

VALIDATION AND VERIFICATION REPORT

American Carbon Registry

ACR #1006: Challenge Tree Farm IFM Project

Reporting Period:

10 October 2022 to 1 April 2024

Prepared for:

The CHY Company

23 January 2025



AMERICAN CARBON REGISTRY

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Executive Summary

This report describes the validation and initial verification services provided for The CHY Company – Challenge Tree Farm IFM Project (“the project”), an Improved Forest Management project located in Yuba and Butte counties, California that was conducted by SCS Global Services. The overall goal of the validation engagement was to review impartially and objectively the GHG project plan against the requirements laid out in the ACR Standard and relevant methodology. The overall goal of the verification engagement was to review impartially objectively the claimed GHG emission reductions/removal enhancements for the reporting period from 10 October 2022 to 01 April 2024 against relevant ACR standards and the approved methodology. The validation and verification engagements began with the opening meeting on 16 April 2024 and were carried out through a combination of document review, interviews with relevant personnel, and on-site inspections. As part of the validation and verification engagements 17 findings were raised: 8 Non-Conformity Reports, 6 New Information Requests and 3 Observations. These findings are described in Appendix A of this report. The project complies with the validation and verification criteria, and SCS holds no restrictions or uncertainties with respect to the compliance of the project with the validation and verification criteria.

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1 Introduction

1.1 About SCS Global Services

SCS Global Services (SCS) is a global leader in third-party certification, auditing, testing services, and standards. Established as an independent third-party certification firm in 1984, our goal is to recognize the highest levels of performance in environmental protection and social responsibility in the private and public sectors, and to stimulate continuous improvement in sustainable development. In 2012, Scientific Certification Systems, Inc. began doing business as SCS Global Services, communicating its global position with offices and representatives in over 20 countries.

SCS' Greenhouse Gas (GHG) Verification Program has been verifying carbon offsets since 2008 and to date has verified nearly 300 million tonnes of CO₂e, providing GHG verification services to a wide array of industries including manufacturing, transportation, municipalities, and non-profit organizations. The GHG Verification Program draws upon SCS's established expertise to serve the global carbon market.

1.2 Objectives

1.2.1 Validation Objectives

The overall goal of third-party validation was to review impartially and objectively the GHG project plan against the requirements laid out in the ACR Standard and relevant methodology. SCS independently evaluated the project design and planning information, based on supporting documentation and GHG validation best practices.

The objectives of validation were to evaluate

- Conformance to the ACR Standard.
- GHG emissions reduction project planning information and documentation in accordance with the applicable ACR-approved methodology, including the project description, baseline, eligibility criteria, monitoring and reporting procedures, and quality assurance/quality control (QA/QC) procedures.
- Reported GHG baseline, ex ante estimated project emissions and emission reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).

SCS reviewed any relevant additional documentation provided by the project proponent to confirm the project's eligibility for registration on ACR.

1.2.2 Verification Objectives

The overall goal of third-party verification was to review impartially and objectively the claimed GHG emission reductions/removal enhancements against relevant ACR standards and the approved

methodology. SCS independently evaluated the GHG assertion, based on supporting evidence and GHG verification best practice. The objectives of verification were to evaluate

- Reported GHG baseline, project emissions and emission reductions/removal enhancements, leakage assessment, and impermanence risk assessment and mitigation (if applicable).
- Any significant changes to the project procedures or criteria since the last verification.
- Any significant changes in the GHG project's baseline emissions and emission reductions/removal enhancements since the last verification.

SCS reviewed the GHG project plan, GHG assertion, and any additional relevant documentation provided by the client to determine

- That the reported emissions reductions and/or removal enhancements are real.
- Degree of confidence in and completeness of the GHG assertion.
- That project implementation was consistent with the GHG project plan.
- Eligibility for registration on ACR.
- Sources and magnitude of potential errors, omissions, and misrepresentations, including the
 - Inherent risk of material misstatement.
 - Risk that the existing controls of the GHG project would not have prevented or detected a material misstatement.

1.3 Scope

1.3.1 Scope of Validation

The validation included examination of all of the following elements of the GHG project plan:

- Project boundary and procedures for establishing the project boundary
- Physical infrastructure, activities, technologies, and processes of the project
- GHGs, sources, and sinks within the project boundary
- Temporal boundary
- Description of and justification for the baseline scenario
- Methodologies, algorithms, and calculations that will be used to generate estimates of emissions and emission reductions/removal enhancements
- Process information, source identification/counts, and operational details
- Data management systems
- QA/QC procedures
- Processes for uncertainty assessments
- Project-specific conformance to ACR eligibility criteria

1.3.2 Scope of Verification

Verification included examination of some or all of the following elements of the GHG project plan:

- Physical infrastructure, activities, technologies, and processes of the GHG project
- GHG SSRs within the project boundary
- Temporal boundary
- Baseline scenarios
- Methods and calculations used to generate estimates of emissions and emission reductions/removal enhancements
- Original underlying data and documentation as relevant and required to evaluate the GHG assertion
- Process information, source identification/counts, and operational details
- Data management systems
- Roles and responsibilities of project participants or client staff
- QA/QC procedures and results
- Processes for and results from uncertainty assessments
- Project-specific conformance to ACR eligibility criteria

SCS examined the reported data, quantification methodologies, calculation spread-sheets or databases, source data, project data management systems, data quality controls in place, measurement and monitoring systems, and records pertaining to emissions quantification. Calculation and error checks, site inspections, interviews with project participants, an iterative risk assessment, sampling plan, and audit checklist were performed to the extent necessary for SCS to develop an understanding of how data are collected, handled, and stored for a specific project.

Finally, as a full verification, the verification services included a field visit to the project site and

- Such carbon stock measurements as SCS required to provide a reasonable level of assurance that the GHG assertion is without material discrepancy (per ACR's materiality threshold of $\pm 5\%$).
- Updated assessment of the risk of reversal and an updated buffer contribution.

1.4 Validation and Verification Criteria

The validation and verification criteria were comprised of the following:

- Validation: ACR Standard, Version 8.0
- Verification: ACR Standard, Version 8.0
- Methodology for the Quantification, Monitoring, Reporting, and Verification of Greenhouse Gas Emissions Reductions and Removals from Improved Forest Management in Non-Federal U.S. Forestlands, Version 2.0 ("the methodology")
- v2.0 IFM Errata and Clarifications | 08/12/2024

- ACR Tool for Risk Analysis and Buffer Determination, Version 1.0
- ACR Validation and Verification Standard, Version 1.1
- Principles of ISO 14064-3:2019: Greenhouse Gas – Specification with guidance for the validation and verification of greenhouse gas assertions

1.5 Level of Assurance

The level of assurance was reasonable.

