VCS Standard V3.3, Sec. 3.18.2(7)

Document Reference: AMAPA_Plan_de Gestao_English.pdf

Finding: The VCS Standard requires that the PD contain "a demonstration that net GHG emission reductions or removals generated by the project will not be used for compliance with an emission trading program or to meet binding limits on GHG emissions". The PD does not contain such a demonstration.

Client Response: Under the section 1.12.2 of the Project Description, the following was be stated: " Brazil is a non-Annex I country under Kyoto Protocol and does not have any GHG reduction commitments under the Convention. Moreover, Jari/Amapá REDD+ Project does not have any project related to carbon credit generation under the CDM or other regulatory scheme within the project area."

Auditor Response: The PD submitted for review on 8 January 2013 contains an adequate demonstration that net GHG emission reductions or removals generated by the project will not be used for compliance with an emission trading program or to meet binding limits on GHG emissions, as required by the VCS Standard. Therefore, the non-conformity has been resolved.

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

NCR 2012.11 dated 10/10/2012

Standard Reference: VM0015 V1.0, Part 3

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 4.3

Finding: The methodology requires that the user "Prepare a Monitoring Plan describing how these tasks will be implemented. For each task the monitoring plan must include the following sections:

a) Technical description of the monitoring tasks.

b) Data to be collected (see appendix 5).

c) Overview of data collection procedures.

d) Quality control and quality assurance procedures.

e) Data archiving.

f) Organization and responsibilities of the parties involved in all the above"

The monitoring plan does include the above sections for each of the required tasks.

Client Response: The section 4.3 in PD has been updated to include the sections for each of the required tasks.

Auditor Response: Through review of the PD submitted on 8 January 2013, it is clear that the monitoring plan has been re-organized according to methodology requirements. Therefore, the non-conformity has been resolved.

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

NIR 2012.12 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 1.1.1

Document Reference: NA

Finding: The methodology requires that "If no such applicable sub-national or national baseline is available, the national and, where applicable, sub-national government shall be consulted to determine whether the country or sub-national region has been divided in spatial units for which deforestation baselines will be developed. If such divisions exist and are endorsed by the national or sub-national government, they must be used to determine the boundary of the reference region." While it has been appropriately determined that no applicable sub-national or national baseline is available, the audit team has not yet been provided with evidence that the national and, where applicable, sub-national government has been consulted to determine whether the country or sub-national region has been divided in spatial units for which deforestation baselines will be developed. Please provide such evidence.

Client Response: [Response to this finding, which was issued verbally at the close of the site visit, was provided via email and Dropbox transmissions dated 8 November 2012.]

Auditor Response: In response to this finding, the audit team was provided with documentation (including a website post, a signed attendance log and meeting minutes) demonstrating that a workshop and meetings were held with relevant officials from the state governments of Amapa and Para. Furthermore, the audit team is familiar with developments in REDD in Central and South America, and the audit team is aware of no instances in which jurisdictional baselines have begun to be developed in Brazil. Therefore, it is clear that government officials have been consulted, as necessary, to ascertain whether the country of Brazil or the state of Amapa have been divided in spatial units for which

deforestation baselines will be developed, and that such division has not occurred.

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

NCR 2012.13 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 1.1.1

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 65

Finding: The methodology requires that "Where the current situation within the project area is expected to change (e.g. because of population growth, infrastructure development or any other plausible reason), the reference region should be divided in i strata, each representing proxies for the chrono-sequence of current and future conditions within the project area." The methodology also requires that "If new or improved infrastructure (such as roads, railroads, bridges, hydroelectric reservoirs, etc.) is expected to develop near or inside the project area, the reference region must include a stratum where such infrastructure was built in the past and where the impact on forest cover was similar to the one expected from the new or improved infrastructure in the project area."

During the site visit, it was indicated to the audit team (and described in the PD) that a hydroelectric reservoir is currently being constructed on the Jari River, and the project proponents stated that this reservoir is expected to bring more people and, thus, more potential for deforestation, to the reference region. However, the reference region is currently not divided in multiple strata. In addition, the reference region does not include a stratum where hydroelectric infrastructure has been built in the past and where the impact on forest cover was similar to the one expected from the new hydroelectric infrastructure in the project area.

Client Response: The section 2.6 of PD was modified to include a methodology deviation related to the definition of the reference region as per Step 1.1.1 of VM0015.

Auditor Response: The proposed deviation is acceptable to the audit team, provided that the conservativeness of the estimation of GHG emission reductions and removals is not negatively impacted. The audit team's justification for allowing the methodology deviation will be described in the validation report.

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

NCR 2012.14 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 2.6; VCS Standard V3.3, Sec. 2.2.1

Document Reference: NA

Finding: The methodology requires the preparation of a specific "methodology annex" to the PD. It was

indicated to the audit team during the site visit that the required methodology annex was not prepared in accordance with the specific requirements of Step 2.6, Part 2 of the methodology. Although it is understood that much of the required information is contained within the report "Metodologia para o calculo da taxa annual de desmatamento na Amazonia legal", it is still required that all such information be provided as a methodology annex. In preparing such a document, please note that the VCS Standard requires that "The operating language of the VCS Program is English. The project description, validation report, monitoring report, verification report and all other project documentation (including all and any appendices) required under the VCS Program shall be in English."

Client Response: The section 2.4 of PD was modified to include a methodology annex.

Auditor Response: As indicated in the Client Response section, a methodology annex in English has been added to the PD. Therefore, the nonconformity has been resolved.

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

NCR 2012.15 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 2.1

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Table 17

Finding: The methodology requires that the user "Collect high resolution data from remote sensors (< 5 x 5 m pixels) and/or from direct field observations for ground-truth validation of the posterior analysis. Describe the type of data, coordinates and the sampling design used to collect them. In tabular format (table 5), provide the following information about the data collected..." The final two columns of Table 5 in the methodology are labeled "Path/Latitude" and "Row/Longitude". Although information regarding the Spot5 satellite data is provided in Table 17 of the PD, the coordinate information for this data source is not provided.

Client Response: The table 17 of section 2.4 in PD has been updated to include the coordinate information of Spot 5 satellite data.

Auditor Response: Information regarding the coordinates of three SPOT 5 images has been added to the PD. However, review of the SPOT 5 image boundaries through Google Earth indicates that the image with a center point located at -1.002 (latitude), -52.6785 (longitude) has been omitted from Table 17 of the PD. Therefore, the non-conformity has not been fully resolved.

Client Response 2: Table 17 of section 2.4 in PD has been updated to include the information of Spot 5 satellite data located at -1.002 (latitude), -52.6785 (longitude).

Auditor Response 2: As indicated in the Client Response, the SPOT 5 image in question is now correctly identified in the project description dated 9 April 2013, and therefore the non-conformity has been fully resolved.

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

NCR 2012.16 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 3.1

Document Reference: NA

Finding: The methodology requires the user to "Identify the main agent groups of deforestation (farmers, ranchers, loggers, etc.) and their relative importance (i.e. the amount of historical LU/LC-change that can be attributed to each of them)." While the main agent groups of deforestation have been identified, their relative importance, as defined by the methodology, was not identified for the audit team during the site visit.

The audit team was not provided with a "Brief assessment of the most likely development of the population size of the identified main agent groups in the reference region, project area and leakage belt", as required by the methodology.

The audit team was not provided with "Statistics on historical deforestation attributable to each main agent group in the reference region, project area and leakage belt", as required by the methodology.

Client Response: Section 2.4 of PD (step 3.1 of VM0015 methodology) was modified to include the information required by the methodology. The information was obtained through consultation with land surveillance team of Jari Celulose, data collected in field by CIFOR in 2012 and peer-reviewed scientific literature.

Auditor Response: The analysis required by Step 3.1 of the methodology has been revised, and all of the required information has been provided. While information provided has not necessarily been presented specifically for the reference region, leakage belt and project area as separate entities, it should be noted that the reference region encompasses the project area and leakage belt and, therefore, the requirements to provide various pieces of information for "the reference region, project area and leakage belt" can be considered to be met, depending on how said requirements are interpreted. In any case, the audit team considers the spirit of the methodology to be fully complied with. Therefore, the non-conformity has been resolved.

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

NCR 2012.17 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Sec. 3.5

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 62

Finding: The methodology requires that "The analysis of step 3 must conclude with a statement about

whether the available evidence about the most likely future deforestation trend within the reference region and project area is: Inconclusive or Conclusive... When the evidence is conclusive, state whether the weight of the available evidence suggests that the overall trend in future baseline deforestation rates will be: Decreasing; About constant; Increasing."

While the PD indicates that the available evidence about the most likely future deforestation trend within the reference region is conclusive, it also states that "future trend for baseline estimates is that deforestation rate in the reference region is either going to keep constant or increase." The methodology requires that, where evidence of conclusive, the weight of such evidence suggest a specific overall trend in future baseline deforestation rates. It does not permit the selection of two possible trends.

Client Response: The analysis of Step 3 of the VM0015 was redone.

Auditor Response: The revised PD clarifies that "future trend for baseline estimates is that deforestation rate in the reference region will increase". As a single trend has been selected as most likely, the observed non-conformity has been resolved.

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

NIR 2012.18 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 4.1.1

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Figure 13

Finding: As displayed within Figure 13 of the PD, a clear trend is not evident. Although a regression equation indicating an increasing trend has been fit to the data, the R2 value of the equation is extremely low, and it is unclear whether the equation would be considered statistically significant if tested for significance. The variability in the historical deforestation rate is very high, and it is the opinion of the audit team that no trend (decreasing, constant or increasing deforestation) is apparent in the data.

In such a circumstance, the methodology requires that "Conclusive evidence emerges from the analysis of agents and drivers explaining the different historical deforestation rates". Therefore, please provide an analysis of agents and drivers that explains the different historical deforestation rates that have been found.

Client Response: The deforestation rates measured in historical period does not reveal a clear trend (decreasing, constant or increasing deforestation), but it could be observed by the conclusion of the Step 3 that this very high variability results from of the complex relations between agents, drivers and underlying causes of deforestation. Thus, as indicated in the Step 4.1.1, approach "a" (historical average) was selected for estimating future deforestation, as no variables can be used for modeling deforestation (approach "c"). In addition, approach "a" is more conservative because it does not include possible

impacts on forest cover caused by the installation of a hydroelectric (BARRETO et al, 2011 and FEARNSIDE, 2001), which would result in a greater deforestation projected in the baseline when compared to the historical average rate.

Auditor Response: The audit team agrees that the use of approach "a" to predict future deforestation is appropriate, given that the historical deforestation rate does not reveal a clear trend. However, the methodology additionally requires that the user "do additional assessments under step 3, such as more literature reviews, expert consultations, and, as the case may be, additional field surveys, until finding conclusive evidence." This conclusive evidence must be sufficient to explain "the different historical deforestation rates". Please provide an analysis of agents and drivers that explains the different historical deforestation rates that have been found.

Client Response 2: Additional analysis of agents and drivers were carried under Step 3 of the methodology VM0015 through literature review and experts consultation, and conclusive evidence that explain the different historical deforestation rates in different sub-periods in the analysed historic period was found. The PD has been updated to include such analysis.

Auditor Response 2: As indicated in the Client Response, the PD has been updated to contain a more complete discussion of the underlying factors driving variation in deforestation rates between historical sub-periods. Therefore, the non-conformity has been resolved.

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

NCR 2012.19 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 4.1.3; VCS Standard V3.3, Sec. 3.5.1

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Equation 3

Finding: The methodology requires that the user "project the annual areas or rates of baseline deforestation within the reference region". As described in Equation 3, the project has opted to project the cumulative area of baseline deforestation within the reference region as a function of cumulative projected population within the reference region. As the methodology specifically requires the projection of "annual areas or rates" of deforestation, the selected approach does not conform to the requirements of the methodology.

While it appears that the projection of cumulative deforestation would fall within the scope of allowable methodology deviations as set out by the VCS Standard (which states "Deviations from the applied methodology are permitted where they represent a deviation from the criteria and procedures relating to monitoring or measurement set out in the methodology (ie, deviations are permitted where they relate to data and parameters available at validation, data and parameters monitored, or the monitoring plan)"), it is noteworthy that, in addition to the VM0015 methodology, the VCS-approved methodologies VM0006 and VM0007 also mandate the projection of annual (rather than cumulative) deforestation. Therefore, it appears that the projection of cumulative deforestation does not conform to best practice in projection of deforestation. On this basis, such a deviation cannot be allowed and the project must utilize an equation

that projects the annual area or rate of deforestation.

Client Response: The approach to project future deforestation in the the baseline was modified. It was assumed the continuation of the average annual rate measured in historical reference period in the Reference Region.

Auditor Response: The "modeling" approach is no longer used for determination of baseline deforestation, and therefore this finding is no longer relevant.

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

NCR 2012.20 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Steps 2.1.1 and 2.5

Document Reference: NA

Finding: The methodology requires that Step 2.5 (map accuracy assessment) be performed with "high resolution data from remote sensors (< 5 x 5 m pixels) and/or from direct field observations for ground-truth validation of the posterior analysis". In reviewing the data used to perform the map accuracy assessment, the audit team found that two scenes are comprised of SPOT 5 imagery viewed in Google Earth, which has a resolution of 2.5 m. However, one scene, covering a small portion of the west end of the reference region, is comprised of SPOT 4 imagery, also viewed in Google Earth, which has a resolution of 10 m. The use of imagery with a resolution of 10 m for the map accuracy assessment task is not consistent with the requirements of the methodology.

Client Response: The points on the SPOT 4 image with 10 m of resolution were excluded from table 20 of PD.

Auditor Response: Review of the points used in the revised accuracy assessment, as contained within the KML file "points_accuracy_assessment_vvb.KMZ", confirmed that all of the points used in the revised accuracy assessment were within the boundaries of the SPOT 5 imagery that meets the resolution requirements of the methodology. The revised accuracy statistics were calculated in a revised workbook that was made available to the audit team. The revised accuracy assessment confirms that the Prodes-Digital data source meets the accuracy requirements of the methodology. Therefore, the non-conformity has been resolved.

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

NIR 2012.21 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 2.4.2

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 48

Finding: The methodology states that "Minimum mapping unit should be equal to or above the minimum area threshold used for defining “forest”, but not above 5 times this value." The PD states (in footnote 5) that a minimum forest area threshold of "1 hectare" has been used. The PD also states that "The Minimum Mapping Unit (MMU) in PRODES data corresponds to 6.25 hectares". Please provide a justification for the deviation from the stated guidance of the methodology.

Client Response: The indicated value of 6.25 hectare corresponds to Prodes Analógico MMU (measuring of the deforestation of Brazilian Amazon between 1988 and 1997). Since the year 2000 are available Prodes Digital data with MMU equal to 1 ha.

Auditor Response: The audit team confirmed, through review of Table 1 (accessed at http://www.cbmjournal.com/content/6/1/18/table/T1 on 20 December 2012) of the article "Historic emissions from deforestation and forest degradation in Mato Grosso, Brazil: 1) source data uncertainties", by Morton et al. (2011) (see http://www.cbmjournal.com/content/6/1/18 for online access) that the minimum mapping unit for the PRODES-Digital dataset is 1 hectare. The PRODES-Digital dataset was confirmed during on-site audit activities to be the dataset that was used for the analysis of historical deforestation in the reference region. Therefore, this finding was related to an error in the PD rather than a non-conformity to the requirements of the methodology. The revised PD (updated on 19 February 2013) correctly indicates that "The Minimum Mapping Unit (MMU) in PRODES Digital data corresponds to 1 hectar" [sic]. Therefore, the finding can be closed.