1.6 Treatment of Materiality

For validation purposes, a material misstatement was declared if any of the following circumstances were detected:

- The physical or geographic boundary of the GHG project plan was not reasonably accurate.
- In respect of the project baseline,
 - The procedures for determining baseline emissions were not technically sound.
 - Data representative of the operations and activities had not been used, either from a single year or a multi-year average.
 - The baseline scenario chosen was not one for which verifiable data are available.
- In respect of the quantification methodology,
 - The quantification method for each data type was not clearly defined, and/or the degree of supporting documentation provided was inadequate to support a reasonable level of assurance.
 - Methods were not appropriate for accurately quantifying each data type:
 - Activity data had not been correctly applied from the original documentation.
 - The most accurate activity data readily available had not been used.
 - The quantification methodology did not account for all variations in activity data over the relevant crediting period.
 - Any emission factors used did not meet the requirements of the approved methodology and/or are not appropriate to the activity.
 - Any emission factors used had not been correctly applied from the original documentation to the relevant activity data.
 - The most appropriate factors readily available had not been selected.
 - Where there was a choice among equally defensible emission factors, the principle of conservativeness had not informed the choice of emission factors.
 - Methods were not applied consistently to develop estimates of emission reductions and removal enhancements.
 - The ISO principle of conservativeness was not applied; i.e., the choice of assumptions, calculation methods, parameters, data sources, and emission factors was not more likely

to lead to an underestimation than overestimation of net GHG emission reductions and removal enhancements.

For verification purposes, it was required that discrepancies between the emission reductions/removal enhancements claimed by the project proponent and estimated by SCS be immaterial, i.e. be less than ACR's materiality threshold of $\pm 5\%$, as calculated according to the equation in the ACR Standard.

1.7 Summary Description of the Project

The project is located in Yuba and Butte counties in California. The project aims to enhance carbon sequestration by limiting harvest rates to levels below the forest's growth rate. This will be accomplished by extending rotation lengths beyond standard regional practices while implementing proactive thinning and fuels reduction treatments. These measures will promote the growth of larger diameter trees and decrease the risk of catastrophic wildfires. The planned harvest levels will remain well below the limits set by the California Forest Practice Rules.

2 Assessment Process

2.1 Method and Criteria

The validation and verification services began with the opening meeting on 16 April 2024 and were provided 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, an assessment was made for conformance to the criteria described in Section 1.4 of this report. As discussed in Section 2.5 of this report, findings were issued to ensure conformance to all requirements.

The audit team created an evidence gathering plan following a proprietary evidence gathering plan template developed by SCS which includes a strategic analysis and risk assessment. In accordance with the evidence gathering plan, the audit team identified the risk of a material misstatement or nonconformity with the criteria and considered the results of the materiality assessment (see Section 1.6 above). Sampling and data testing activities were planned to address areas of inherent, control, and detection risk. The audit team then created a verification plan that took the evidence gathering plan into account.

2.2 Document Review

The GHG project plan (dated 09 January 2025; "PP") and monitoring report (dated 08 January 2025 "MR") were carefully reviewed for conformance to the validation and verification criteria. The following provides a list of additional documentation, provided by project personnel in support of the aforementioned documents, that was reviewed by the audit team.

Documentation Reviewed During the Course of Validation and Verification Activities		
Document	File Name	Ref.
GHG Project Plan	CHY Challenge GHG Plan Final 1_9_25.pdf	1
Monitoring Report	ACR-Monitoring-Report-v5.0 CHY Challenge RP1 1_8_25 with appendix.pdf	2
CO2 Calculation Workbook	Jenkins Carbon Calculator 3_29_24 RP end 4_1_24 - 12_30_24 update.xlsx inventory calculation procedure.docx	3
ERT Calculation Workbook	ACR_IFM_ERTcalculator_Methodology_v2.0_2024.05.09 crediting period 12_30_24.xlsx	4
100 Year Calculation Workbooks	CHY Challenge NPV calculator - with project - 12_30_24.xlsx CHY Challenge NPV calculator - baseline no CT - front load harvest - 12_30_24.xlsx	5
Acreage Constraint Calculations	acreage constraint calculation - 3_24.xlsx	6
Site Index Calculations	site index calculation 1_24.xlsx	7
Tree Lists	CHY_inventory_all_Challenge - 4_1_24 - updated 12_13_24.xlsx CHY_inventory_all_original_Challenge - snags and small trees removed.xlsx CHY_inventory_all_original_Challenge.xlsx degrown_trees_3_28_24.xlsx FVS 2033 Tree List 3_28_24.xlsx grown_trees_4_1_24 - 12_13_24 update.xlsx	8
Project Boundary Shapefile	Challenge_project_boundary.shp	9
Plots Shapefile	Challenge_plot_grid_clipped.shp Challenge_unclipped_point_grid_randomized.shp	10
SMZ Shapefile	Challenge_strata_yarding_watercourse_buff.shp CHY_streams_3_24_NAD83.shp	11
Strata Shapefile	Challenge_strata.shp	12
Inventory Methodology	GHG Plan Appendix D	13
CalFire Timber Harvest Documents	20220628_2-22EX-00709YUB_App.pdf 20230621_2-23EX-00482YUB_App.pdf 20231204_2-23EX-00964YUB_App.pdf Harvest document notes.docx	14
Timber Harvest Scale Reports	6_9_2023_to_6_12_2023_TRL- Oroville_The_Chyl_Company_080230649 6_10_2023_to_6_12_2023_TRL- Oroville_The_Chyl_Company_093938688 (1).pdf 6_12_2023_to_6_13_2023_TRL- Oroville_The_Chyl_Company_152529762.pdf 7_31_2023_to_8_1_2023_TRL- Oroville_The_Chyl_Company_084142664.pdf TRL_4_28_23.pdf TRL_5_01_23.pdf	15
RP1 Harvest HWP Calculations	HWP RP1.xlsx	16

Various FVS years for the following database files, out files, and key files	Contents of [FVS databases]	17
American Tree Farm System Certification	ATFS certificates.pdf	18
Conservation Easement	BLM80 Recorded conservation easement with notes.pdf	19
Management Plan	CHY_ATF_management_plan_2024.pdf	20
Environmental and Social Impact Assessment	GHG Plan Appendix A	21
SDG Contributions Report	GHG Plan Appendix B	22
Proof of Title	GHG Plan Appendix C	23
Additional Supporting Documentation	GHG Plan Appendix E	24

2.3 Interviews

2.3.1 Interviews of Project Personnel

The process used in interviewing project personnel was a process wherein the audit team elicited information from project personnel regarding (1) the work products provided to the audit team in support of the PD and MR; (2) actions undertaken to ensure conformance with various requirements and (3) implementation status of the project activities. The following provides a list of personnel associated with the project proponent who were interviewed.