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

NCR 2012.22 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 4.1.2

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 63

Finding: The methodology requires that the user "Identify the biophysical constraints... and socio-economic constraints... that limit the geographical area where deforestation agents could expand their land-use activities in currently forested areas." As described in the PD, Step 4.1.2 has been carried out by "areas of low forest access and the areas presenting a more difficult topography." However, areas where deforestation is less attractive do not constitute areas where deforestation is constrained. During the site visit, the audit team learned that several government-run conservation areas, including Resex Jari, Resex do Cajari and RDS do Rio Iratapuru exist within the reference region. It was explained and justified to the audit team that, due to strong enforcement mechanisms, deforestation within these areas is effectively constrained. However, these areas are not included in the analysis of Step 4.1.2. As truly constrained areas within the reference region have not been factored into the analysis required by Step 4.1.2, the remainder of the analysis required by Step 4.1.2 has not been correctly carried out.

Client Response: This analysis is not required in the methodology VM0015 V.1.1

Auditor Response: This finding was written against V1.0 of the methodology, but was made irrelevant by

a change of assessment criteria, as the cited requirement does not exist within V1.1 of the methodology. Therefore, the finding will be withdrawn.

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

NIR 2012.23 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 4.1.3.1

Document Reference: AMAPA_Plan_de Gestao_English.pdf, pages 63-66

Finding: The project has opted to use approach "c" for projection of deforestation. Approach "c" requires that the user "use values that yield conservative estimates of the projected deforestation (ABSLRRi,t or RBSLRRi,t)".

Please justify that the population values that have been selected yield conservative estimates of the projected deforestation.

Client Response: The baseline approach to project future deforestation was modified. It was assumed the continuation of the average annual rate measured in historical reference period in the Reference Region.

Auditor Response: As approach "c" is no longer used for projection of deforestation, this finding is no longer relevant and will be closed.

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

NIR 2012.24 dated 11/20/2012

Standard Reference: VCS Standard V3.3, Sec. 3.1.4 and Sec. 4.1.6

Document Reference: NA

Finding: Section 3.1.4 of the VCS Standard requires that "Where projects apply methodologies that permit the project proponent its own choice of model (see VCS document Program Definitions for definition of model), such model shall meet with the requirements set out in Section 4.1.6(2)-(6) and it shall be demonstrated at validation that the model is appropriate to the project circumstances (ie, use of the model will lead to an appropriate quantification of GHG emission reductions or removals)."

Section 4.1.6 of the VCS Standard requires the following:

"2) Model parameters shall be determined based upon studies by appropriately qualified experts that identify the parameters as important drivers of the model output variable(s).

3) Models shall have been appropriately reviewed and tested (eg, ground-truthed using empirical data or results compared against results of similar models) by a recognized, competent organization, or an appropriate peer review group.

4) All plausible sources of model uncertainty, such as structural uncertainty or parameter uncertainty, shall be assessed using recognized statistical approaches such as those described in 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 1, Chapter 3.

5) Models shall have comprehensive and appropriate requirements for estimating uncertainty in keeping with IPCC or other appropriate guidance, and the model shall be calibrated by parameters such as geographic location and local climate data.

6) Models shall apply conservative factors to discount for model uncertainty (in accordance with the requirements set out in Section 4.1.4), and shall use conservative assumptions and parameters that are likely to underestimate, rather than overestimate, the GHG emission reductions or removals.

Note – The criteria set out in (2)-(6) above are targeted at more complex models. For simple models, certain of these criteria may not be appropriate, or necessary to the integrity of the methodology. Such criteria may be disregarded, though the onus is upon the methodology developer to demonstrate that they are not appropriate or necessary."

The methodology permits the project proponent its own choice of the model used to carry out Step 4.2. As the Land Change Modeler has been selected for this task, please provide evidence that the Land Change Modeler complies with criteria 4.1.6(2)-(6), as set out above, or, if one or more of the criteria is not appropriate or necessary, of such.

Client Response: For the determination the localization of the deforestation in the baseline, the IMAZON's researcher, Amintas Brandão, used the LCM model available in the IDRISI Selva software. As indicated in the VM0015 (Step 4.2) the LCM is a model appropriate for the modeling the baseline of Project. Furthermore, the LCM model is peer-reviewed as the scientific publications of Eastman et al (2005), Fuller et al (2011) e Sangermano et al (2012); Have transparent process for inputs and outputs data and parameters used; incorporates the use of appropriate data to explain the location of future deforestation as literature on the subject (Barreto et al, 2011; Sangermano et al 2012); and is subject to statistical assessment of uncertainties (Pontius and Schneider 2001). For further information, please also refere to • Pontius Jr, R. G. Schneider, L. 2001. Land-use change model validation by a ROC method for the Ipswich watershed, Massachusetts, USA. Agriculture, Ecosystems & Environment 85(1-3) p.239-248

• Eastman, J. R., Luis Solorzano and Megan Van Fossen. 2005. "Transition Potential Modeling for Land-Cover Change." In GIS, Spatial Analysis and Modeling, edited by David J. Maguire, Michael Batty and Michael F. Goodchild, 357-385. Redlands, CA: ESRI Press.

• Fuller, D. O., Hardiono, M., and Meijaard, E. 2011. Deforestation Projections for Carbon-Rich Peat Swamp Forests of Central Kalimantan, Indonesia. Environmental Management 48 (3).

• Sangermano, F., Toledano, J., Eastman, J.R. 2012. Land cover change in the Bolivian Amazon and its implications for REDD+ and endemic biodiversity. Landscape Ecology 27(4), 571-584.

Auditor Response: The evidence has been provided is sufficient to confirm that the Land Change Modeler complies with the requirements. It should be noted that the Land Change Modeler can be considered to be a "simpler" (if not completely simple) model, as its use in the context of the methodology is limited to the prediction of the areas of the reference region in which deforestation will take place, as described in Section 4.2 of the methodology. In this context, it is not clear how a "conservative factor" could be applied to discount for uncertainty in the model, and therefore it does not appear that criteria (4)-(6) of Section 4.5.6 apply in this case. The information that has been provided is sufficient to close this finding.

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

NCR 2012.25 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 4.2.1; VCS Standard V3.3, Sec. 3.5.1

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 2.6

Finding: The methodology requires that, for the "empirical approach" to creating factor maps, the user "Categorize each Distance Map in a number of predefined distance classes (e.g. class 1 = distance between 0 and 50 m; class 2 = distance between 50 and 100 m, etc.)". During the site visit, the audit team learned that, as the Land Change Modeler uses continuous rather than categorical data, the distance maps that were used with the Land Change Modeler were not categorized into distance classes.

The methodology deviation described above is considered to be appropriate in accordance with Section 3.5.1 of the VCS Standard, as it relates to "data and parameters available at validation". Furthermore, the deviation would result in increased accuracy of the prediction of deforestation because it would avoid the degradation of accuracy that inevitably accompanies the dissolution of continuous data into categorical data. However, the methodology deviation is not appropriately reported within Section 2.6 of the project description, which currently states that methodology deviations "[do] not apply".

Client Response: The section 2.6 of PD was modified to include a methodology deviation in order to categorize each distance map (Step 4.2.1 Preparation of factor maps).

Auditor Response: The methodology deviation is appropriately described within Section 2.6 of the revised PD. Therefore, the non-conformity has been resolved.

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

NIR 2012.26 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 4.2.2

Document Reference: NA

Finding: The methodology states that "Several Risk Maps should be produced using different combinations of Factor Maps and modeling assumptions in order to allow comparison and select the most accurate map." It was indicated to the audit team that only one risk map was produced. Please provide a justification for the production of only one risk map, rather than several risk maps as indicated by the methodology.

Client Response: The VM0015 version 1.1 states that the several risk maps must depend of the FOM (Figure of Merit) number (Step 4.2.3). "The minimum threshold for the best fit as measured by the Figure of Merit (FOM) shall be defined by the net observed change in the reference region for the calibration period of the model. Net observed change shall be calculated as the total area of change being modeled in reference region during the calibration period as percentage of the total area of the reference region. The FOM value shall be at least equivalent to this value. If the FOM value is below this threshold, the project proponent must demonstrate that at least three models have been tested (resulting at least in three risk maps), and that the one with the best FOM is used." As the FOM for the first risk map produced is above the minimum threshold, was created only one map risk.

Auditor Response: The justification provided is sufficient to permit the creation of only one risk map. It should be noted that, as indicated in the Client Response section, the methodology only requires multiple risk maps to be created and tested in the event that none of the risk maps created exceed the threshold value set out by the methodology for the FOM statistic.

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

NCR 2012.27 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 4.2.4

Document Reference: NA

Finding: In Step 4.2.4, the methodology requires that the user select the areas of highest relative deforestation risk to be modeled as deforested in each year of the baseline period, with the constraint that the annual area modeled as deforested in any given year must be equal to the "area expected to be deforested in the reference region in project year one according to table 9.a."

During the site visit, it was communicated to the audit team that the procedure in Step 4.2.4 is not followed because the requirements of Step 4.2.4 cannot be implemented in the IDRISI software program. Therefore, an alternative procedure was implemented in IDRISI that modeled 2,951 ha each year as deforested. Although the value above matches the long-term average annual deforestation rate projected over the 30-year crediting period and reported in Table 9.a (both take the same value of 2,951 ha), the average annual deforestation rate reported in Table 9.a over the 10-year baseline period is only 2,475 ha. This means that, over the 10-year baseline period, the procedure that has been implemented in place of Step 4.2.4 results in the modeling of an additional 476 ha per year over the 10-year baseline period.

As Step 4.2.4 relates to data and parameters available at validation, it is possible for a deviation to that

step to be justified. However, the audit team cannot consider a deviation that would result in more deforestation being modeled each year, on average, than that reported in Table 9.a, as the audit team would lack reasonable assurance that such a deviation does not "negatively impact the conservativeness of the quantification of GHG emission reductions or removals". Therefore, either Step 4.2.4 must be complied with in full, or a deviation must be proposed that does not lead to the overestimation of deforestation in comparison to the requirements of the methodology.

Client Response: According to data available to the auditor, the area of pixels in each project year corresponds the equivalent area expected to be deforested in the Reference Region in the respective year, according to the values shown in Table 9.a of the VM0015 v 1.1

The procedure for selecting pixels with the highest risk of deforestation and the and respective maps of baseline future deforestation, was performed automatically (programmed in IDRISI) by the LCM, according to the procedure shown in VM0015 version 1.1 (page 55) “The described pixel selection procedure and production of annual maps of baseline deforestation can be programmed in most state of the art modeling tools/software”.

Auditor Response: As the non-conformity appears to have been resolved, this finding can be closed. However, NIR 2012.57 has been opened to seek further information regarding the procedure for mapping of future deforestation.

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

NIR 2012.28 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 6.1.1; VCS Standard V3.3, Sec. 3.1.5, Sec. 4.1.7(1) and Sec. 4.5.6

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 89

Finding: The methodology requires the user to estimate "the non-forest classes projected to exist in the project area in the baseline case". The methodology allows the user of estimates from "local studies, literature and IPCC defaults... provided the accuracy and conservativeness of the estimates are demonstrated." However, the methodology requires that "When defaults are used, the lowest value of the range given in the literature source (or the value reduced by 30%) must be used for the forest classes, and the highest value (or the value augmented by 30%) for non-forest classes."

In addition, Section 3.1.5 of the VCS Standard requires that "Where projects apply methodologies that permit the project proponent its own choice of third party default factor or standard to ascertain GHG emission data and any supporting data for establishing baseline scenarios and demonstrating additionality, such default factor or standard shall meet with the requirements set out in Section 4.1.7(1)." Section 4.1.7(1) requires that "Where the methodology uses third party default factors and/or standards, such default factors and standards shall meet with the requirements for data set out in Section 4.5.6,

mutatis mutandis." Section 4.5.6 of the VCS Standard provides nine different requirements.

Please provide evidence that the default factor of 47 t CO2e/ha, as used as an estimate of post-deforestation carbon stocks, complies with the requirements of the methodology (as stated above) and also the requirements of Section 4.5.6 of the VCS Standard.

Client Response: In order to meet the requirement of Step 6.1.1 of the VM0015 the value 47.1 t CO2e/ha was replaced by 61.2 t CO2e/ha. The difference between those two values correspond to carbon stock per hectar in non-forest classes (FEARNSIDE, 1996) augmented by 30%, as requirements of the methodology.

Fearnside (1996) is a peer-reviewed scientific literature, and represents the only study for the Brazilian Amazon about carbon stock on deforested areas, meeting the requirements of Section 4.5.6 of the VCS Standard:

1. The data not was collected directly from primary sources;

2. The data was collected from secondary sources, produced by INPA's researcher (INPA is a reference institution in Brazil for such subject), published by a recognized and credible international journal (Forest Ecology and Management);

3. Data are from a time period that accurately reflects available current practice in determination carbon stock. This data was accepted by a international journal to estimate the recent emissions of deforestation in peer-reviewed scientific literature (Yanai et al 2012 and Fearnside et al 2009);

4. No samples were applied in these data;

5. The data are publicly available in website http://philip.inpa.gov.br/publ_livres/LISTAS%20POR%20ASSUNTO-L.htm . Access in January 16, 2013;

6. The data are available for independent evaluation by VCSA and VVB;

7. The data are appropriate to the methodology's geographic scope, since they were developed for the Brazilian Amazon region;

8. Expert judgment was not necessary;

9. The data are not maintained in a central repository.

Auditor Response: Sufficient information has been provided to demonstrate that the factor used to estimate of post-deforestation stocks complies with the requirements of Section 4.5.6 of the VCS Standard. The paper by Fearnside (1996), which was the source for the factor in question, is a "a recognized, credible source" that has been reviewed as part of the peer-reviewed process required to publish in the prestigious journal Forest Ecology and Management. In addition, the factor is appropriate to the geographic scope of the project, as it applies broadly to the Brazilian Amazon, the region in which the project is located. Therefore, the information request has been satisfied.

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

NCR 2012.29 dated 11/20/2012

Standard Reference: NA

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Table 32 and Sec. 4.1; inventários.accdb

Finding: Table 32 of the PD, as well as the "Data and parameters available for validation" tables in Section 4.1 of the PD indicate that the equation B = -0.85+2.57 x log(DBH) is to be used to convert DBH into biomass for non-pioneer vegetation. However, in reviewing the "CALCULO: equações de biomassa" query of the Access database used to calculate plot-level biomass, the audit team discovered that the equation B = 0.465*DBH^2.202 is actually used instead. Therefore, Table 32 and Section 4.1 of the PD contain the incorrect equation to be used to quantify biomass for non-pioneer vegetation.

Client Response: The allometric equation ln(FW)= -1,497 + 2,548 ln (DBH) (HIGUCHI et al., 1998) is now in use. This equation is used to convert DBH of trees equal or higher than 5 cm to biomass. The equation previously statet in Table 32 of the PD as well as tables in section 4.1 were substitued by the mentioned one.

Auditor Response: As indicated in the Client Response section, the equation B = -0.85+2.57 x log(DBH) is no longer used to estimate biomass. Therefore, this finding is no longer applicable.

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

NCR 2012.30 dated 11/20/2012

Standard Reference: NA

Document Reference: AMAPA_Plan_de Gestao_English.pdf, pages 94-95

Finding: The PD states that equations from Gerwing (2002) were used "to convert DBH into biomass". The PD also indicates that "Biomass Expansion Factors (BEF) found in literature were applied to include the biomass of non-wood tree components such as branches and leaves". Review of the Matlab script "biomassa.m" confirms that the biomass expansion factors indicated in the PD were in fact applied.

However, the Gerwing (2002) paper cited in the PD states, in reference to the equations listed in Table 32 of the PD, "The aboveground biomass for each plot was estimated as the sum of the dry weights of different forest components each calculated using an appropriate regression equation (Table 2)". This implies that the equations provided from the Gerwing (2002) paper already included biomass of non-wood tree components such as branches and leaves. The above was confirmed by Dr. Jeffrey Gerwing, author of the Gerwing (2002) study, who stated, in an email dated 7 November 2012, "I used these equations to predict total live aboveground biomass including leaves, branches, etc."

Therefore, the biomass expansion factors described in Table 33 of the PD "include" biomass components that are already accounted for in the equations sourced from Gerwing (2002). Therefore, application of these factors result in an approximately 60% overestimate in carbon stocks in the project area and leakage belt. By itself, such a discrepancy constitutes a material error, as defined by Section 5.3.1, and must therefore be corrected.

Client Response: The allometric equation ln(FW)= -1,497 + 2,548 ln (DBH) (HIGUCHI et al., 1998) replaced Gerwing (2002) one, and it was used to convert the DBH of individual trees into above-ground tree fresh biomass. This allometric equation is applicable for trees with DBH equal to or higher than 5 cm. Dry biomass was obtained by multiplying fresh biomass by 0.5997, obtained by the average of dry/fresh ratio for the crown and bole weighted by the percentage contribution of bole and crown weight to total biomass (HIGUCHI et al., 1998). The below-ground biomass was obtained by adding 25.8% to above-ground biomass of trees with DBH > 10 cm (NOGUEIRA et al., 2008). Expansion factors were applyed to above-ground biomass of trees with DBH > 10 cm in order to include the biomass of trees with DBH lower than 10 cm, palm trees, vines, dead above-ground biomass and non-tree components (NOGUEIRA et al., 2008).

Auditor Response: As the equations sourced from the Gerwing (2002) study are no longer used for the project, this finding is no longer relevant.

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

NIR 2012.31 dated 11/20/2012

Standard Reference: VCS Standard V3.3, Sec. 3.1.4 and Sec. 4.1.6

Document Reference: NA

Finding: Section 3.1.4 of the VCS Standard requires that "Where projects apply methodologies that permit the project proponent its own choice of model (see VCS document Program Definitions for definition of model), such model shall meet with the requirements set out in Section 4.1.6(2)-(6) and it shall be demonstrated at validation that the model is appropriate to the project circumstances (ie, use of the model will lead to an appropriate quantification of GHG emission reductions or removals)."

Section 4.1.6 of the VCS Standard requires the following:

"2) Model parameters shall be determined based upon studies by appropriately qualified experts that identify the parameters as important drivers of the model output variable(s).

3) Models shall have been appropriately reviewed and tested (eg, ground-truthed using empirical data or results compared against results of similar models) by a recognized, competent organization, or an appropriate peer review group.

4) All plausible sources of model uncertainty, such as structural uncertainty or parameter uncertainty, shall be assessed using recognized statistical approaches such as those described in 2006 IPCC

Guidelines for National Greenhouse Gas Inventories, Volume 1, Chapter 3.

5) Models shall have comprehensive and appropriate requirements for estimating uncertainty in keeping with IPCC or other appropriate guidance, and the model shall be calibrated by parameters such as geographic location and local climate data.

6) Models shall apply conservative factors to discount for model uncertainty (in accordance with the requirements set out in Section 4.1.4), and shall use conservative assumptions and parameters that are likely to underestimate, rather than overestimate, the GHG emission reductions or removals.

Note – The criteria set out in (2)-(6) above are targeted at more complex models. For simple models, certain of these criteria may not be appropriate, or necessary to the integrity of the methodology. Such criteria may be disregarded, though the onus is upon the methodology developer to demonstrate that they are not appropriate or necessary."

The methodology permits the project proponent its own choice of the model used to estimate the aboveground biomass of trees, and the project has opted to use three equations sourced from Table 2 of Gerwing (2002) for this task. Please provide that the equations sourced from Table 2 of Gerwing (2002) comply with criteria 4.1.6(2)-(6), as set out above, or, if one or more of the criteria is not appropriate or necessary, of such.

Client Response: Gerwing (2002) model was replaced by Higuchi(1998) model. The following was stated in the PD: The allometric equation developed by Higuchi et al (1998) is appropriate to the Project circumstances because:

• It was obtained from scientific paper published in a recognized peer-reviewed journal, and the predictor variable used (DAP) is the most commonly used variable for predicting biomass in tree allometric studies;

• The model was calibrated using destructive samples and had an R2 >0.9, showing good adjustment to tree fresh biomass;

• it has been developed for the Brazilian Amazon Rain Forest;

• Iit is appropriate to trees with DBH equal to or higher than 5 cm

• It has been used by a recognized research institution to estimate above ground biomass of trees in the National Forest of Caxiuna – FLONA Caxiuana – a Conservation Unit located close to the Project Area (CHAGAS et al, no date)

Auditor Response: Sufficient information has been provided to demonstrate that the allometric equation derived by Higuchi et al. (1998) complies with most of the requirements of Section 3.1.4 of the VCS Standard. The audit team agrees that the allometric equation derived by Higuchi et al. (1998) has been developed by an appropriately qualified group of experts. However, it is not immediately clear to the audit team that the journal Acta Amazonica, in which the Higuchi et al. (1998) paper was published, is a peer-reviewed journal as claimed in the Client Response section. Please provide evidence of such.

Client Response 2: Acta Amazonica is a multidisciplinar scientific jornal which Editorial Board is comprised of an Editor-in-Chief and Associate Editor, highly qualified scientists of different institutions across Brazil or overseas (http://www.scielo.br/revistas/aa/iaboutj.htm). All manuscripts are reviewed by the editor and by at least two experts of institutions other than those of the authors. Evidences can be found in http://www.scielo.br/revistas/aa/iaboutj.htm, and items 5, 6 and 7 of “Instructions for authors”, available at the web page http://www.scielo.br/revistas/aa/iinstruc.htm. Therefore, it can be concluded that Acta Amazonica is a peer-reviewd journal.

Auditor Response 2: The audit team can confirm, through review of the websites indicated in the Client Response (all accessed 10 April 2013), that Acta Amazonica is a peer-reviewed journal. This provides the evidence necessary to demonstrate that the allometric equation derived by Higuchi et al. (1998) can be said to comply with Section 4.1.6(3) of the VCS Standard, as referenced in Section 3.1.4 of the VCS Standard. Therefore, the information request has been satisfied.

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

NIR 2012.32 dated 11/20/2012

Standard Reference: VCS Standard V3.3, Sec. 3.1.5, Sec. 4.1.7(1) and Sec. 4.5.6

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 94

Finding: Section 3.1.5 of the VCS Standard requires that "Where projects apply methodologies that permit the project proponent its own choice of third party default factor or standard to ascertain GHG emission data and any supporting data for establishing baseline scenarios and demonstrating additionality, such default factor or standard shall meet with the requirements set out in Section 4.1.7(1)." Section 4.1.7(1) requires that "Where the methodology uses third party default factors and/or standards, such default factors and standards shall meet with the requirements for data set out in Section 4.5.6, mutatis mutandis." Section 4.5.6 of the VCS Standard provides nine different requirements for data.

Please provide evidence that the default factor of 25.8%, as used to estimate belowground biomass, complies with the requirements of Section 4.5.6. In addition, it has been noted, from review of the Matlab script "biomassa.m", that belowground biomass is calculated by multiplying total aboveground biomass (including biomass in measured live trees, palm trees, vines, dead trees and trees <10 cm DBH) by this factor. Please provide evidence that this factor is appropriate for the quantification of belowground biomass in each group listed above.

Client Response: Demonstration that the default factor was assessed through a peer-review process (e.g., through publication in a respected scientific journal), and demonstrated that it is appropriate to the circumstances of the project were provided in the PD, as follows: • The factor is publicly available from a reputable and recognized source, as Nogueira et. al (2008), are recognized experts on the subject, and Forest Ecology and Management is a recognized peer reviewed scientific journal.

• The parameter “above-ground biomass” is used to estimate below ground biomass in four different studies by appropriately qualified experts who identify the parameter as important driver of the model

output variable, as stated in Nogueira et al (2008). Moreover, such parameter is broadly used to estimate below ground biomass.

• Data were obtained from destructive samples in the the Brazilian Amazon, same biome where the Project is located; • belowground biomass is calculated by multiplying aboveground biomass of trees >10 cm DBH by this factor, as it can be observed in the workbook "Tabela Estoque TDR4_2013".

Auditor Response: Sufficient information has been provided to demonstrate that the factors mentioned in this finding comply with the requirements of Section 4.5.6 of the VCS Standard. The paper by Nogueira et al. (2008), which was the source for all of the factors in question, is a "a recognized, credible source" that has been reviewed as part of the peer-reviewed process required to publish in the prestigious journal Forest Ecology and Management. In addition, the factors are all appropriate to the geographic scope of the project, as all factors apply to the Brazilian Amazon, the region in which the project is located. Therefore, the information request has been satisfied.

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

NIR 2012.33 dated 11/20/2012

Standard Reference: VCS Standard V3.3, Sec. 3.1.5, Sec. 4.1.7(1) and Sec. 4.5.6

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 94

Finding: Section 3.1.5 of the VCS Standard requires that "Where projects apply methodologies that permit the project proponent its own choice of third party default factor or standard to ascertain GHG emission data and any supporting data for establishing baseline scenarios and demonstrating additionality, such default factor or standard shall meet with the requirements set out in Section 4.1.7(1)." Section 4.1.7(1) requires that "Where the methodology uses third party default factors and/or standards, such default factors and standards shall meet with the requirements for data set out in Section 4.5.6, mutatis mutandis." Section 4.5.6 of the VCS Standard provides nine different requirements for data.

Please provide evidence that the expansion factors F1 and F2, as described on page 94 of the PD, comply with the requirements of Section 4.5.6.

Client Response: Demonstration that the default factors were assessed through a peer-review process (e.g., through publication in a respected scientific journal), and demonstration that they are appropriate to the circumstances of the project were provided in the PD, as follows: • The factor is publicly available from a reputable and recognized source, as Nogueira et. al, are recognized experts on the subject, and Forest Ecology and Management is a recognized peer reviewed scientific journal.

• Factor were published on Forest Ecology and Management, a respected journal.

• Factors were developed based on empirical studies throughout the Amazon, same biome where the Project is located;

Auditor Response: This finding was mistakenly issued as a duplicate of NIR 2012.32. As that finding has been closed, this finding can be closed as well.

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

NCR 2012.34 dated 11/20/2012

Standard Reference: VM0015 V1.0, Appendix 3

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 4.1 and Sec. 4.2; inventários.accdb; biomassa.csv

Finding: The methodology states that "The living biomass components that are measured and the minimum diameter at breast height

(DBH) above which trees are measured should be specified in the PD."

The description for parameter DBH in Section 4.1 of the PD states "Diameter at Breast Height (130 cm) for each tree with DBH equal or higher than 15 cm in each plot of the forest inventory". In addition, the description for parameter DBH in Section 4.2 of the PD states "Diameter at Breast Height (130 cm) for each tree with DBH equal or higher than 15cm in each plot of the forest inventory." However, review of query "Parcelas maior que 31 ponto 8" within the Access database "inventários.accdb", used to calculate biomass for each plot as output to the "Biomass2.csv" file, indicates that a filter was applied such that only trees with DBH greater than 31.8 cm were included in the biomass calculations.

Although the minimum DBH above which trees are measured has, strictly speaking, been specified in the PD, the minimum DBH above which trees are measured for inclusion in the carbon stock estimates has not been correctly specified in the PD.

Client Response: The referered query "Parcelas maior que 31 ponto 8" was made in the testing phase of the estimation process, and it was not contabilized in the Project estimates. The used query is named "Parcelas" and included all trees from the inventory (all trees which DBH>15cm).

Auditor Response: While the "biomass2.csv" file that was provided to the audit team clearly corresponds to the query "Parcelas maior que 31 ponto 8", rather than the query "Parcelas", within the Access database "inventários.accdb", it is possible that the wrong file was provided to the audit team by mistake. In any event, this finding has been rendered irrelevant by changes to the quantitative procedures employed by the project, and will be closed.

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

NIR 2012.35 dated 11/20/2012

Standard Reference: NA

Document Reference: biomassa.m; AMAPA_Baseline_Relatorio_Final_VVB.xlsx; AMAPA_Estoque_Relatorio_Final.pdf

Finding: During the site visit, the audit team was walked through the use of the "biomassa.m" script to calculate aboveground and belowground carbon for each grid cell included in the analysis. However, the audit team was not provided with information on how this information was used to determine the carbon stock values for each forest type as indicated in the "Table 14" worksheet within the "AMAPA_Baseline_Relatorio_Final_VVB.xlsx" workbook, in accordance with Equation 1 of the "AMAPA_Estoque_Relatorio_Final.pdf" document. Please provide datasets, computer script and any supporting information as necessary to explain how Equation 1 was implemented, using the output from the process scripted in the "biomassa.m" file, to provide forest-type-level carbon stock estimates.

Client Response: All relevant information necessary to explain how Equation 1 was implemented was provided to the auditor ("Readme Tabela Estoque TDR4.txt", "Tabela Estoque TDR4_2013". "estoque_jan2013", "biomassa_2.m", "amostragem_corr_espacial_2012.m").

Auditor Response: No additional information and evidence has been provided regarding the implementation of Equation 1 from the output of the process scripted in the "biomassa.m" file. Information provided in the text file "Readme Tabela Estoque TDR4.txt" indicates that the methods of Wang et al. (2009) were used to quantify biomass "per stratum", but this information was previously provided in the document "AMAPA_Estoque_Relatorio_Final.pdf". A description of exactly how the methods of Wang et al. (2009) were implemented, supported by documentation sufficient to allow the audit team to replicate the analysis, has not been provided. Therefore, the information request has not been satisfied.

Client Response 2: Equation 1 is the aplication of Wangs' method. This method was used because it takes spatial correlation into account when computing the average per stratum. The explanation below refers to the file "amostragem_corr_espacial_2012.m", which uses the file kriging2. File kriging 2 is a matlab file that contains sampling data from file biomassa3, the variogram parameters and the stratification data. Each "cell" of the code (represented by a comment preceeded by a "%%") represents one step of the procedure. Below are described the codes with more detail:

1 - %% dados necessários: this part collects the necessary data, as the sample biomass data (data generated from biomassa3, which correlated scrip is Biomassa.m), the variogram parameters, and stratification data (forest type).

2 - %% montagem dos estratos nas amostras e no domínio: this part separates relevant vegetation types for the sample and for the domain

3- %% discretização do domínio: this part "discretizes" the domain, by representing it as a grid with a number of cells. Then it colects the vegetation type for each grid by extracting vegetation type from the vegetation raster at the centers of the discretization grid.

4- %% obtendo modelo de variograma global: obtains a global variogram model for biomass. This is one possible implementation of the estimation procedure, according to Wang et al (2008).

5- %% computando covariâncias: this part computes covariances between samples, and covariances between grid points, according to the variogram models of the previous step. Then it finds the weights necessary to compute means and variances.

6- %% Obtendo o erro por estrato (área de referência): obtains the errors using the information above, for the reference regions.

7- %% Obtendo o erro por estrato (área do projeto): obtains the errors using the information above, for the project area. Note that it uses the function spatstderror that just executes all the steps above for any given area.