Interview Log: Individuals Associated with Project Proponent			
Individual	Affiliation	Role	Date(s) Interviewed
Madison Thompson	The CHY Company	Lands Manager, Project Manager	Throughout audit
Alex Yiu	The CHY Company	Biometrician	28 May, 2024

2.4 Site Inspections

The objectives of the on-site inspections were as follows:

- Confirm the validity of the statements made in the PP and associated project documentation;
- Confirm the baseline conditions and project conditions;
- Interview project personnel to determine if the PP correctly identifies project activity and assess project personnel competencies;

- Select samples of data from on-the-ground measurements for verification in order to meet a reasonable level of assurance and to meet the materiality requirements of the Project; and
- Perform a risk-based review of the project area to ensure that the Project is in conformance with the eligibility requirements of the validation/verification criteria.

In support of the above objectives, the audit team performed an on-site inspection of the project area on the dates 06 May 2024 to 08 May 2024. The main activities undertaken by the audit team were as follows:

- Interviewed project personnel (see Section 2.3.1 of this report) to gather information regarding the monitoring procedures and project implementation.
- Carried out on-site inspections of the project's measurement and/or monitoring methodologies through the following activities:
 - Toured the project areas, visually observing and taking coordinates at posted boundary signs, old fence lines, and other boundary references.
 - Selected samples of inventory data using simple random selection methods.
 - At each selected sample location, took on the ground measurements.
 - Verified the sample by running a paired sample t-test on the independently calculated Mt CO₂e/acre on each plot.

2.5 Resolution of Findings

Any potential or actual discrepancies identified during the audit process were resolved through the issuance of findings. The types of findings typically issued by SCS during this type of validation and verification engagement are characterized as follows:

- Non-Conformity Report (NCR): An NCR signified a 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 and/or verification statement.
- New Information Request (NIR): An NIR signified a need for supplementary information in order to determine whether a material discrepancy existed with respect to a specific requirement. Receipt of an NIR did not necessarily indicate that the project was not in compliance with a specific requirement. However, resolution of all open NIRs was a prerequisite for issuance of a validation and/or verification statement.
- Observation (OBS): An OBS indicates an area where immaterial discrepancies exist between the observations, data testing results or professional judgment of the audit team and the information reported or utilized (or the methods used to acquire such information) within the GHG assertion. A root cause analysis and corrective action plan are not required, but highly recommended. Observations are considered by the audit team to be closed upon issuance, and a response to this type of finding is not necessary.

As part of the audit process, 8 NCRs, 6 NIRs and 3 OBS were issued. All findings issued by the audit team during the audit process have been closed. All findings issued during the audit process, and the impetus for the closure of each such finding, are described in Appendix A of this report.

2.6 Techniques and Processes Used to Test the GHG Information and GHG Assertion

- Review of project documentation including the GHGP (Ref. 1), MR (Ref. 2), spatial information (Refs. 9-12), and calculation workbooks (Refs. 3-8) to check for project-specific conformance to ACR standard and methodology, appropriateness of methodologies and tools applied, accuracy of GHG information and assertion
- Assessment of any disturbances or forest management activities that took place in the project area during the reporting period, including a discussion with project personnel on any harvest activities.
- Review of sources, sinks and reservoirs of GHG emissions within the project boundary.
- Assessment of eligibility, additionality, GHG emission reduction assertion and underlying monitoring data to determine if either contained material or immaterial misstatements.
- Assessment of the emission reduction calculation inputs and procedures was performed to review the quantitative analyses undertaken by the project proponent to convert the raw inventory data into emission reduction estimates during the reporting period (Refs. 3-8). This included a re-calculation of project emissions, ERTs, and uncertainty using inventory data as described below in Section 4.1 and 4.2 (Refs. 3-5).
- Baseline scenario modeling and ex ante estimates were also reviewed, recalculated, and remodeled. This included a look at the feasibility financially and physically to accomplish the claims made in the baseline scenario.
- Communicate with project personnel and project proponent via interviews, emails, and meetings to gain a better understanding of the project team's methodologies.
- Examine the data management and quality control processes and its controls for sources of potential errors and omissions.
- Review of project documentation including risk assessment and regulatory compliance.
- Attention was paid to the common practice assessment including local silvicultural trends, market wood demands, and regional mill capacities.

Validation Findings

2.7 Project Boundary and Activities

2.7.1 Project Boundary and Procedures for Establishment

The GHGP contains a description of the physical boundary of the project, which is located on 8,486 acres of Sierra Nevada mixed conifer/hardwood comprised of ponderosa pine, Douglas-fir, incense cedar, sugar pine, and black oak occurring naturally as well as in plantations. The project area is distributed across Yuba and Butte counties, California. The property is owned and managed by the project proponent, The CHY Company. The audit team confirmed that the boundaries were well documented throughout both the document review and site visit activities. During the site visit the audit team independently checked the accuracy of spatial information on ownership, as used in delineation of the project area, by reviewing ownership deeds, shapefiles, and ground truthing project boundaries when possible. Likewise, during document review the audit team inspected project shapefiles (Ref. 9) to confirm project boundaries are accurately represented as compared to boundaries mapped during the site visit, maps provided in the GHGP, and available satellite imagery.

2.7.2 Physical Infrastructure, Activities, Technologies and Processes

The audit team reviewed the PP and project documentation (Refs. 1-2) which indicate potential infrastructure, activities, and technologies used within the project area. The project activity consists of a core focus on the timberlands being used primarily to store carbon, with a focus on lighter touch, sustainable harvesting, natural forest growth, and biomass maintenance to increase the age and carbon storage of the project area. The audit team concluded that project activities, infrastructure and technologies will be an improvement in the carbon storage and forest practices of the area.

2.7.3 GHGs, Sources, and Sinks within the Project Boundary

Description	Included/Excluded	Gas	Justification
Above-ground biomass carbon	Included	CO ₂	Major carbon pool subjected to the project activity.
Below-ground biomass carbon	Included	CO ₂	Major carbon pool subjected to the project activity.
Standing dead wood	Excluded	CO ₂	The Project Proponent has elected to exclude the dead wood pool as this pool is a target of ongoing fuel reduction treatments.

Harvested wood products	Included	CO ₂	Major carbon pool subjected to the project activity.
Market Leakage	Included		As more wood is harvested in the baseline than in the project scenario, market leakage is accounted for to reflect that wood supply elsewhere increases in response to project activity-attributable reductions, assuming demand is constant.

2.7.4 Temporal Boundary

The ACR Standard in Chapter 3 states that "ACR defines the eligible Start Date(s) for AFOLU project types in Appendix A, 'ACR Requirements for AFOLU Projects.'" SCS reviewed the GHGP, MR, and relevant contractual documents (Ref. 1, 2, 8) for authenticity and concluded that the documents provided indicate the project start date is eligible, as it is the date that the project proponent initiated a new forest inventory.

For ACR the minimum project term is 40 years and the eligible crediting period for this type of project is 20 years. SCS confirmed that the PP included a timeline with a first crediting period of 20 years and a minimum project term of 40 years.

2.8 Description of and Justification for the Baseline Scenario

The methodology defines an IFM baseline scenario as "the legally permissible harvest scenario that would maximize NPV of perpetual wood products harvests." The PP indicates that the baseline scenario represents a common practice industrial management scenario for wood products harvest over the 100 year modeling timeline, and is modeled using a 6% discount rate, considering all legal and operational constraints applicable to the project area.

During the site visit and through interviews with the project team and auditor experience of forestry in California, the audit team verified that aggressive timber harvesting is common practice by private industrial timberland owners. The audit team confirmed that the PP is a private industrial timberland owner and thus the 6% discount rate is applicable. The audit team also conducted a financial feasibility assessment of the baseline scenario using regional stumpage rates to independently verify NPV. SCS determined that the harvesting rate indicated in the baseline scenario would be feasible as well as legally permissible in the state of California.

2.9 Project-Specific Conformance to ACR Eligibility Criteria

The audit team reviewed the demonstration of conformance, as set out in the PP, to each of the relevant eligibility criteria listed in the ACR Standard. The audit team confirmed the full conformance of the project with the relevant eligibility criteria. A more detailed assessment of the audit team's findings is provided below.

Actions Undertaken to Confirm Conformance to Eligibility Criteria		
Criterion	ACR Requirement	Validation Activities
Start Date, All Projects	Non-AFOLU Projects must be validated within 2 years of the project Start Date. AFOLU Projects must be validated within 3 years of the project Start Date.	Confirmation that this report was issued less than 3 years after 10 October 2022, the start date of the project according to the PP.
Start Date Definition, Non-AFOLU Projects	ACR defines the Start Date for all projects other than AFOLU as the date on which the project began to reduce GHG emissions against its baseline.	Not applicable; this project is an AFOLU project.
Start Date Definition, AR or Wetland Projects	For AR or Wetland restoration/revegetation projects, the Start Date is when the Project Proponent began planting or site preparation.	Not applicable; the project is not an AR or wetland project.
Start Date Definition, IFM Projects	For IFM, the Start Date may be denoted by one of the following: 1. The date that the Project Proponent began to apply the land management regime to increase carbon stocks and/or reduce emissions relative to the baseline. 2. The date that the Project Proponent initiated a forest carbon inventory. 3. The date that the Project Proponent entered into a contractual relationship to implement a carbon project. 4. The date the project was submitted to ACR for listing review. Other dates may be approved by ACR on a case by case basis.	SCS reviewed the project's PP (Ref. 1) to find the following statement: "The project start date is 10/10/2022, the date that the new forest inventory was initiated." This was confirmed through review of the provided inventory data (Ref. 8) and satisfies Option 2 for project start date determination.
Start Date Definition, Avoided Conversion Projects	For Avoided Conversion of non-forest, the Start Date is when the Project Proponent implemented the project action physically and/or legally, such as securing a concession or placing a land conservation agreement on the project land.	Not applicable; the project is not an avoided conversion project.

Start Date Definition, Other Agricultural Land-based Projects	For other Agricultural Land-based projects, the Start Date is the date by which the Project Proponent began the Project Activity on project lands, or the start of the cultivation year during which the Project Activity began.	Not applicable; the project is not an other agriculture land-based project.
Minimum Project Term (AFOLU Projects Only)	Project Proponents of AFOLU projects with a risk of reversal shall commit to a Minimum Project Term of 40 years. The minimum term begins on the Start Date, not the first or last year of crediting. This requirement applies only to AFOLU projects that have had ERTs issued that are associated with GHG removals (sequestration). AFOLU projects that have claimed only avoided emissions are not subject to this requirement.	Review of the PP (Ref. 1) to confirm that the minimum term is 40 years, as required.
Crediting Period	<p>The Crediting Period for non-AFOLU projects shall be 10 years.</p> <p>All AR projects shall have a Crediting Period of 40 years.</p> <p>All IFM projects shall have a Crediting Period of 20 years.</p> <p>Avoided Conversion projects on both forest and non-forest land with land conservation agreements in place shall have a Crediting Period of 40 years, unless otherwise specified in chosen methodologies.</p> <p>Wetland Restoration/Revegetation projects shall have a Crediting Period of 40 years.</p> <p>The Crediting Periods for agriculture projects that avoid emissions by changing to lower GHG practices and those that include a soil sequestration component will be specified in the applicable methodology.</p>	Review of the PP (Ref. 1) to confirm that the crediting period is 20 years, as required given the project type.
Real	<p>GHG reductions and/or removals shall result from an emission mitigation activity that has been conducted in accordance with an approved ACR Methodology and is verifiable.</p> <p>ACR will not credit a projected stream of offsets on an ex-ante basis.</p>	Review of the emission mitigation activity, as described in the PP (Ref. 1), to confirm that it conforms to the requirements of the methodology and will be verifiable if implemented as described.
Emission or Removal Origin (Direct Emissions)	The Project Proponent shall own, have control over, or document effective control over the GHG sources/sinks from which the emissions reductions or removals originate. If the Project Proponent does not own or control the GHG sources or sinks, it shall document that effective control exists over the GHG sources and/or sinks from which the reductions/ removals originate.	Review of the PP (Ref 1.) and the ownership documentation provided (Ref. 19) to confirm that Project Proponent has control over the GHG sources/sinks from which the emissions reductions or removals originate on the properties.