Auditor Response 2: In addition to the information provided in the Client Response section, the audit team held a web-based meeting, on 5 April 2013, to assess the process used to quantify biomass in each stratum. During this meeting, the audit team was able to observe the replication of the process for quantifying biomass in each stratum, beginning with the quantification of sub-unit-level biomass in Access and following through the quantification of stratum-level biomass in Matlab. No material errors or discrepancies were encountered by the audit team in the course of this review. The information provided to the audit team was sufficient to provide the audit team with a reasonable level of assurance as to the quantification of project carbon stocks, and therefore the information request has been satisfied.

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

NIR 2012.36 dated 11/20/2012

Standard Reference: AFOLU Non-Permance Risk Tool V3.2, Sec. 2.2.3(2) and Sec. 2.3.2(3)

Document Reference: AMAPA_Risk analysis and buffer determination.pdf, page 8; AMAPA_Plan_de Gestao_English.pdf, Sec. 6 and Sec. 7

Finding: Section 2.2.3(2) of the AFOLU Non-Permanence Risk Tool states that "Where the majority of baseline activities over the length of the project crediting period are subsistence-driven, an NPV analysis is not required, but an assessment of the net impacts of the project on the social and economic well-being of the communities who derive livelihoods from the project area (see Section 2.3.2) shall be undertaken." Section 2.3.2(3) requires that "To achieve the mitigation credit, it shall be demonstrated that a current participatory assessment of the positive and negative impacts of the project activities on the local communities who derive livelihoods from the project area has been completed and demonstrates net positive benefits on the social and economic well-being of these communities."

The non-permanence risk report states that "Net positive community impacts are demonstrated in the document Project Description Section 6." While Sections 6 and 7 of the project description do contain a great deal of information regarding the communities surrounding the project area, meetings with those communities, and the programs that may be implemented to help those communities, it is not clear than an analysis of the positive and negative impacts of the project activities on the local communities who

derive livelihoods from the project area has been completed. Please provide such an analysis, noting that such an analysis must acknowledge the negative impacts of the project activities on the local communities (one such negative impacts being the reduced potential for expansion of agricultural activities into the project area).

Client Response: In the design phase of the Jari/Amapá REDD+ Project we attempted to analyze the positive and negative impacts on the communities. We don't consider as a negative impact the reduction of the expansion of agriculture in the Project Area because the participation of the communities in the Social Activities is volunteer, and the families who already carry activities in the region will not be coerced by the Project. There is the intention to consider the deforestation reduction for the benefits sharing, however this possibility is under study considering the objectives listed above. Foreseen negative impacts and how to mitigate them: I. Increase in number of local population with the success of the Project. Grupo Orsa has proceedings of patrolling land surveillance for avoiding land invasions (Item 5 – Environmental Impacts). Also land invaders will not be involved in the benefit sharing. II. Impacts caused by the low impact forest management, such as smoke from vehicles and equipment; noise from chainsaw, machines and vehicles; production of residues. For the Impacts caused by the low impact forest management, Orsa Florestal has environmental proceedings with the goal to mitigate and monitor such impacts (Item 5 - Environmental Impacts). Foreseen Positive Impacts: I. Generation of income to the communities; II. Improvements in agricultural production and facilitating the marketing of products, due to Technical assistance and inputs and Technical capacitation of the communities; III. Avoiding rural exodus and marginalization of people in the cities because communities will have conditions to remain in the rural area; IV. Reducing risks of extreme weather events do to climate change. The Programs and Activities in 1.2.2 - Project Activities will generate these positive impacts.

Auditor Response: The project proponent has provided an appropriate assessment of the positive and negative impacts of the project activities on the local communities who derive livelihoods from the project area. On the basis of this assessment, net positive benefits with respect to the social and economic well-being of nearby communities has been demonstrated. Therefore, the information request has been resolved.

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

NIR 2012.37 dated 11/20/2012

Standard Reference: AFOLU Non-Permance Risk Tool V3.2, Sec. 2.2.1

Document Reference: AMAPA_Risk analysis and buffer determination.pdf, page 2;

Finding: The non-permanence risk report states that "Management team includes individuals with significant experience in AFOLU project design and implementation, and in carbon accounting, under approved GHG programs." The AFOLU Non-Permanence Risk Tool indicates that a mitigation risk score of -2 for the Project Management sub-category may claimed if "Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (eg, individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs." During the site visit, it was

indicated that one of the management team members was involved with the validation of a project under the CDM program, which is an approved GHG program. However, the explicit evidence needed to support the mitigation risk score was not provided. Please provide evidence of the following:

- The management team member's role in "managing" the validation of the CDM project described above

- The successful validation of the project described above

Client Response: Gabriela Lopes Jorge (project coordinator from Biofílica) and Carlos Souza Jr. (researcher specialist in carbon stock estimate, emissions accounting and land-use and land-change modeling from Imazon) have participated in other AFOLU project design and implementation, carbon accounting and reporting under the VCS and CDM Programs. Gabriela has participatet in the development and validation process of one of the largest CDM A/R Projects, named “Vale Florestar: Reforestation of degraded tropical land in Brazilian Amazon”. As evidence, the following documents were provided to the VVB: i) Statement of Earnings Paid and Income Tax Withheld at Source of Gabriela, showing WayCarbon (company that develop the the CDM Project PDD) as a source of payment; ii) WayCarbon work hours workbook evidencing that Gabriela has worked in the development of the mentioned Project (in the workbook the Project can be identified as "VALEMDL01 = Vale Florestar - Offset - MDL - Reflorestamento -"; iii) validation report of such Project from TÜV SÜD iv) link to the CDM webpage where the status of such Project can be viewed (http://cdm.unfccc.int/Projects/DB/TUEV-SUED1347438547.06/view) ; Carlos Souza Jr. has participated in the VCS Project "Cikel Brazilian Amazon REDD APD Project:

GHG Emission Reductions From Avoiding Planned Deforestation". As evidence, the PD of such Project, where Carlos is listed as responsible for selection and analysis of classified satellite imagery, classified forest cover map in which forest and non forest are distinguished and Accuracy Assessment was provided to the VVB (also found in https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=832&lat=-3%2E541054281&lon=-48%2E5603308188&bp=1)

Auditor Response: Sufficient information has been provided to demonstrate that the management team includes an individual, Gabriela Lopes Jorge, with significant experience in AFOLU project design and implementation under the CDM Program (an approved GHG program). Additional information has been provided to demonstrate that Carlos Souza Jr. has prior experience in AFOLU project design and implementation under the VCS Program, although it is not clear to the audit team that Carlos Souza Jr. necessarily is "responsible for day-to-day project management and the implementation of project activities" (the criteria for management team members as set out by Section 2.2.1(2) of the AFOLU Non-Permanence Risk Tool). Nonetheless, as Gabriela Lopes Jorge is a member of the management team, the claimed mitigation risk score is justified.

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

NIR 2012.38 dated 11/20/2012

Standard Reference: AFOLU Non-Permance Risk Tool V3.2, Sec. 2.2.2

Document Reference: AMAPA_Risk analysis and buffer determination.pdf, page 7;

Finding: The AFOLU Non-Permanence Risk Tool indicates that a risk score of 0, with respect to the percentage of needed funding secured, may be claimed if "Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven". The non-permanence risk report states that "Project has secured 117% (80% or more) of funding needed to cover the total cash out before the project reaches breakeven. Supporting documents, such as contracts sales and purchase of trees, contracts of land leasing and Project's General Management Spreadsheet, were made available to validation/verification body."

While the audit team was presented with evidence indicating that approximately 20% of funding needed to cover the total cash out before the project reaches breakeven was held as disposable income by Biofílica Investimentos Ambientais S.A. as of 30 September 2012, the audit team was not presented with evidence indicating that the project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven. Please provide evidence that all of the quantity held as disposable income by Biofílica Investimentos Ambientais S.A., as described above, has been secured by the project (i.e, that all of the quantity can be made available to the project if needed). In addition, please provide evidence that 80% or more of the funding needed before the project reaches breakeven has been secured, or revise the risk assessment.

Client Response: The project's data has changed since the first version of the PD and tool submission, therefore the new documentation provided shall justify funds secured to cover approximately 20% of the project's cash out.

Auditor Response: The audit team was provided with evidence that, as of December 2011, the project had secured approximately 16% of funding needed to cover the total cash out before the project reaches breakeven. The risk report was revised accordingly. Therefore, the need for additional information has been satisfied.

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

NIR 2012.39 dated 11/20/2012

Standard Reference: AFOLU Non-Permance Risk Tool V3.2, Sec. 2.2.2

Document Reference: AMAPA_Risk analysis and buffer determination.pdf, page 8;

Finding: The AFOLU Non-Permanence Risk Tool indicates that a mitigation risk score of -2 may be claimed if "Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven". The non-permanence risk report states that "Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven (See Adiantamento

de Contrato de Câmbio)."

While the audit team was presented with the "Adiantamento de Contrato de Cambio" during the site visit, and while such a document does constitute sufficient evidence of the callable financial resources available to the project, it is not clear to the audit team that such callable financial resources amount to at least 50% of total cash out before the project reaches breakeven. Please provide a written description of exactly how it is demonstrated that the necessary resources are available to the project.

Client Response: Mitigation risk score is no longer claimed.

Auditor Response: As indicated in the Client Response section, the mitigation risk score is no longer claimed as applicable to the project. Therefore, this finding is no longer relevant.

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

NCR 2012.40 dated 11/20/2012

Standard Reference: AFOLU Non-Permance Risk Tool V3.2, Sec. 2.3

Document Reference: AMAPA_Risk analysis and buffer determination.pdf, page 9;

Finding: The AFOLU Non-Permanence Risk Tool indicates that a mitigation risk score of -2 may be claimed if "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 score is clearly only applicable where disputes over land tenure, ownership or access/use rights exist. Therefore, the mitigation score may not be claimed for the current risk analysis, in which no disputes over land tenure, ownership or access/use rights have been identified.

Client Response: Correction were made under the "Non-permanence Risk Report", and no mitigation score will be claimed anymore.

Auditor Response: Review of the risk analysis dated 8 January 2013 indicates that, as is indicated within the Client Response section, the claimed mitigation score has been withdrawn. Therefore, the non-conformity has been resolved.

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

NIR 2012.41 dated 11/20/2012

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

Document Reference: AMAPA_Risk analysis and buffer determination.pdf, page 13;

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, such as survey data in project areas, and may include projected climate change impacts. Where data are available for at least 20 years, but less than 100 years, projects shall conservatively extrapolate using available data. Where such data are not available for the project area, likelihood and significance shall be determined based on conservative estimates (ie, not underestimating the possible frequency or severity) of historical events in the region in which the project is located." The risk analysis states that "Hurricanes, cyclones and tornadoes do not occur in the project region (TOMINAGA et al, 2009)." During the site visit, the audit team was referred to the location in the cited reference on page 18 where it is stated that "No Brasil, os principais fenômenos relacionados a desastres naturais são derivados da dinâmica externa da Terra, tais como, inundações e enchentes, escorregamentos de solos e/ou rochas e tempestades (Figura 1.3)." However, the quoted text does not specifically indicate that hurricanes, cyclones and tornadoes do not occur in the project region, and is therefore not sufficient to fulfill the requirement of the AFOLU Non-Permanence Risk Tool. Please provide evidence of the following:

- Where data are available for at least 20 years, but less than 100 years, a conservative extrapolation of available data leads to the conclusion that hurricanes, cyclones and tornadoes do not occur in the project region

- Where such data are not available for the project area, the determination of likelihood and significance based on conservative estimates (ie, not underestimating the possible frequency or severity) of historical events in the region in which the project is located

Client Response: The text ""Hurricanes, cyclones and tornadoes do not occur in the project region (TOMINAGA et al, 2009)"" was replaced by “The climatic conditions necessary for the formation of hurricanes, cyclones and tornadoes are not present in the northern region of Brazil; therefore such events have low possibility to occur in the Project Area. As per CEPED (2012) such types of events are characteristic of southern Brazil. Using data collected during 20 years CEPED (2012) found 2 occurrences of strong winds and cyclones and zero for tornados in the state of Amapá, which represent, by extrapolation, less then once and zero times every 100 years in the Project Area, for strong winds and cyclones and tornados, respectively.” in document “AMAPA_Risk analysis and buffer determination.pdf” (page 13).

Auditor Response: It will be necessary to provide the page numbers for the supporting information in CEPED (2012) for each of the claims made in the Client Response section. Please also explain the rationale for the determination that the likelihood can be considered to be "less then once and zero times every 100 years in the Project Area, for strong winds and cyclones and tornados, respectively".

Client Response 2: The page numbers where the supporting information can be found in CEPED (2012) are 47 (hurricane/cyclone) and 51 (tornadoes), where the following is stated: “A análise do mapa em conjunto com o gráfico de ocorrências por região demonstra que o evento é característico da região Sul”.

The likelihood of occurrence of strong wind and cyclone in the Project Area was miswritten in the non-permanence risk report as less then once every 100 years, where it is actually zero (this was uptated in the Non-permanence risk report v.1.2). The rationale for such determination of likelihood is:

According to CEPED (2012) (Table on page 47) only two occurrences of strong wind and cyclones were

registered in the State of Amapá during 20 years, both in the municipality of Macapá (CEPED, 2011, page 36), which is outside the Project Reference Region. Zero occurrences of such events were registered in the Project Reference Region. Therefore, by extrapolation, strong winds and cyclones are not likely to happen in the Project Reference Region and Project Area.

The rationale for the determination that the likelihood of tornado occurrence is:

According to CEPED (2012) (Table on page 51), no occurrence of tornados was registered in Amapá during 20 years. For extrapolation, the likelihood for tornado occurrence in the Project Area in 100 years is zero.

Auditor Response 2: The audit team has been able to review the references cited in the Client Response section and confirm that, according to the reports referenced, no cyclones or gales have been noted in the project area over a period of 20 years (1991-2010). The reports referenced are credible, third party sources produced by the Centro Universitário de Estudos e Pesquisas Sobre Desastres (CEPED), and are therefore sufficient to meet the requirements of Section 2.4.1(1) of the AFOLU Non-Permanence Risk Tool. Therefore, the information request has been satisfied.

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

NIR 2012.42 dated 11/20/2012

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

Document Reference: AMAPA_Risk analysis and buffer determination.pdf, page 13;

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, such as survey data in project areas, and may include projected climate change impacts. Where data are available for at least 20 years, but less than 100 years, projects shall conservatively extrapolate using available data. Where such data are not available for the project area, likelihood and significance shall be determined based on conservative estimates (ie, not underestimating the possible frequency or severity) of historical events in the region in which the project is located." The risk analysis states that "No occurrence of forest blowdowns was registered in the project area. Scientific research considers that this event occurs majorly in the Central and Occidental Amazon (Nelson and Amaral, 1994), and is rare and unpredictable in tropical forests in large scale, larger than an area of 30 hectares (Gloor et al., 2009)." During the site visit, it was indicated to the audit team that no occurrence of blowdown in the project area had been noted since the purchase of the project area by Grupo Orsa in 2000. However, no record was available for the period prior to that time. In the absence of a dataset extending back at least 20 years it is required that likelihood and significance be determined based on conservative estimates (ie, not underestimating the possible frequency or severity) of historical events in the region in which the project is located.

The references cited by the risk analysis do not constitute sufficient evidence to indicate that it is

conservative to classify the risk of blowdown as "not applicable". The audit team is familiar with at least one other instance of blowdown in the northern region of Brazil. Therefore, it is not clear to the audit team that the risk of blowdown is not applicable. Please provide evidence that it is conservative to classify the risk of blowdown as "not applicable", as required by the AFOLU Non-Permanence Risk Tool.

Client Response: The document “AMAPA_Risk analysis and buffer determination.pdf” was modified in Forest Blowdonw risk analysis:

Significance: Insignificant.