Emission or Removal Origin (Indirect Emissions)	<p>For projects reducing or removing non-energy indirect emissions, the following requirement applies:</p> <p>The Project Proponent shall document that no other entity may claim GHG emission reductions or removals from the Project Activity (i.e., that no other entity may make an ownership claim to the emission reductions or removals for which credits are sought).</p>	Not applicable; the project is not reducing or removing non-energy indirect emissions.
Offset Title (All Projects)	The Project Proponent shall provide documentation and attestation of undisputed title to all offsets prior to registration. Title to offsets shall be clear, unique, and uncontested.	Review of the PP (Ref. 1), and the ownership documentation provided (Ref. 19) to confirm no offsets prior to registration of the Project and that the Project Proponent has ownership of the properties included in the Project.
Land Title (AFOLU Projects Only)	<p>For U.S. projects with GHG emissions reductions resulting from terrestrial sequestration, Project Proponents shall provide documentation of clear, unique, and uncontested land title. For international projects, Project Proponents shall provide documentation and/or attestation of land title; ACR may require a legal review by an expert in local law.</p> <p>Land title may be held by a person or entity other than the Project Proponent, provided the Project Proponent can show clear, unique, and uncontested offsets title.</p> <p>AFOLU projects that result only in the crediting of avoided emissions with no risk of reversal may not require demonstration of land title.</p>	
Additional	<p>Every project shall use either an ACR-approved performance standard and pass a regulatory surplus test, or pass a three-pronged test of additionality in which the project must:</p> <ol style="list-style-type: none"> 1. Exceed regulatory/legal requirements; 2. Go beyond common practice; and 3. Overcome at least one of three implementation barriers: institutional, financial, or technical. 	Confirmation that the project meets all relevant additionality requirements (see Section 3.4 below for more details).
Regulatory Compliance	Projects must maintain material regulatory compliance. To do this, a regulatory body/bodies must deem that a project is not out of compliance at any point during a reporting period. Projects deemed to be out of compliance with regulatory requirements are not eligible to earn ERTs during the period of non-compliance. Regulatory compliance violations related to administrative processes (e.g., missed application or reporting deadlines) or for issues unrelated to integrity of the GHG emissions	After performing extensive regulatory compliance checks during this reporting period, the audit team found no violations on file with EPA, ECHO, OSHA or with the California Department of Forestry and Fire Protection. The audit team also reviewed the regulatory compliance section of the MR submitted (Ref. 2).

	reductions shall be treated on a case-by-case basis and may not disqualify a project from ERT issuance. Project Proponents are required to provide a regulatory compliance attestation to a verification body at each verification. This attestation must disclose all violations or other instances of non-compliance with laws, regulations, or other legally binding mandates directly related to Project Activities.	
Permanence (All AFOLU Projects)	AFOLU Project Proponents shall assess reversal risk using ACR's Tool for Risk Analysis and Buffer Determination, and shall enter into a legally binding Reversal Risk Mitigation Agreement with ACR/Winrock that details the risk mitigation option selected and the requirements for reporting and compensating reversals.	Confirmed a total risk percentage of 20% using the ACR Tool for Risk Analysis and Buffer Determination as required by the ACR methodology.
Permanence (Terrestrial Sequestration, Avoided Conversion Projects)	Proponents of terrestrial sequestration or avoided conversion projects shall mitigate reversal risk by contributing ERTs to the ACR Buffer Pool or using another ACR-approved insurance or risk mitigation mechanism.	Confirmed a total risk percentage of 20% using the ACR Tool for Risk Analysis and Buffer Determination as required by the ACR methodology.
Permanence (Geologic Sequestration Projects)	Proponents of geologic sequestration projects shall mitigate reversal risk during the project term by contributing ERTs to the ACR Reserve Account and post-project term by filing a Risk Mitigation Covenant, which prohibits any intentional reversal unless there is advance compensation to ACR, or by using another ACR-approved insurance or risk mitigation mechanism.	Not applicable; the project is not a geologic sequestration project.
Permanence (All Projects)	All projects must adhere to ongoing monitoring, reversal reporting, and compensation requirements as detailed in relevant methodologies and legally binding agreements (e.g., the ACR Reversal Risk Mitigation Agreement).	Confirmed that section D of the PP (Ref. 1) includes a detailed Monitoring Plan relevant to the methodology.
Net of Leakage	ACR requires Project Proponents to address, account for, and mitigate certain types of leakage, according to the relevant sector requirements and methodology conditions. Project Proponents must deduct leakage that reduces the GHG emissions reduction and/or removal benefit of a project in excess of any applicable threshold specified in the methodology.	Confirmed that a 30% leakage deduction was applied which is consistent with market-leakage per the methodology. Confirmed that all project proponent owned lands have a valid entity wide management certification that requires sustainable practices.

Independently Validated	ACR requires third-party validation of the GHG Project Plan by an accredited, ACR-approved VVB once during each Crediting Period and prior to issuance of ERTs.	The PP has been independently validated by SCS, an accredited, ACR-approved validation/verification body.
Independently Verified	Verification must be conducted by an accredited, ACR-approved VVB prior to any issuance of ERTs and at minimum specified intervals.	The PP has been independently verified by SCS, an accredited, ACR-approved validation/verification body.
Environmental And Community Assessments	<p>ACR requires that all projects develop and disclose an impact assessment to ensure compliance with environmental and community safeguards best practices. Environmental and community impacts should be net positive, and projects must “do no harm” in terms of violating local, national, or international laws or regulations.</p> <p>Project Proponents must identify in the GHG Project Plan community and environmental impacts of their project(s). Projects shall also disclose and describe positive contributions as aligned with applicable sustainable development goals. Projects must describe the safeguard measures in place to avoid, mitigate, or compensate for potential negative impacts, and how such measures will be monitored, managed, and enforced.</p> <p>Project Proponents shall disclose in their Annual Attestations any negative environmental or community impacts or claims thereof and the appropriate mitigation measure.</p>	Confirmed by reviewing the PP and MR (Refs. 1-2) which indicate that the project has no anticipated negative community or environmental impacts.

2.10 Demonstration of Additionality

The audit team reviewed the demonstration of additionality, as set out in the PP, and confirmed that the additionality requirements set out in the ACR Standard have been met. A more detailed assessment of the audit team’s findings is provided below.

2.10.1 Regulatory Surplus Test

A regulatory review of the Project was conducted by the audit team. There are no laws, statutes, regulations, court orders, environmental mitigation agreements, permitting conditions, or other legally binding mandates requiring the project activities.

2.10.2 Performance Standard Test

Not applicable.

2.10.3 Common Practice Test

The Project demonstrated that the predominant forest industry technologies and practices that exist within the project's geographic region are similar in comparison to forest type, ecological condition, and species or forest product type.

Through interviews with local managers, observations on site, and a detailed review of published data for the region, the audit team verified the timber harvesting practices involving the silvicultural prescriptions claimed in the baseline scenario are common practice in the region. Additionally, the audit team verified the feasibility of the local mill capacity to accept the different wood products created in the baseline scenario.