As per peer-reviewed scientific paper of Espirito-Santo et al. (2009), across the Amazon basin (from the 2° 13′ S and 51° 51′ W to 6° 29′ S and 66° 49′ W), blowdown disturbance events do not make an important direct contribution to carbon stock decrease in the Amazon.

Likelihood: Once every 100 years or more.

The Espirito-Santo et al. 2009 paper estimated to be 90,000 years for the eastern Amazon (51° 51′ 22 ″ W to 57° 25′ 18″ W) and 27,000 years for the western Amazon (57° 25′ 18″ W to 66° 49′ 04″ W.) the recurrence intervals of blowdown.

Auditor Response: As is indicated in the Client Response section, the paper published by Espirito-Santo (2010) confirms that the frequency of recurrence of large blowdowns is very low. Thus, when a conservative extrapolation is made, the audit team agrees that the likelihood of blowdowns can be considered to be "Once every 100 years or more", and therefore the risk can be conservatively considered to be "not applicable".

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

NCR 2012.43 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 7.1.2

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 105; Amapa_MonitoringReport.pdf, page 30

Finding: The methodology requires that "Some unplanned deforestation may happen in the project area despite the AUD project activity… To allow ex ante projections to be made, the project proponent shall make a conservative assumption about the effectiveness of the proposed project activities and estimate an Effectiveness Index (EI) between 0 (no effectiveness) and 1 (maximum effectiveness)." The PD states that "It was assumed that Project activities significantly reduce GHG emissions from deforestation. Thus, an Effectiveness Index of 100% was considered in the projected emissions decrease of the baseline scenario." However, the monitoring report for the monitoring period 14 February 2011 to 14 February 2012 states that "A total of 32 hectares of unavoidable unplanned deforestation was observed within the

Project area in this monitoring period." Given that 32 hectares were found to be subject to unavoidable unplanned deforestation in the first year of project implementation, it is the opinion of the audit team that an Effectiveness Index of 100% does not originate from "a conservative assumption about the effectiveness of the proposed project activities", as required by the methodology.

Client Response: Table 42 of the PD was modified in order to include an estimate of Project's EI, as required by Step 7.1.2 da VM0015.

Auditor Response: As indicated, a revised Effectiveness Index has been incorporated into the ex-ante estimate of GHG emission reductions and removals. The revised Effectiveness Index is appropriately conservative, and thus the non-conformity has been resolved.

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

OFI 2012.44 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 7.3

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Table 43

Finding: The methodology requires that the two right-most columns of Table 24 present the "Total ex ante estimated actual non-CO2 emissions from forest fires in the project area". Table 43 of the PD (corresponding to Table 24 of the methodology) contains non-zero values in these columns that correspond to the total estimated carbon stock change in the project scenario. This is not consistent with the statement on page 106 of the PD that "Non-CO2 emissions from forest fire were not accounted for in the baseline scenario... step 7.2 and Table 23 of VM0015 do not apply", nor is it consistent with the computational approach required by the methodology.

The inclusion of Table 24 in the PD is not required by any VCS rule or by the methodology. Furthermore, the incorrect values are not the source of any calculation required by the methodology, and therefore the framework for quantification of GHG emission reductions and removals is not affected. On this basis, the discrepancy noted above is not technically a non-conformity with respect to the VCS rules. However, there remains an opportunity to more transparently comply with the intent of the methodology through correction of the above discrepancy.

Client Response: The table 43 in PD (corresponding to Table 24 of the version 1.0 of methodology and Table 29 of version 1.1) was corrected by excluding the values incorrectly posted.

Auditor Response: Opportunities for Improvement need not be responded to. Nonetheless, the attention taken to correct the identified error is appreciated.

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

NCR 2012.45 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 2, Step 9.1; “Tool for testing significance of GHG emissions in A/R CDM project activities”, V01

Document Reference: AMAPA_Plan_de Gestao_English.pdf, pages 111-112

Finding: The methodology requires that "All carbon pools and sources of GHG emissions considered in this methodology must be calculated to assess their significance. Use the latest EB-CDM approved “Tool for testing significance of GHG emissions in A/R CDM project activities” to determine the significance of each of the ex ante calculated carbon stock changes and GHG emissions."

The “Tool for testing significance of GHG emissions in A/R CDM project activities” has not been correctly implemented in order to determine the significance of each of the ex ante calculated carbon stock changes and GHG emissions. The most significant aspect of the incorrect implementation of the Tool is in the first step of the Tool, where the following is required: "Estimate the A/R CDM project GHG emissions by sources (per each source) and possible decreases in carbon pools (e.g. due to site preparation, grazing, harvesting) based on site/project specific data, scientific literature, or the most recent default emission factors provided by IPCC (e.g. IPCC 1997, 2003, 2006) and site/project specific activities. Estimation shall follow the approved methodology."

An important potential source of decreases in carbon pools attributable to the project activity is a reduction in the wood products pool. This may happen if, even though there is some timber harvest (and thus, some transfer of carbon to the wood products pool) projected in the project scenario, it is possible that there would be more timber harvest (and, perhaps, more transfer of carbon to the wood products pool) in the baseline scenario. If more carbon exists in the wood products pool in the baseline scenario than in the project scenario, this would constitute a decrease in the wood products carbon pool that results from the implementation of the project activity. The purpose of the Tool is to test whether such a decrease can be considered significant and, thus, need be accounted for.

In summary, the Tool has not been correctly implemented. Therefore, the assertion of the project description that the wood products pool is "not counted as significant (<5%)" may not be correct.

Client Response: All carbon pools and sources of GHG emissions considered in the methodology were calculated ans their significance was assessed, as per the latest EB-CDM approved “Tool for testing significance of GHG emissions in A/R CDM project activities”. Wood product pools for the project scenario and baseline scenario were calculated and, as the carbon stock of this pool is higher in the project case (that is, more timber is harvested and transformed in wood products in the project scenario when compared to the baseline scenario), than it was conservativelly omited. Please refere to "AMAPA_baseline_VVB_2013" and "Tabela Estoque TDR4_2013".

Auditor Response: As indicated, a revised analysis has been conducted to test the significance of the wood products pool, and therefore the non-conformity has been resolved. Further questions related to this analysis have been addressed through additional findings.

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

NCR 2012.46 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 3, Step 1.2.1

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 132

Finding: The methodology requires that "Monitoring of the sources of emissions associated with leakage prevention activities must follow the methods and tools described in part 2, step 8.1 of the methodology." The monitoring plan states that "A reduction in carbon stocks due to activities carried out in leakage management areas is not expected as there will be no activities of agricultural improvement or management of grazing areas able to alter carbon stocks and increase GHG emissions as compared with baseline scenario in leakage management areas." While it is understood that activities that may result in a decrease in carbon pools or an increase in GHG emissions in leakage management areas are not anticipated at this time, the audit team observed that the activities to take place in the leakage management areas were not very well defined as of the time of the audit team's site visit. Given that the PD does not contain any firm restrictions on the leakage management activities to be undertaken, and also that the monitoring plan does not contain any framework for monitoring the carbon stock changes and/or GHG emissions attributable to such activities in the event that they are implemented, the possibility exists that activities resulting in decreases in carbon pools and/or increases in GHG emissions may be implemented in the leakage management areas, and that the carbon stock changes and/or GHG emissions attributable to such activities may not be appropriately accounted for.

Client Response: The section 4.3 in PD has been updated to include a basic framework for monitoring the carbon stock changes and/or GHG emissions attributable to activities in the leakage management areas, if implemented.

Auditor Response: As is indicated in the Client Response section, the PD that was submitted to the audit team on 8 January 2013 contains a plan for monitoring emissions associated with leakage prevention activities. The plan is generally adequate for monitoring such emissions, should they occur over the course of the crediting period. Therefore, the non-conformity has been resolved.

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

NIR 2012.47 dated 11/20/2012

Standard Reference: NA

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 130; Amapa_MonitoringReport.pdf, page 30

Finding: The monitoring plan within the PD states that "In order to validate the information obtained from satellite images, the mapped data on deforestation occurrences will be checked against unplanned deforestation reports and bulletins prepared by the Jari Celulose land surveillance and security team and the planned deforestation reports prepared by Orsa Florestal." The monitoring report indicates that "A total of 32 hectares of unavoidable unplanned deforestation was observed within the Project area in this monitoring period". While quantification of the area subject to unavoidable unplanned deforestation during

the first monitoring period was demonstrated to the audit team, the audit team was not presented with evidence that the mapped data on deforestation occurrences were checked against unplanned deforestation reports and bulletins prepared by the Jari Celulose land surveillance and security team and the planned deforestation reports prepared by Orsa Florestal. Please provide such evidence.

Client Response: To meet the requirement indicated in Finding 2012.11, the section 1.2 of monitoring plan was modified, and the text "In order to validate the information obtained from satellite images, the mapped data on deforestation occurrences will be checked against unplanned deforestation reports and bulletins prepared by the Jari Celulose land surveillance and security team and the planned deforestation reports prepared by Orsa Florestal" was replaced by “In order to validate the information obtained from satellite images, the mapped data on deforestation occurrences will be carried out through data collected in the field using GPS navigation”.

The occurrence of deforestation was checked in field by the Biofilica Investimentos Ambientais and Jari Celulose team on 26/06/2012, 27/06/2012 and 23/07/2012. The GPS coordinates (shapefile and table data) and photography was provided to the auditing team.

Auditor Response: This finding has been made irrelevant through a modification to the monitoring plan. The revised procedures in the monitoring plan are sufficient to confirm the legitimacy of all instances of measured deforestation, and the audit team received documentary evidence sufficient to substantiate claims that the modified procedure was carried out with respect to deforestation observed during the monitoring period in question. Therefore, the finding may be closed.

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

NCR 2012.48 dated 11/20/2012

Standard Reference: VCS Standard V3.3, Sec. 3.16.6 and Sec. 3.18.2

Document Reference: AMAPA_Plan_de Gestao_English.pdf, page 116; Amapa_MonitoringReport.pdf, page 16; AMAPA_Baseline_Relatorio_Final_VVB.xlsx

Finding: The VCS Standard requires that "The project description shall include the following... A description of all data and parameters, available at validation, used for measuring, monitoring and calculating GHG emissions and net GHG emission reductions or removals". The VCS Standard also requires that "The monitoring report shall... include the following...The data and parameters (both available at validation and monitored)".

The parameter C(tot), available at validation, has been described on page 116 of the PD and 16 of the monitoring report, respectively. However, the value of 161.5 tCO2e/ha that is reported is not consistent with the value that has been reported in the "Table 14" worksheet of the "AMAPA_Baseline_Relatorio_Final_VVB.xlsx" workbook and used in the ex ante estimate of GHG emission reductions and removals attributable to the project.

Client Response: The value of parameter Ctot, described on Section 4,1 of the PD and 16 of the monitoring report, was modifying for 566.05 tCO2e/ha, and it is now in consistance with "AMAPA_Baseline_Relatorio_Final_VVB.xlsx"

Auditor Response: As indicated, the value in Section 4.1 of the PD has been revised to match the value within what is now "Table_15" of workbook "AMAPA_baseline_VVB_2013.xlsx". Therefore, the non-conformity has been resolved.

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

NIR 2012.49 dated 11/20/2012

Standard Reference: VCS Standard V3.3, Sec. 3.18.2(2); VM0015 V1.0, Part 1, Sec. 3; VT0001 V3.0, Sec. 2.2.5

Document Reference: NA

Finding: This finding is supplemental to NCR 2012.7.

The methodology requires that "Additionality of the proposed AUD project activity must be demonstrated using either the most recent VCS-approved 'Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities". The "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities" (VT0001) requires that the user "Clearly present critical economic parameters and assumptions (such as capital costs, lifetimes, and discount rate or cost of capital)" and "Justify and/or cite assumptions in a manner that can be validated." Please provide a formal justification for the following critical economic parameters, as identified during the site visit.

- The discount rate of 20%

- The assumed value of wood delivered to the sawmill gate of 225 R$ per cubic meter

Such justification could take the form of documentation that the factors above are common assumptions made in the course of internal planning by Grupo Orsa.

Client Response: The audit team was provided with a sales receipt representative of a slightly more conservative wood price than used on the financial-economic model.

Auditor Response: As indicated in the Client Response section, the audit team was provided with a sales receipt which suggests that wood sold by Orsa Florestal has fetched a selling price of 235 R$ in the past. This does support the appropriateness of the assumed wood value. However, the audit team has not yet been provided with evidence to substantiate the assumed discount rate of 20%. Therefore, the finding remains open.

Client Response 2: Evidence to substantiate the assumed discount rate of 20% had been previously provided under the response of Finding 2012.7. However, such evidence can also be view in the specific

folder of Finding 2012.49.

Auditor Response 2: In response to this finding, the audit team was provided with an attestation, made by a senior representative of Orsa Florestal, indicating that a discount rate of 20% is typically used for internal cash flow analyses. The information provided has been sufficient to satisfy the information request.

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

NCR 2012.50 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 1, Sec. 3; VT0001 V3.0, Sec. 2.2.5

Document Reference: AMAPA_Plan_de Gestao_English.pdf, pages 87-88

Finding: The methodology requires that "Additionality of the proposed AUD project activity must be demonstrated using either the most recent VCS-approved 'Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities". Step 4 of the "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities" (VT0001) requires that the user "Provide an analysis to which extent similar activities to the one proposed as the VCS AFOLU project activity have been implemented previously or are currently underway. Similar activities are defined as that which are of similar scale, take place in a comparable environment, inter alia, with respect to the regulatory framework and are undertaken in the relevant geographical area, subject to further guidance by the underlying methodology."

The audit team is aware of activities that are being implemented on an ongoing basis on the ownership of Grupo Orsa in the state of Pará. While it was discussed during the site visit that such activities differ in scale (being implemented over a much larger ownership in the state of Pará) and other respects, it is the opinion of the audit team that such activities must be considered "similar" activities to the one proposed as the VCS AFOLU project activity, for the following reasons:

- The ownership structure of the lands in Pará is identical to the ownership structure of the project area

- The lands in Amapá are expected to be subject to a similar style of FSC-certified forest management that is currently employed on Grupo Orsa's natural forest holdings in Pará

- The social benefit activities of the project are likely to be broadly similar to the social benefit activities being implemented in Pará; Fundação Orsa, a main partnering institution in the project, is also heavily involved in the social benefit activities currently being implemented in Pará

Therefore, the activities undertaken by Grupo Orsa on its landholdings in the state of Pará must be considered "similar" for the purposes of Step 4 of the VT0001 tool, as described above.

Client Response: In order to demonstrate that essential distinctions exist between the Project and Grupo Orsa's activities in the state of Pará, there were provided to the audit team distinction between Amapá and Pará in the follwing: 1. Scale and scope of Grupo Orsa's operations; 2. Institutional Landscape; 3.

Amapá's lack of Forest Management Tradition; 4. Fundação Orsa's operational focus; 5. Fundação Orsa's geographical focus.

Auditor Response: The revised PD provides necessary information regarding the essential distinctions between the project area in the state of Amapa and the operations of Grupo Orsa in the state of Para. The information provided is sufficient to clarify that the circumstances surrounding the project activity are fundamentally different from those surrounding the operations of Grupo Orsa in the state of Para. Therefore, the non-conformity has been resolved.

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

OFI 2012.51 dated 11/20/2012

Standard Reference: VM0015 V1.0, Part 3, Sec. 1.1.3 and App. 3

Document Reference: NA

Finding: Section 1.1.3 of the methodology requires that "Where carbon stocks are monitored, the methods on sampling and measuring carbon stocks described in appendix 3 must be used." Appendix 3 of the methodology requires that "To avoid subjective choice of plot locations... the permanent sample plots shall be located either systematically with a random start (which is considered good practice in IPCC GPGLULUCF) or completely randomly inside each defined stratum. This can be accomplished with the help of the project GIS platform and a GPS in the field." The term "random", as used by the methodology, has a specific meaning within the context of forest sampling, and is essentially defined as a means of locating sample plots within a stratum such that each area within the stratum has a known (and in many cases equal) probability of being sampled.