2.10.4 Implementation Barriers Test

The "financial barrier" option was chosen by the project proponent as an implementation barrier. SCS Global Services received guidance from ACR personnel, in an email dated 6 June 2019, stating the following:

The intent of the financial implementation barrier test encompasses the interpretation and wording in Table 2, in which "carbon funding is reasonably expected to incentivize the implementation of the project scenario", yielding increased carbon stocks compared to the baseline. A quantitative assessment demonstrating forgone profit as a result of employing the project scenario suffices for passing this test.

Given this guidance, a financial barrier was demonstrated through a quantitative assessment demonstrating foregone profit as a result of employing the project scenario (i.e., demonstrating that the net present value of the baseline scenario was higher than the project net present value of the project scenario). The audit team's findings regarding this assessment are provided below.

The audit team independently conducted a financial feasibility assessment by using local stumpage prices to verify that the baseline scenario could feasibly occur in the project area in the lifetime of the carbon project if the project was not implemented. The audit team also verified the physical feasibility of the harvests proposed as well as verified that the silvicultural prescriptions in the baseline scenario resemble common practice in the area.

2.11 Processes for Emission Reductions/Removal Enhancements Quantification

2.11.1 Methods, Algorithms, and Calculations To Be Used to Generate Estimates of Emissions and Emission Reductions/Removal Enhancements

The audit team validated the methodologies applied to quantify GHG emissions and emission reductions in the baseline and project scenarios. The objective was to determine whether the methods are clearly defined with supporting documentation, appropriate for accurately quantifying each data parameter,

applied consistently, and result in a conservative estimate of GHG emissions reductions and removal enhancements.

Section 4.2 provides further detail on the methods, algorithms, and calculations used to generate and validate emissions reductions estimates.

2.11.2 Process Information, Source Identification/Counts, and Operational Details

The forest inventory serves as the primary source of data and information used to quantify emissions reductions. The PP (Ref. 1) and inventory methodology (Ref. 13) describe the process including sample size, determination of plot numbers, plot layout, data collected, and measurement techniques. Through site visit and document review (Refs. 1, 13), the audit team verified the forest inventory methodologies and application.

The inventory data was then run within the Forest Vegetation Simulator with various prescriptions to simulate the baseline and project scenarios. The audit team confirmed that the baseline prescriptions were feasible and representative of common practice conditions in the region (see Section 3.4.3).

2.11.3 Data Management Systems

Field data collection QA/CA procedures are described in the inventory methodology (Ref. 13). The field QA/QC procedures include an internal audit of the field data by a contractor. The audit consists of a minimum of 5% of the samples collected with a focus on individual cruisers who are found to be consistently out of compliance. Additional audits may be conducted if warranted. Finite Carbon may, at their discretion, join the contractors during the audit. Then an audit report is composed consisting of a tabular report and a narrative report that highlight errors in data and corrective actions taken (Ref. 8).

Additional QA/QC procedures within the quantification process are described in Section E.1.3 in the PP (Ref. 1).

2.11.4 QA/QC Procedures

Section E6. of the PP identifies quality assurance and quality control procedures. The field QA/QC procedures include senior forester review of field collected data and remeasurement of any plots that cannot be reconciled. Further the PP states that “Field inventory data was collected with pencil and paper in the field and manually entered into FVS readable tabular format in the office. All field inventory datasheets are scanned and stored electronically. Once field inventory data was entered into tabular format manual QA/QC checks were performed in MS access and excel to identify outlying data points, which were corrected, as appropriate.” These field QA/QC procedures were confirmed on-site and during interviews.

The QA/QC procedures and the quantification approach employed by the project team conform to the parameters and quantification methods required by the Methodology. SCS determined that the Project

Proponent sufficiently documented and quantified each parameter. Section D of the PP also provides in detail a monitoring and data management plan for each parameter throughout the reporting period.

2.11.5 Processes for Uncertainty Assessments

The PP describes how baseline and project uncertainty were calculated. The PP states that uncertainty in the combined carbon stocks in the baseline is quantified using equation 12 of the methodology. The percentage uncertainty in the combined carbon stocks in the project during the reporting period is calculated using equation 20 of the methodology. The total project uncertainty (percentage) during the reporting period is quantified using equation 22 of the methodology. SCS confirmed that the approaches for assessing uncertainty that are identified in the PP are in conformance with the quantification methods required by the Methodology. Further detail on uncertainty quantification is in section 4.1.

3 Verification Findings

3.1 Results of Quantitative Uncertainty Assessment

SCS devoted a portion of the verification assessment to the review of the manner and propriety by which the project proponent quantified uncertainty associated with the individual GHGs in the project, in addition to the uncertainty of the calculation of GHG emission reductions and removals.

The audit team also calculated the total materiality of the GHG reduction and removal assertion

3.1.1 Project Uncertainty

The reported total Project Uncertainty (UNC_t) value of 7.97% was independently re-quantified by SCS using equation 22 in the methodology. The audit team found the difference reasonable and immaterial.

	SCS Values	Client Values	Difference
Reporting Period	UNC _t	UNC _t	
1	8.05%	7.97%	0.08%

3.1.2 Materiality

$$\% \text{ Error} = \frac{(\text{Project Emission Reduction Assertion} - \text{Verifier Emission Reduction Recalculation})}{\text{Verifier Emission Reduction Recalculation}} * 100$$

$$\% \text{ Error} = \frac{(27,137 - 27,116)}{27,137} * 100 = \frac{-21}{27,137} * 100 = -0.08\%$$

3.2 Analysis of the Quantification Methodologies and Applicable Data Sets and Sources

The audit team re-quantified project emissions, emissions reductions, and project uncertainty from the raw inventory data provided by the client. This process entailed verifying that the methods detailed in

the MR were applied as indicated. The team confirmed that the emissions reduction by conducting the following analysis:

- Recalculate the live aboveground, live belowground, and standing dead carbon pools using Jenkins et al. (2003) equations and decay class information using the inventory data provided by the client (Ref. 3)
- Recalculate tree and plot-level live aboveground and standing dead tree defect (Ref. 3)
- Recalculate site index for a random selection of plots using available soil survey data (Ref. 7)
- Use the Forest Vegetation Simulator (FVS) to degrow the raw inventory to the project start date (Ref. 17)
- Randomly select a sample of plots and prescriptions from the baseline scenarios. Run the selected samples in FVS and follow methodologies specified in the PP to calculate carbon stocks. Compare to the client's calculations for the selected plots to derive a correction factor to apply to the project and baseline population for the reporting period and ex-ante (Refs. 4, 17).
- Randomly select a sample of plot(s) and the grow prescription from the project scenario. Run the selected sample in FVS and follow methodologies specified in the PP to calculate carbon stocks. Compare to the client's calculations for the selected plot to derive a correction factor to apply the population project for the reporting period and ex-ante (Refs. 4, 17)
- Calculate the change in the baseline carbon stock stored in live trees and standing dead trees using equations 1 and 2 of the methodology. Calculate the 20-year average value of carbon remaining stored in wood products 100 years after harvest using equation 3 (Refs. 3, 5)
- With the outputs from equations 1, 2 and 3, calculate the long-term average baseline stocking level for the crediting period using equation 5 of the methodology. Use equation 7 to calculate the annual change in the baseline carbon stock (Refs. 3, 5)
- Calculate the baseline uncertainty in the combined carbon stocks in the baseline using equation 12 (Refs. 3, 5)
- Calculate the change in project carbon stock stored in live and dead trees using equations 13 and 14 (Ref. 3)
- Calculate the change in the project carbon stock and GHG emissions during the reporting period using equation 15 (Ref. 3)
- Calculate the percentage uncertainty in the combined carbon stocks in the project during the reporting period using equation 20 (Ref. 3)
- Calculate the total project uncertainty (percentage) during the reporting period using equation 22 (Ref. 3)
- Calculate the net greenhouse gas emission reductions (in metric tons CO₂e) during the reporting period and during each annual vintage using equation 24 in the methodology (Ref. 3)

3.3 Basis of Data and Information Supporting the GHG Assertion

The data and information supporting the GHG assertion were based on industry defaults, future projections, and actual historical records. The future projections are a result of a combination of tree inventory data, site index data, and other data modeled over time. Industry defaults are used in the harvested wood products as well as growth rates for the region. Actual historical records are used to assess stumpage prices, common practice, and boundary assessment.

3.4 Leakage Assessment

The audit team confirmed that project activities decrease total wood products produced by the project relative to the baseline by 25% or more over the Crediting Period, and so the applicable market leakage deduction is 30%. The audit team also reviewed the provided entity-wide management certification that requires sustainable practices. The leakage deduction was calculated as follows:

$$\text{Leakage Deduction} = (\Delta C_{P,t} - \Delta C_{BSL,t}) * LK$$

$$\text{Leakage Deduction} = (35,577.6 - (-)12,948.0) * 0.3 = 14,557.7$$

Note: final numbers are rounded for simplicity.

3.5 Risk Assessment

The reported value of the total risk score, as determined based on the risk analysis documented in the PP and MR, was 20%. The audit team performed a complete review of the risk assessment against the requirements of the ACR Tool for Risk Analysis and Buffer Determination. The audit team concludes that the assignment of risk scores is appropriate and in conformance to the ACR Tool for Risk Analysis and Buffer Determination. A more detailed review of the audit team's conclusions may be found below.

Actions Undertaken to Evaluate Whether the Risk Assessment Has Been Conducted Correctly		
Risk Category	Value Selected	Verification Activities
A	4%	Confirmation, through site inspections, that project is not located on public or tribal lands
B	4%	Confirmation, through site inspections, that project is not located on public or tribal lands
C	2%	Confirmation, through site inspections, that the project is not located outside the United States
D	0%	There are no conservation easements on the land
E	4%	The project is located in a high fire risk region.

F	4%	Confirmation, through research, interviews, and site inspection that epidemic disease or infestation is not present within 30 mile radius of the project area
G	0%	Confirmation, through site inspections, that project is not a wetland project or a forest project where more than 60% of the project area is not a forested wetland
H	2%	Confirmation that default value has been applied in the risk assessment calculation

4 Conclusion

The CHY Company is responsible for the preparation and fair presentation of the GHG statement in accordance with the criteria. The audit team asserts, with no qualifications or limitations, that

- The PP conforms, in full, to the validation criteria.
- The quantification of GHG emission reductions and/or removal enhancements, as reported in the MR, conforms to the verification criteria and is without material discrepancy.

Based upon the information made available to SCS and the analyses completed during the verification, SCS was able to reach a positive opinion, with a reasonable level of assurance, that the emission reductions represented by the Project Proponent during the monitoring period of 10 October 2022 to 01 April 2024 are free from material misstatement and in conformance with the assessment criteria.

The following provides a summary of the total emission reductions/removals for this Reporting Period including the buffer pool/reserve account contributions, and net emission reductions/removals:

Annual Emission Reductions and Removals in Metric Tons (tCO ₂ e) during Reporting Period 1							
Vintage	Start Date	End Date	Total Emission Reductions/Removals (tCO ₂ e)	Buffer Pool/Reserve Account Contribution (tCO ₂ e)	Net Emissions Reductions/Removals (tCO ₂ e)	Removals Subset (If Applicable) (tCO ₂ e)	Emission Reductions Subset (If Applicable) (tCO ₂ e)
2022	10 October 2022	31 December 2022	5,219	1,043	4,176	3,835	1,384
2023	1 January 2023	31 December 2023	22,953	4,591	18,362	16,866	6,087
2024	1 January 2024	1 April 2024	5,723	1,145	4,578	4,205	1,518
Total for Reporting Period*			33,895	6,779	27,116	24,906	8,989

*Note: Final numbers are rounded for simplicity and totals may not sum due to rounding.

Lead Auditor Approval	<i>Alexander Pancoast</i> Alexander Pancoast 1/23/2025
Internal Reviewer Approval	<i>Sam Calarco</i> Sam Calarco 1/23/2025

Appendix A: List of Findings

Please see Section 2.5 above for a description of the findings issuance process and the categories of findings issued. It should be noted that all language under “Project Personnel Response” is a verbatim transcription of responses provided to the findings by project personnel.

NIR 1 Dated 12 Jun 2024

Standard Reference: ACR Standard V8.0

Document Reference:

Finding: Section 6.E of the Standard states, “Project Monitoring Reports shall be completed for each verified Reporting Period using the most recently published template for ACR Monitoring Report. The Monitoring Report shall be submitted to the approved VVB during verification and submitted to ACR upon completion of the verification, including any corrections/revisions identified by the VVB.”

This template can be found at https://acrcarbon.org/program_resources/template-for-acr-monitoring-report/. The audit team requests this document be provided for verification.

Note: This document was then-provided and finding closed outside of the findings workbook. Refer to the email thread titled “NIRs for the CHY CTF project” for more information.

Project Personnel Response:

Auditor Response:

Bearing on Material Misstatement or Conformance (M/C/NA): C

NIR 2 Dated 12 Jun 2024

Standard Reference: ACR IFM V2.0

Document Reference:

Finding: Section 4.2.1 of the methodology states, “All model inputs and outputs (e.g., plot data, model selection, geographic variant, calibration for site-specific conditions, tree list outputs) must be available for inspection by the verifier.”