In discussions of the monitoring plan during the site visit, it was indicated to the audit team by project personnel that it is planned that sample plots will be located manually, by indentifying sample plot locations so as to avoid having plots too close together and get a good distribution of plots within the stand or stratum to be sampled. It is understood that such a procedure is commonly applied in the practice of locating sample plots for inventories that are conducted by Orsa Florestal. While such a procedure conforms to the standard English definition of the term "random", it does not conform to the specific definition of the term "random" that is common within the context of forest sampling. While it is unknown whether such a procedure may result in substantial bias in monitored carbon stock data, it is possible that such an approach may be seen as a non-conformity by a future validation/verification body. Thus, an opportunity exists to retain conformance with the methodology throughout the project lifetime.

Client Response: This finding is a Opportunity for Improvement and does not require a formal response.

Auditor Response: As is indicated in the Client Response section, Opportunities for Improvement do not require a formal response.

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

NCR 2012.52 dated 02/27/2013

Standard Reference: VM0015 V1.1, Sec. 4.1.2.1

Document Reference: AMAPA_baseline_VVB_2013.xlsx

Finding: When using approach "a" to calculate the historical deforestation rate, the methodology requires the user to "See Puyravaud, J.-P., 2003. Standardizing the calculation of the annual rate of deforestation. Forest Ecology and Management, 177: 593-596" for guidance on calculating the deforestation rate. The manuscript referenced by the methodology recommends the formula r = (1/(t2-t1))*ln(A2/A1), where A1 and A2 are the forest cover at time t1 and t2, respectively. However, while the PD states that "The deforestation rate measured between 2000 and 2010 (RBSLRR) was calculated as indicated by Puyravaud (2003)" (page 64), review of cell AV14 within worksheet "Step_4.1.2.1" of workbook "AMAPA_baseline_VVB_2013.xlsx" indicates that the formula suggested by Puyravaud has not been used.

Client Response: The cells AL13:AV13 of worksheet "Step_4.1.2.1" were modified to include the formula indicated by Puyravaud (2003). The historical deforestation average rate resulting from the application of the indicated equation is 0,269%, taking into consideration 3 decimals places, and it is used for the calculation of ABSLRRi,t, located in the cell AV15 in workbook "AMAPA_baseline_VVB_2013_2.xlsx".

Auditor Response: Review of the revised workbook "AMAPA_baseline_VVB_2013_2.xlsx" confirms that, as indicated, the cells in question have been modified to include the formula suggested by Puyravaud (2003). Therefore, the non-conformity has been resolved. It should be noted that the numerical difference between the results given by the two methods for quantification of the average historical deforestation rate are very small.

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

NCR 2012.53 dated 02/27/2013

Standard Reference: NA

Document Reference: AMAPA_Plan_de Gestao_English_v1.1_20120219.docx, Sec. 4.1 and Sec. 6.1.1

Finding: The Higuchi equation is incorrectly specified in the parameter tables of Section 4.1 of the methodology. The specification of the equation in this location is inconsistent with the specification of the equation within the Higuchi et al. (1998) manuscript, as well is the specification of the equation within Section 6.1.1 of the PD, which states that "The allometric equation ln(FW)= -1,497 + 2,548 ln (DBH) (HIGUCHI et al., 1998) was used to convert the DBH of individual trees into above-ground fresh biomass of such trees."

Client Response: The specification of the equation was corrected in Sections 4.1 and 6.1.1 of the PD, according to Higuchi et al. (1998) manuscript.

Auditor Response: As indicated in the Client Response, the specification of the Higuchi et al. (1998)

equation has been corrected in Section 4.1 of the PD dated 9 April 2013.

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

NIR 2012.54 dated 02/27/2013

Standard Reference: NA

Document Reference: AMAPA_Baseline_Relatorio_Final_VVB.xlsx; AMAPA_baseline_VVB_2013.xlsx

Finding: A discrepancy exists between the cumulative deforestation values provided in worksheet "Figure 17 in PD" of workbook "AMAPA_Baseline_Relatorio_Final_VVB.xlsx", as confirmed during the site visit, and those provided in cells AL7:AV7 of worksheet "Step_4.1.2.1" of workbook "AMAPA_baseline_VVB_2013.xlsx". Please explain the discrepancy, providing any additional documentary evidence as necessary to substantiate claims.

Client Response: The discrepancy of 1293 ha has occurred due to the use of different data types between version 1.0 (raster data) and 1.1 (vector data).

In worksheet "Figure 17 in PD" of version 1.0 of the PD land cover change values calculated in IDRISI with raster data were used, converted for pixel size of 100 m x 100 m.

In version 1.1 of the PD (worksheet "Step_4.1.2.1"), land cover change values calculated in Excel with PRODES original data in shape file format were used, which have better resolution.

Auditor Response: The information provided is a reasonable explanation for the 1,293-hectare discrepancy in cumulative deforestation values for the year 2010. The audit team can confirm that the values previously assessed during the site visit were derived from raster data. The audit team can also confirm that vector data appear to be used in the revised workbook. As the difference is equal to a very small percentage (0.7165%) of the previously provided cumulative deforestation value, the risk of material error arising from a change in data sources is minimal. However, it is true that the vector data should have better accuracy than the raster data set previously used. Therefore, the information request has been resolved.

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

NIR 2012.55 dated 02/27/2013

Standard Reference: VCS Standard V3.3, Sec. 3.1.5

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Sec. 4.1; AMAPA_Plan_de Gestao_English_v1.1_20120219.docx, Sec. 4.1

Finding: The parameter labeled "Carbon content in dry biomass" in Section 4.1 of the PD was previously

assigned a value of 0.5 in the PD dated 20 September 2012. It has been assigned a value of 0.485 in the PD dated 19 February 2013.

Section 3.1.5 of the VCS Standard requires that "Where projects apply methodologies that permit the project proponent its own choice of third party default factor or standard to ascertain GHG emission data and any supporting data for establishing baseline scenarios and demonstrating additionality, such default factor or standard shall meet with the requirements set out in Section 4.1.7(1)." Section 4.1.7(1) requires that "Where the methodology uses third party default factors and/or standards, such default factors and standards shall meet with the requirements for data set out in Section 4.5.6, mutatis mutandis." Section 4.5.6 of the VCS Standard provides nine different requirements.

As the methodology permits the project proponent its own choice of factor to estimate the carbon content in dry biomass, it will be necessary to provide evidence of conformance with Section 3.1.5 of the VCS Standard. Please provide such evidence.

Client Response: The factor to estimate carbon content in dry biomass is in conformance with Setion 3.1.5 of the VCS Standard because it was obtained by multiplying dry biomass per 0.485 (NOGUEIRA et al. 2008). This expansion factor is appropriate to the Project because it was obtained from published paper on Forest Ecology and Management, a recognized journal.Such justification was included in the PD (Section 6.1.1 of the methodology).

Auditor Response: The audit team was provided with sufficient evidence that the factor of 0.485 complies with the requirements of Section 4.5.6 of the VCS Standard. The paper by Nogueira et al. (2008), which was the source for the factor in question, is a "a recognized, credible source" that has been reviewed as part of the peer-reviewed process required to publish in the prestigious journal Forest Ecology and Management. In addition, the factor is appropriate to the geographic scope of the project, as it applies to the Brazilian Amazon, the region in which the project is located. Therefore, the information request has been satisfied.

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

NIR 2012.56 dated 02/27/2013

Standard Reference: NA

Document Reference: AMAPA_Baseline_Relatorio_Final_VVB.xlsx; AMAPA_baseline_VVB_2013.xlsx

Finding: Several discrepancies exist between the values provided in worksheet "Figure 13 in PD" of workbook "AMAPA_Baseline_Relatorio_Final_VVB.xlsx" and those provided in worksheet "Step_4.1.2.1" of workbook "AMAPA_baseline_VVB_2013.xlsx". These discrepancies are as follows:

- Cells AI4:AV4 contain different values between worksheets

- Cell AV12 contains different values between worksheets

The audit team is unaware of any reason for the change in values.

Please explain each of the above discrepancies, providing any additional documentary evidence as necessary to substantiate claims.

Client Response: 1) Cells AI4:AV4: difference in cumulative deforestation:

According to the Coordinator of Amazon Program from INPE which PRODES is part of, Mr. Dalton Valeriano, after each update of PRODES, INPE reviews the data that had already been made publicly available, what may result in small differences, such as the ones identified in cells AI4:AV4.

2) Cell AV12: Remaining forest area:

Such difference was already expected. To estimate deforestation rate, the forest area (Class = Forest) of file "rr_lc2010.rst" was used. Such adjustment was necessary so that the allocation of deforestation, which was estimated based on raster files, would reflect the calculated rates in excel.

Furthermore, the considered base number (cumulative deforestation up to 2010) was 181.475 ha (in red in Excel). Such number is the cumulative deforestation up to 2010 of the raster file rr_lc2010.rst.

Auditor Response: The information provided is a reasonable explanation for the very small discrepancies in values between the two referenced workbooks. Therefore, the information request has been satisfied.

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

NIR 2012.57 dated 02/27/2013

Standard Reference: VM0015 V1.1, Sec. 4.2.4

Document Reference: NA

Finding: The methodology requires the user to "select the pixels with the highest value of deforestation probability" and "Add the area of these pixels until their total area is equal to the area expected to be deforested in the reference region in project year one according to table 9.a". It was indicated to the audit team during the site visit that it was not possible to implement this procedure in IDRISI. However, in response to NCR 2012.27, it was stated that "The procedure for selecting pixels with the highest risk of deforestation and the and [sic] respective maps of baseline future deforestation, was performed automatically (programmed in IDRISI) by the LCM". Please describe how it was determined that it was possible to implement the procedure in IDRISI, when it was previously thought impossible to do so.

Client Response: The explanation about the IDRISI procedure PD was made to the auditor during

conference call with Amintas, Gabriela, Rogério and Plínio in 26/03/2013

Auditor Response: In response to this finding, it was indicated to the audit team that a miscommunication had occurred when the issue was discussed during the site visit. During a web-based follow-up meeting, an analyst demonstrated to the audit team that it is possible to automatically implement the procedure required by Step 4.2.4 of the methodology within IDRISI, and that the procedure had been correctly followed in the prediction of the location of future deforestation. Therefore, the information request has been resolved.

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

NIR 2012.58 dated 02/27/2013

Standard Reference: VM0015 V1.1, Sec. 4.2.4

Document Reference: AMAPA_Plan_de Gestao_English.pdf, Tables 24 and 25; AMAPA_Plan_de Gestao_English_v1.1_20120219.docx, Tables 24 and 25

Finding: The methodology states, "To obtain the annual areas of baseline deforestation within the project area, combine the annual maps of baseline deforestation for the reference region with a map depicting only the polygon corresponding to the project area. After this step, table 9.b can be filled-out. The same must be done for the leakage belt area to fill-out table 9.c."

While the average number of hectares projected to be deforestated per year in the reference region from 2011-2020 (i.e., the average of the values provided in Table 23) has not changed greatly between submissions of different versions of the PD (2,475 hectares/year in the version of the PD dated 20 September 2012, versus 2,709 hectares/year in the version of the PD dated 20 February 2013), the number of hectares projected to be deforestated per year in the project area and leakage belt from 2011-2020 has changed significantly between submissions.

The number of hectares projected to be deforestated per year in the project area from 2011-2020 (i.e., the average of the values provided in Table 24) is stated to be 154 hectares/year in the version of the PD dated 20 September 2012. This same quantity is stated to be 653 hectares/year in the version of the PD dated 20 February 2013. This is a 324% increase over the average of the values presented in the version of the PD dated 20 September 2012.

The number of hectares projected to be deforestated per year in the leakage belt from 2011-2020 (i.e., the average of the values provided in Table 25) is stated to be 267 hectares/year in the version of the PD dated 20 September 2012. This same quantity is stated to be 790 hectares/year in the version of the PD dated 20 February 2013. This is a 196% increase over the average of the values presented in the version of the PD dated 20 September 2012.

Please explain the wide discrepancy between projected deforestation values, in the project area and leakage belt, between versions of the PD.

Client Response: The explanation about the difference between version 1.0 and 1.1 of PD was made to

the auditor during conference call with Amintas, Gabriela, Rogério and Plínio in 26/03/2013.

Auditor Response: The client responded to this NIR by arranging a web-based meeting with the analyst who conducted the analysis required by Step 4.2 of the methodology. During this meeting, the analyst replicated the tasks undertaken to project the locations of future deforestation in accordance with Step 4.2.4 of the methodology, such that the audit team could confirm that the tasks were undertaken correctly. It was explained to the audit team that the discrepancies in area deforested in the leakage belt and project area between the baseline analysis submitted for review on 29 September 2012 and the baseline analysis submitted for review on 19 February 2013 are largely related to the fact that a "mask" was applied to decrease the assumed relative likelihood of deforestation in conservation units and areas of high elevation variance, and to increase the assumed relative likelihood of deforestation in areas in closer proximity to the planned location of the Santo Antonio hydroelectric dam project. In general, this mask had the effect of concentrating predicted deforestation in the area of the reference region that is closest to the project area and leakage belt, which resulted in a substantial increase in predicted deforestation in these areas. Additional concerns and questions held by the audit team with respect to the masking procedures have been addressed through additional findings. However, the new information requested by this finding has been adequately provided, and thus this finding may be closed.

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

NIR 2012.59 dated 02/27/2013

Standard Reference: NA

Document Reference: AMAPA_Plan_de Gestao_English_v1.1_20120219.docx, pages 103-104

Finding: The revised PD indicates that aboveground fresh biomass in trees >10 cm diameter at breast height (DBH) is calculated with "The allometric equation developed by Higuchi et al (1998)" and that a conversion factor of 0.5997 is used to convert from fresh biomass to dry biomass. However, the audit team has not been provided with evidence that the calculation of aboveground biomass in trees >10 cm DBH has been calculated as described above. Please provide a description of how the procedure described above was implemented, beginning with the dataset "Dados Brutos.xlsx" (as provided by Orsa Florestal) and ending with the dataset "Biomass3.csv" (which was an input to the MatLab procedure scripted in the script "biomassa_2.m"). Please provide all datasets, intermediate files and other records as necessary to allow the audit team to replicate the analysis.

Client Response: 1- The "dados brutos.xlsx" file containing inventory data (trees DBHs) was imported into the MS Access database "inventários.accbd", now provided to the VVB. 2- In this database, the formula used to calculate the biomass of each tree can be visualized by opening the query "CALCULO: equações de biomassa" in structure mode, under the last field, "Biom_Higushi_Flona: 0.5997*Exp(-1.497+2.548*Log([DAP]))/1000". 3- The value 0.5997 in the equation is the mentioned factor used to convert fresh to dry biomass. 4- Next, the biomass values were appended to the table "Dados Butos", in the same database. 5- Last, fresh biomass data was put in the query "Biomass 3", which was exported to csv for analysis in Matlab.

Auditor Response: In addition to the information provided in the Client Response section, the audit team held a web-based meeting, on 5 April 2013, to assess the process used to quantify biomass in each stratum. During this meeting, the audit team was able to observe the replication of the process for quantifying biomass in each stratum, beginning with the quantification of sub-unit-level biomass in Access and following through the quantification of stratum-level biomass in Matlab. No material errors or discrepancies were encountered by the audit team in the course of this review. The information provided to the audit team was sufficient to provide the audit team with a reasonable level of assurance as to the quantification of project carbon stocks, and therefore the information request has been satisfied.

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

NIR 2012.60 dated 02/27/2013

Standard Reference: NA

Document Reference: Tabela Estoque TDR4_2013.xlsx

Finding: The derivation of the value in cell A6 of worksheet "Por componente" of workbook "Tabela Estoque TDR4_2013.xlsx" is unclear. Please provide a description of the derivation of this value, together with all datasets, intermediate files and other records as necessary to allow the audit team to replicate the analysis.

Client Response: The overall average is one of the outputs of the application of the method of Wang et al (2008) as described in the answer for finding 2012.59

Auditor Response: In addition to the information provided in the Client Response section, the audit team held a web-based meeting, on 5 April 2013, to assess the process used to quantify biomass in each stratum. During this meeting, the audit team was able to observe the replication of the process for quantifying biomass in each stratum, beginning with the quantification of sub-unit-level biomass in Access and following through the quantification of stratum-level biomass in Matlab. No material errors or discrepancies were encountered by the audit team in the course of this review. The information provided to the audit team was sufficient to provide the audit team with a reasonable level of assurance as to the quantification of project carbon stocks, and therefore the information request has been satisfied.

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

NCR 2012.61 dated 02/27/2013

Standard Reference: VM0015 V1.1, Sec. 6.1.1(f)

Document Reference: Tabela Estoque TDR4_2013.xlsx

Finding: The methodology requires that "If the uncertainty of the total average carbon stock (Ctotcl) of a class cl is less than 10% of the average value, the average carbon stock value can be used. If the

uncertainty is higher than 10%, the lower boundary of the 90% confidence interval must be considered in the calculations if the class is an initial forest class in the project area or a final non-forest class in the leakage belt, and the higher boundary of the 90% confidence interval if the class is an initial forest class in the leakage belt or a final non-forest class in the project area."

Errors exist in the quantification of uncertainty as calculated in worksheet "Por componente" of workbook "Tabela Estoque TDR4_2013.xlsx". These errors are as follows:

- The quantification of total uncertainty in aboveground biomass in cell I6 is erroneous. The equation that is implemented quantifies the uncertainty in the components of aboveground biomass other than trees >10 cm in diameter at breast height (DBH) by adjusting the uncertainty in biomass of trees trees >10 cm in diameter at breast height (DBH) downward according to the estimated ratio of biomass in "other" components of aboveground biomass to biomass in trees >10 cm DBH. However, it does not quantify the total uncertainty in all components of aboveground biomass. When presented as such, the result is a large underestimation of uncertainty in aboveground biomass.

- The quantification of total uncertainty in aboveground biomass in cell I6 is erroneous. The equation that is implemented quantifies the uncertainty in all components of biomass other than aboveground biomass in trees >10 cm in diameter at breast height (DBH) by adjusting the uncertainty in the biomass of trees trees >10 cm in diameter at breast height (DBH) downward according to the estimated ratio of biomass in "other" components of total biomass to biomass in trees >10 cm DBH. However, it does not quantify the total uncertainty in all components of biomass. When presented as such, the result is a large underestimation of uncertainty in total biomass.

Client Response: Errors were fixed and a new version of the "Tabela Estoque TDR4_2013.xlsx" was provided to the auditor

Auditor Response: It should be noted that there are errors in the text of this finding. It was intended that the two bullet points of the finding refer to cells I6 and O6 of worksheet "Por componente", which quantify uncertainty in aboveground biomass and total biomass, respectively. The errors in both cells have been fixed in the revised version of the workbook "Tabela Estoque TDR4_2013.xlsx" that was provided for review by the audit team. Therefore, the non-conformity has been resolved.

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

NCR 2012.62 dated 02/27/2013

Standard Reference: NA

Document Reference: Amapa_MonitoringReport_1.1.doc, Tables 5 and 6

Finding: As confirmed during the site visit, 32 hectares were found (through remote sensing analysis) to be deforested in the project area during the monitoring period and 70.796584 hectares were found to be deforested in the leakage belt during that same time. Please provide evidence of the calculations used to quantify the total emissions in the project area and leakage belt, as presented in Tables 5 and 6 of the monitoring report, and provide any supporting information as needed to allow the audit team to

understand and replicate the calculations that were made.

Client Response: The following files were used to quantify the emissions in the Project Area and Leakage Belt, and were made available to the audit team:

• Amapa_MonitoringReport_1.2.docx

• VCS Monitoring Report Jari-Amapá Project.xlsx

• LULC_2011_LK.shp

• LULC_2011_PA.shp

Auditor Response: This finding was mistakenly issued as a Non-Conformity Report. It would more appropriately have been issued as a New Information Request.

Through review of document "VCS Monitoring Report Jari-Amapá Project.xlsx" the audit team was able to confirm the correctness of the quantification of GHG emission reductions, as presented in the monitoring report. Therefore, the information request has been satisfied.

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

NCR 2012.63 dated 02/27/2013

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

Document Reference: AMAPA_Risk analysis and buffer determination_v1.1.docx

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: Score of 2 is no longer applied for item (b) of the project management sub-category of the he AFOLU Non-Permanence Risk Tool.

Auditor Response: As the risk score in question is no longer applied, the non-conformity has been resolved.

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

NIR 2012.64 dated 02/27/2013

Standard Reference: VM0015 V1.1, Sec. 3.2

Document Reference: AMAPA_Plan_de Gestao_English.pdf, pages 58-59; AMAPA_Plan_de Gestao_English_v1.1_20120219.docx, page 123

Finding: The methodology requires the identification of "deforestation drivers". One of the deforestation drivers that was identified within the PD dated 20 September 2012 September 2012 was "illegal wood extraction". The description of this driver was as follows:

"this is the deforestation driver commonly identified in several locations in the Amazon region. Several times the wood extraction process is started by loggers connected to local sawmill, acting sometimes in association with squatters and small farmers before they start plantations and grazing areas. These deforestation agents remove the nobler woods and other woods for civil construction until total clear-cut deforestation of the area. According to Poema (2005) several sawmills and microsawmills operate in the Valley of Jari in an environmentally damaging and often illegally. The highest pressure for wood comes from Laranjal do Jari and Mazagão as shown in the data from IBGE (Brazilian Geography and Statistics Agency) (Figure 14) and information published by the Serviço Florestal Brasileiro & IMAZON (2010). Recent estimates point to an increase in the demand for forest products and its derivates in the region (Serviço Florestal Brasileiro & IPAM, 2011)."

The information stated above is consistent with understanding gained by the audit team during the site visit.

In the version of the PD dated 20 February 2013, no mention of this deforestation driver is made. Instead, the PD contained a discussion of how "the logging industry is not traditional in the state and this activity represents a small portion of the local economy".

Please provide a justification for the removal of the deforestation driver "illegal wood extraction" from the version of the PD dated 20 February 2013.

Client Response: “Illegal wood extraction” was inaccurately classified as a deforestation driver in the first version of the PD. It is in fact a degradation driver in the project region. The connection between illegal logging and land claiming still maintains in other parts of the Brazilian Amazon (INPE, 2008), but in our case those agents, after illegally extracting wood with higher market prices abandon it in search for other sites favoring the ones with better logistics. Those degradation agents differ from squatters whose main objective is to establish land possession through small plantations and grazing.

Auditor Response: The additional explanation provided is sufficient to clarify the rationale for the removal of the previous driver "illegal wood extraction" from the PD. Observations made during the site visit confirm that wood extraction in the project area is not necessarily linked with deforestation, and the information added to the PD provides additional justification for the argument that demand for agricultural land is the major driver of historical deforestation within the reference region. Therefore, the information request has been satisfied.

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

NIR 2012.65 dated 02/27/2013

Standard Reference: VM0015 V1.0, Part 2, Step 9.1; “Tool for testing significance of GHG emissions in A/R CDM project activities”, V01

Document Reference: Tabela Estoque TDR4_2013.xlsx

Finding: The methodology requires that "All carbon pools and sources of GHG emissions considered in this methodology must be calculated to assess their significance. Use the latest EB-CDM approved “Tool for testing significance of GHG emissions in A/R CDM project activities” to determine the significance of each of the ex ante calculated carbon stock changes and GHG emissions.

In calculating difference between carbon stocks in the harvested wood products pools in the baseline and project scenarios, in worksheet "Reservatorios de carbono" of workbook "Tabela Estoque TDR4_2013.xlsx", an assumption is made that 20 cubic meters of harvested wood products are produced for every hectare deforested in the baseline scenario. Please provide a justification for the assumption made.

Client Response: According to Imazon (1999, page 63) the average intensity of illegal wood extraction in Amapá is 20m3/ha.

As described in the client response to finding 2012.64, illegal wood extraction is not followed by clear cut deforestation. However in order to be conservative we used 20m3/ha as a reference.

In fact, the assumption we made to quantify the amount of wood harvest product per hectare in the baseline scenario is 20m3 times the rate of efficiency of a sawmill in Amapá (IMAZON, 1999, page 23), which is 28%.

In other words, for each hectare of deforested area in the baseline scenario the volume of harvested wood products is 5.6 m3 (20m3*0.28), and not 20m3/ha.

Auditor Response: As is indicated in the Client Response, the wording of this finding is incorrect, as the assumption made in the significance assessment is not that "20 cubic meters of harvested wood products are produced for every hectare deforested in the baseline scenario", as claimed in the finding text, but rather that 20 cubic meters of wood are harvested for every hectare deforested in the baseline scenario. Nonetheless, review of the document provided confirms that the indicated values were appropriately sourced and that the significance assessment has been implemented in accordance with the CDM “Tool for testing significance of GHG emissions in A/R CDM project activities”, which indicates that estimates can be based on "scientific literature". Therefore, the information request has been resolved.

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

NCR 2012.66 dated 02/27/2013

Standard Reference: VM0015 V1.1, Part 3, Sec. 1

Document Reference: AMAPA_Plan_de Gestao_English_v1.1_20120219.docx, Sec. 4.3

Finding: The methodology requires that the user prepare a Monitoring Plan describing how the tasks "Monitoring of actual carbon stock changes and GHG emissions within the project area" and "Monitoring of leakage" will be implemented.

The monitoring plan does not contain specific information regarding how carbon stock changes in the project area and leakage belt will be calculated. For example, if a certain number of hectares is found to be deforested in the project area in the project scenario, it is not clear how the quantity of emissions is to be calculated. While the calculation of carbon stock changes was previously a straightforward matter under V1.0 of the methodology, the same is not the case with V1.1 of the methodology. Therefore, additional information will be required in the monitoring plan to clarify the quantification procedure.

Client Response: Sections 1.1.3 (Monitoring of carbon stock changes) and 1.2.2 (Monitoring of carbon stock changes due to activity displacement leakage) of the Monitoring Plan were altered to include the quantification procedure related to carbon stock change due to deforestation deforestation in the Project Area and Leakage Belt, respectively.

Auditor Response: As required, procedures for ex post quantification of carbon stock change in the project area and leakage belt have been added to the monitoring plan. These procedures are consistent with the procedures set out in Part 2, Step 6.1.3 of the methodology for quantification of carbon stock change in the baseline scenario, and therefore conform to the VCS principle of consistency, as described in Section 2.4.1 of the VCS Standard. Therefore, the non-conformity has been resolved.

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

NCR 2012.67 dated 03/29/2013

Standard Reference: VM0015 V1.1, Part 2, Step 4.2; VCS Standard V3.3, Section 3.5.1

Document Reference: AMAPA_Plan_de Gestao_English_v1.1_20120219.docx, Section 2.6

Finding: During a web-based meeting on 26 March 2013, was explained to the audit team that a "masking" approach was implemented to modify the risk map that was created following the guidance of Step 4.2.2 of the methodology. In this approach, the following maps were combined in IDRISI:

- A map showing the standard deviation of elevation (a continuous variable)

- A binary map showing the locations of conservation units (a categorical variable)

- A "fuzzy" map showing the proximity to the planned location of the Santo Antonio hydroelectric dam project

The maps were combined to create a constraint/incentive map such that the first two maps were

considered to constrain deforestation, while the third map was considered to incentivize deforestation. The risk map was modified, using the constraint/incentive map, to produce a final map that was used to implement Step 4.2.4 of the methodology.

Because the masking approach occurs outside the scope of the guidance of the methodology, it must be considered a discrepancy with respect to the methodology. However, it is the opinion of the audit team that the discrepancy should be considered an allowable methodology deviation, as it is "a deviation from the criteria and procedures relating to monitoring or measurement set out in the methodology". In the case of the masking with the maps showing the standard deviation of elevation and the locations of conservation maps, the deviation is considered appropriate by the audit team at this time. In the case of the map showing the proximity to the planned location of the Santo Antonio hydroelectric dam project, the deviation is considered appropriate, pending resolution of NIR 2012.68 and all related findings. In any case, however, the deviation is not described in Section 2.6 of the PD, thus presenting a non-conformity with respect to the VCS rules.

Client Response: The section 2.6 of PD was modified to include a methodology deviation related to the mapping of the locations of future deforestation of the reference region as per Step 4.2.4 of VM0015.

Auditor Response:

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

NIR 2012.68 dated 03/29/2013

Standard Reference: VM0015 V1.1, Part 2, Step 4.2.1

Document Reference: NA

Finding: In the creation of factor maps, Step 4.2.1 of the methodology requires that "In case of planned infrastructure (e.g. roads, industrial facilities, settlements) provide documented evidence that the planned infrastructure will actually be constructed and the time table of the construction. In case of planned new roads, road improvements, or railroads provide credible and verifiable information on the planned construction of different segments (e.g. how many kilometers will be constructed, where and when). Evidence includes: approved plans and budgets for the construction, signed construction contracts or at least an open bidding process with approved budgets and finance. If such evidence is not available exclude the planned infrastructure from the factors considered in the analysis."

During a web-based meeting on 26 March 2013, it was explained to the audit team that, as documented in NIR 2012.58 and NCR 2012.67, a "mask" was applied to increase the assumed relative likelihood of deforestation in areas in closer proximity to the planned location of the Santo Antonio hydroelectric dam project. Although the masking step occurred subsequent to the implementation of Step 4.2.1, the methodology actually requires that any such consideration of distances to various features be implemented (through the creation of "distance maps") during the course of implementation of Step 4.2.1 (see NCR 2012.67 for a more complete discussion of this methodology deviation). Thus, the guidance of Step 4.2.1, as quoted above, remains applicable to the project.

As required by the methodology, please provide evidence that the planned Santo Antonio hydroelectric dam will actually be constructed. In addition, please provide evidence of the time table of the construction.

In addition, it should be noted that, as documented in NCR 2012.13, the methodology requires that "If new or improved infrastructure (such as roads, railroads, bridges, hydroelectric reservoirs, etc.) is expected to develop near or inside the project area, the reference region must include a stratum where such infrastructure was built in the past and where the impact on forest cover was similar to the one expected from the new or improved infrastructure in the project area." In the context of the project, if the quoted requirement of the methodology had been followed, Step 4.2.3 could have been implemented to confirm the accuracy of the risk map in predicting the locations of deforestation with respect to areas in close proximity to other hydroelectric dams within the reference region. As the quoted requirement of the methodology has not been followed, it is understood that it is not possible to confirm the accuracy of the masking process through implementation of Step 4.2.3, as the reference region contains no strata where hydroelectric dams have previously been built. Therefore, as a proxy for confirming the appropriateness of the masking process within the context of Step 4.2.3, please provide compelling evidence, through provision of relevant written material from credible sources, that, in other locations that can be considered similar to the reference region (through a reasonable definition of the term), construction of hydroelectric dams has been directly linked with increased likelihood of deforestation.

Client Response: The Santo Antonio do Jari Hydroelectric Dam, or UHE - from Portuguese "Usina Hidrelétrica -, has been taking shape since July 2007 with the approval of its "Basic Project" by the National Agency of Electric Power – ANEEL, from "Agência Nacional de Energia Elétrica". After that, under the Brazilian Environmental Law (Federal Law 6.938/81), an enterprise, such as a hydroelectric dam, must apply for an "Environmental License" of the responsible governmental institution, in the UHE Santo Antonio do Jari case, the Brazilian Institute of Environment and Natural Resources ("IBAMA").

To contextualize (SEBRAE, 2004), this process is composed by three different "licenses", according to the phases that the enterprise needs to pass through, since its conception until the begging of the operations. Those licenses, or phases, are: the "Previous License", or "LP", that includes the provided document "Environmental Impacts Study (EIS)" and aims to analyze the environmental feasibility of the project and bind some conditional requirements to the next step; the "LP" is followed by the "Installation License", or "LI", that allows the start up of the enterprise construction, according to the rules and requirements settled by the "LP"; and finally, after all the structure and facilities built, and the governmental evaluation of these, the "Operation License", or "LO", permit the operation of the project, in our case the dam.

As the audit team may see within the documents now provided, the UHE Santo Antonio do Jari is already at the "Installation Phase", since it got the "Installation License", or "LI", on June 2011 (LI Nº 798/2011, file "Installation License – Official Document"), and has being built since then.

Looking further at the Project's timeline, provided on the "Environmental Impact Study (EIS)" under the name "Cronograma", the audit team can also observe that starting from de "LI" ("Year 01") the construction is planned to end up on the 4th year ("Year 04") that now is possible to infer 2014. As complementary information (file "Dam's Basic Information and Relevant Date") from the "EDP" (owner of the project), they notify that in the timeline the filling of the reservoir is planned to occur on March 2014, and the begging of operation on August of the same year. Since all of these depend on and are regulated and supervised by the governmental institution, which also places all the deadlines to the project, it is possible to conclude that the Santo Antonio do Jari Hydroelectric Dam will start its operation due next year, 2014.

According to Fearnside (1999), Fearnside (2001), Fearnside (2006) and Barreto et. al (2011) the deforestation related to a hydroelectric dam goes widely besides the direct impacts, like the forest loss caused by the area flooded and new areas required to support the project, e.g. access routes, infrastructures and other facilities. But also the dams installed within tropical forests usually drive a consequent deforestation coming from the increase of the economic activity around it, mostly due to the attraction of immigrants, first whom work at the project and land speculators, and later by the demand for rural products and the settlement of farms and ranches. Moreover, there is an additional land demand resulting from the people displaced by the reservoir, that generally will get installed in new areas, close to the dam, and driving more forest loss.

An important highlight is that all the papers mentioned refer to hydroelectric dams in the Brazilian Amazon and to areas with similar characteristics to the reference region, e.g. Belo Monte Dam and Tucuruí Dam. Those two cases are located in Pará state in Brazil, that is the neighboring state of Amapá, where Santo Antonio do Jari is being built, and which includes part of the reference region. Furthermore, all of them have similar land use and land cover, are close to important access routes, for instance highways and waterways, and represent areas with increasing occupation.

Auditor Response: In response to this finding, the audit team was provided with evidence, including an installation license from a relevant authority, that the Santo Antonio do Jari dam will actually be constructed. The audit team confirmed this through review of several news articles, such as "EDP Wins Brazil Hydro License in Energy Auction; Wind Prices Drop", dated 14 December 2012, by Dow Jones Newswires (http://www.euroinvestor.no/nyheter/2012/12/14/edp-wins-brazil-hydro-license-in-energy-auction-wind-prices-drop/12163987; accessed 11 April 2013).

The audit team was also provided with several references substantiating a causal relationship between dam construction and direct and indirect deforestation. Most compelling of these articles is a retrospective case study on the Tucurui dam by Fearnside (2001). The Tucurui dam, located in the adjoining state of Para, directly caused the deforestation of area flooded by the dam, and indirectly caused deforestation in the surrounding area, as stated on page 382 of that study: "The loss of forest caused by Tucuruı´ is not

limited to the area flooded. Deforestation is also done by persons resettled from the submergence area, plus others who are drawn to the area because of its roads, market, and off-farm employment opportunities (Schmink and Wood 1992). Much of the reservoir shoreline has already been deforested. Deforestation by displaced persons has been greater than it otherwise would have been in the case of Tucuruı´ because a plague of Mansonia mosquitos caused much of the resettled population in the Gleba Parakana˜ to relocate to a new settlement area along logging roads built by mahogany cutters linking the Transamazon Highway with the town of Tucuma." The audit team was provided with references supporting the causal relationship between dam construction and deforestation in other contexts, such as a recent study, by Barreto et al. (2011), suggesting that the Belo Monte dam will also lead to such deforestation. The conclusions of the study by Barreto et al. (2011) were developed largely on the basis of relationships observed in the aftermath of the closing of the Belo Monte dam.

Finally, the audit team agrees, on the basis of the evidence provided, that the Belo Monte and Tucurui dams are sufficiently similar to the Santo Antonio do Jari dam to allow for adequate comparisons between the effects of the three projects. All three dams are situated in the same geographical area, and are (by definition) on large rivers that share certain characteristics.

Therefore, adequate information has been provided to satisfy the information requests.

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

NCR 2012.69 dated 04/11/2013

Standard Reference: VCS Standard V3.3, Sec. 3.16.1

Document Reference: AMAPA_Plan_de Gestao_English_v1.2.docx, Sec. 4.1

Finding: The VCS Standard requires that "Data and parameters used for the quantification of GHG emission reductions and/or removals shall be provided in accordance with the methodology."

While many of the data and parameters used for the quantification of GHG emission reductions have been provided in Section 4.1 of the PD, the following parameters are either not specified within Section 4.1 or specified in a way that may result in incorrect quantification of GHG emission reductions:

- In the table for parameter "ln(Pi) = -1.497+2.548 x ln(DBH)", it is indicated that the data unit is "Kg (dry weight)", while in actuality the equation ln(Pi) = -1.497+2.548 x ln(DBH) provides output in units of the natural log of kg (fresh weight).

- The parameter 0.5997, as used to convert fresh weight biomass into dry weight biomass, is not specified within Section 4.1 of the PD.

- The value applied for the parameter "Expansion factor to estimate palm trees biomass" is stated to be 0.019. While this is the value that was applied for this parameter in the forest type "dense forest", this is not the value that was applied for this parameter in the forest type "non-dense forests", as specified in Table 37 of the PD.

- The parameter used to estimate biomass in trees <10 centimeters in DBH, as specified in Table 37 of the PD, is not specified within Section 4.1 of the PD.

Client Response: The mentioned parameters have been corrected or included in Section 4.1 of the PD.

Auditor Response: As indicated, the information in Section 4.1 of the PD is now consistent with the information that is provided in Table 37 of the PD. Therefore, the non-conformity has been resolved.

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

NIR 2012.70 dated 04/11/2013

Standard Reference: Program Definitions V3.4, definition of "project proponent"

Document Reference: AMAPA_Plan_de Gestao_English_v1.2.docx

Finding: VCS document Program Definitions defines "project proponent" as "The individual or organization that has overall control and responsibility for the project, or an individual or organization that together with others, each of which is also a project proponent, has overall control or responsibility for the project".

During the site visit, the audit team confirmed that the entities "Orsa Florestal S.A." and "Jari Celulose, Papel e Embalagens S.A.", acting in combination with "Biofílica Investimentos Ambientais S.A.", could collectively be considered the project proponent. Among other things, the audit team confirmed the right of use of the entities "Orsa Florestal S.A." and "Jari Celulose, Papel e Embalagens S.A." with respect to the project area, and confirmed that the entities "Orsa Florestal S.A." and "Jari Celulose, Papel e Embalagens S.A." were actively involved in management of the project.

In the version of the PD dated 9 April 2013, all references to "Orsa Florestal S.A." and "Jari Celulose, Papel e Embalagens S.A." have been replaced with "Jari Florestal S.A." and "Jari Celulose S.A.". The audit team has not yet confirmed that the entities "Jari Florestal S.A." and "Jari Celulose S.A.", acting in combination with "Biofílica Investimentos Ambientais S.A.", can collectively be considered the project proponent. In order to allow the audit team confirm this, please provide documentary evidence indicating that "Jari Florestal S.A." is equivalent to "Orsa Florestal S.A.", and that "Jari Celulose S.A." is equivalent to "Jari Celulose, Papel e Embalagens S.A." If such evidence cannot be provided, additional audit activities may be necessary to confirm that the entities "Jari Florestal S.A." and "Jari Celulose S.A.", acting in combination with "Biofílica Investimentos Ambientais S.A.", can collectively be considered the project proponent.

Client Response: Evidence indicating that "Jari Celulose, Papel e Embalagens S.A" is equivalent to "Jari Celulose" as well as "Orsa Florestal" is equivalent to "Jari Florestal" has been provided to the auditing team.

Auditor Response: In response to this finding, the audit team was provided with an email from an

employee of Grupo Jari attesting to the functional equivalency (with respect to the project) of "Orsa Florestal S.A." to "Jari Florestal S.A.", and of "Jari Celulose, Papel e Embalagens S.A." to "Jari Cellulose S.A.". Attached to the email was a press release announcing the new collective identity of "Grupo Jari" for these entities.

In further support of the right of use of "Jari Cellulose S.A." with respect to the project area, the audit team was provided with a suite of news articles describing the corporate restructuring. While all articles provided identical information on the restructuring effort (which involved a change in ownership of some manufacturing facilities formerly belonging to "Jari Celulose, Papel e Embalagens S.A.", none of the articles indicated a change in the ownership of any of the forest resources owned by "Jari Celulose, Papel e Embalagens S.A.".

In addition, the audit team was provided with an attestation by João Antonio Prestes, who holds the title "Diretor de Recursos Naturais e Negócios Florestais" at Grupo Jari, supporting the statements above and further indicating that "Jari Celulose, Papel e Embalagens S.A." remains the full legal name of the entity holding title to the project area. It has been clarified for the audit team that "Jari Celulose S.A." is the "nome fantasia", or "doing business as" identity for "Jari Celulose, Papel e Embalagens S.A."

Thus, sufficient evidence has been provide to grant the audit team a reasonable level assurance that the entities "Jari Florestal S.A." and "Jari Cellulose S.A." are, for all purposes of the Jari/Amapa REDD+ Project, functionally equivalent to the entities "Orsa Florestal S.A." and "Jari Celulose, Papel e Embalagens S.A.", respectively. Therefore, the information request has been satisfied.

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

NCR 2012.71 dated 04/11/2013

Standard Reference: VCS Standard V3.3, Sec. 3.16.6 and Sec. 3.18.1; "Version 3 Updates: Document History" (http://v-c-s.org/sites/v-c-s.org/files/VCS%20Program%20Update%20Catalogue%2C%2017%20DEC%202012_0.pdf; accessed 11 April 2013)

Document Reference: Amapa_MonitoringReport_1.2.doc; AMAPA_Plan_de Gestao_English_v1.2.docx

Finding: Section 3.16.6 of the VCS Standard requires that the monitoring report "shall be prepared using the VCS Monitoring Report Template". Section 3.18.1 of the VCS Standard requires that "The project and its context shall be described in the project description using the VCS Project Description Template". VCS document "Version 3 Updates: Document History" states that the most recent version of each template (Versions 3.2 and 3.1, respectively) "Must be used from 4 April 2013". Review of the monitoring report and project description indicates that the most recent version of the VCS Monitoring Report Template and the VCS Project Description Templates, respectively, have not been used.

Client Response: The most recent version of the Monitoring Report and Project Description templates are now in use.

Auditor Response: As indicated in the Client Response section, the project description and monitoring

report have been updated to use the correct version of the respective templates. Therefore, the non-conformity has been resolved.

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

NCR 2012.72 dated 04/15/2013

Standard Reference: VCS Standard V3.3, Sec. 3.16.6(3)

Document Reference: Amapa_Monitoring Report v1.3.docx, Sec. 3.1; AMAPA_Plan_de Gestao_English_v1.3.docx, Sec. 4.1

Finding: The VCS Standard requires that the monitoring report contain "The data and parameters (both available at validation and monitored) and a description of the monitoring plan".

The following discrepancies exist between the data and parameters available at validation, as provided in Section 3.1 of the monitoring report, and the information provided in Section 4.1 of the project description:

- The information provided in the fields "Data Unit / Parameter", "Data unit" and "Value applied" for the equation used to quantify biomass of individual trees, as specified in Section 3.1 of the monitoring report, is not equivalent to the information provided in the corresponding fields in Section 4.1 of the PD.

- Information for the parameter "Expansion factor to convert fresh weight biomass into dry weight biomass", as provided in Section 4.1 of the PD, is not included in Section 3.1 of the monitoring report.

- While Section 4.1 of the PD contains information for the separate parameters "Expansion factor to estimate palm trees biomass for dense forest" and "Expansion factor to estimate palm trees biomass for non-dense forest", Section 3.1 of the monitoring report only contains information for the parameter "Expansion factor to estimate palm trees biomass"

- Information for the parameters "Expansion factor to estimate biomass of trees with DBH<10 cm for dense forest" and "Expansion factor to estimate biomass of trees with DBH<10 cm for non-dense forest", as provided in Section 4.1 of the PD, is not included in Section 3.1 of the monitoring report.

- Information for the parameter "Expansion factor to estimate non-tree components biomass", as provided in Section 4.1 of the PD, is not included in Section 3.1 of the monitoring report.

Client Response: The discrepancies have been corrected and a new version of the Monitoring Report was provided to the audit team.

Auditor Response: The audit team has been able to confirm, through review of the updated monitoring report dated 15 April 2013, that the all of the data and parameters available at validation are now

appropriately included in the monitoring report. Therefore, the non-conformity has been resolved.

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

OFI 2012.73 dated 04/15/2013

Standard Reference: VCS Standard V3.3, Sec. 3.16.6; AFOLU Requirements V3.3, Sec. 3.7.3

Document Reference: Amapa_Monitoring Report v1.3.docx; AMAPA_Risk analysis and buffer determination_v1.2.docx

Finding: Section 3.16.6 of the VCS Standard requires that the monitoring report "shall be prepared using the VCS Monitoring Report Template". Section 3.7.3 of the AFOLU Requirements requires that "the non-permanence risk report shall be prepared using the VCS Non-Permanence Risk Report Template..." The prevailing version of the VCS Monitoring Report Template and the VCS Non-Permanence Risk Report Template, as determined through review of the Verified Carbon Standard website (http://v-c-s.org/program-documents; accessed 15 April 2013) are Version 3.2 and Version 3.1, respectively. While, for all practical purposes, the monitoring report and non-permanence risk report have been prepared using the prevailing versions of the corresponding templates, the implied version numbers of the templates on which the documents are based, as indicated in the lower-left corner of each page, are Version 3.1 and Version 3.0, respectively. While the audit team does not consider this discrepancy to present a non-conformity to the VCS rules, many aspects of the use of templates in the VCS Program are open to interpretation, and it is possible that a different entity would note the above as a non-conformity to the VCS rules. Thus, an opportunity exists to strengthen conformance to the VCS rules.

Client Response: The Monitoring Report and the Risk Report have been modified in order to strenghthen comformance to the VCS rules.

Auditor Response: Opportunities for Improvement need not be responded to. However, the audit team did note that the monitoring report and non-permanence risk report were modified as suggested by the finding.

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