The audit team requests that all inputs and outputs from FVS be provided for validation and verification purposes. This may include input/output databases, keyfiles, and outfiles generated during the modeling process.

Note: This documentation was then-provided and the finding was closed outside of the findings workbook. Refer to the email thread titled “NIRs for the CHY CTF project” for more information.

Project Personnel Response:

Auditor Response:

Bearing on Material Misstatement or Conformance (M/C/NA): C

OBS 3 Dated 12 Jun 2024**Standard Reference:** ACR Standard V8.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24.pdf**Finding:** Section B2.1: Reference to “IRM” when rather should be IFM

Section H2.: Lists the current crediting period as “10/10/22-4/1/24”, lists correct crediting period later in Section H2

Project Personnel Response: Updates to sections B2.1 and H2 of the GHG Plan have been made. Reference ‘CHY Challenge GHG Plan Final 6_24_24’ pdf document.**Auditor Response:** Confirmed updates to documentation. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** NA**NIR 4 Dated 12 Jun 2024****Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24.pdf**Finding:** Section 1.3 of the Methodology outlines sustainable management requirements all projects must adhere to over the crediting period. Of those sustainable management requirements, being certified by FSC, SFI, or ATFS satisfies the requirements of the methodology. Section A4. of the GHGPP states, “the project proponent maintains American Tree Farm System certification for all its timberland properties...” The audit team requests that documentation of this certification be provided for verification.**Project Personnel Response:** CHY’s American Tree Farm (ATF) certification covers the entirety of their timberland ownership as 37 separate tree farms. Copies of the American Tree Farm certificates for each of the 37 separate tree farms are provided in the ‘ATFS certificates’ pdf file. Also, attached is a shapefile which details which properties correspond to which tree farms (CHY_ownership zip file). As part of the ATF certification, the CHY Company maintains a forest management plan that is periodically updated based on changing conditions. A copy of the current management plan is provided for reference as the ‘CHY_ATF_management_plan_2024’ pdf file. Additionally, the project also complies with the second bullet point of section 1.3 of the Methodology because all areas where commercial timber harvesting occurs are enrolled under various harvesting plans under the California Forest Practice Rules which have monitoring and enforcement mechanisms in place. The California Forest Practice Rules are the most extensive and rigorous set of standards governing forestry operations anywhere in the world. All timber operations require Timber Harvest Plans or exemptions prepared by Registered Professional Foresters (RPFs), which undergo multi-agency review and public disclosure with CalFire serving as the lead agency. Additionally, regional forest practice inspectors employed by CalFire are charged with monitoring and enforcing compliance with the California Forest Practice Rules and relevant harvest documents. During the current reporting period, timber operations were conducted under exemptions 2-22EX-00709-YUB, 2-23EX-00428-YUB, and 2-23EX-00964-YUB. Timber Harvest Plans 2-18-003-YUB and 2-20-00011-BUT are also currently approved within the project area but were not operated during the current reporting period. All documentation related to these harvest documents is publicly available online through CalTrees (<https://caltreesplans.resources.ca.gov/caltrees/>). Pdf copies of the approved versions of 2-22EX-00709-YUB, 2-23EX-00428-YUB, and 2-23EX-00964-YUB are provided for reference.**Auditor Response:** Thank you for this detailed explanation and clear demonstration meeting the requirements of Section 1.3 of the Methodology. Finding is closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C

OBS 5 Dated 12 Jun 2024**Standard Reference:** ACR IFM V2.0**Document Reference:** ACR_IFM_ERTcalculator_Methodology_v2.0_2022.07.06 crediting period.xlsx
ACR_IFM_ERTcalculator_Methodology_v2.0_2022.07.06 RP1.xlsx**Finding:** Section 7.3 of the Methodology states that validation shall assess, “Methodologies and calculation procedures used to generate estimates of baseline and with-project scenario stocks, emission reductions, and removals.”

During the document review process the audit team noted that the inclusion of tab ‘Example A-No Harvest Project’ in the ERT workbooks is not relevant to the calculation procedures for a project or baseline scenario that contains harvest, and contains stock ACR template data. The presence of default template data is irrelevant to project calculation documentation.

Project Personnel Response: The ‘Example A-No Harvest Project’ tab has been removed from the included ‘ACR_IFM_ERTcalculator_Methodology_v2.0_2022.07.06 RP1 - by vintage - 6_21_24 update’ workbook**Auditor Response:** Confirmed updates to documentation. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NCR 6 Dated 12 Jun 2024****Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24.pdf**Finding:** Section 5.2 of the Methodology lists the minimum data parameters that must be monitored to be listed in the GHG Plan and Monitoring Report: project area, sample plot area, tree species, tree biomass, wood products volume, and dead wood pool if included.

Section D1. of the GHG Plan does not list wood products volume and thus is not in conformance with the methodology.

Project Personnel Response: Section D1 of the GHG plan has been revised to address this finding. Reference ‘CHY Challenge GHG Plan Final 6_24_24’ pdf document**Auditor Response:** Confirmed updates to documentation. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C

NCR 7 Dated 12 Jun 2024**Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24.pdf

CHY Challenge ACR monitoring report RP1 signed.pdf

Finding: Section 5.2 of the Methodology lists the minimum data parameters that must be monitored to be listed in the GHG Plan and Monitoring Report: project area, sample plot area, tree species, tree biomass, wood products volume, and dead wood pool if included.

Section D1. of the GHG Plan and Section V of the Monitoring Report does not list wood products volume and thus is not in conformance with the methodology.

Project Personnel Response: Section V of monitoring report has been revised to address this finding. Reference 'CHY Challenge ACR monitoring report RP1 signed_6_24_24' pdf document.**Auditor Response:** Confirmed updates to documentation. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NIR 8 Dated 12 Jun 2024****Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24.pdf**Finding:** Section 7.4 of the Methodology states, "verification shall assess...original underlying data and documentation as relevant and required to evaluate the GHG assertion."

The GHG Plan in Section E1.2 states, "The tree list for strata 2 and 3 was filtered to exclude trees less than 4" DBH and trees with broken tops (note that tree less than 4" DBH were measured during the inventory but are not reported as project carbon stocks).

During the kickoff call with the project proponent, it was noted that only trees 5.5" DBH and greater were included in carbon stock calculations. The audit team requests clarification on this discrepancy.

Project Personnel Response: Trees less than 4" DBH were included in the site index calculation because some young plantation plots, primarily in stratum 3, were not yet of the age where most trees had reached 5.5" DBH. Additionally, Douglas-fir and incense cedar are significantly slower growing than ponderosa pine in the initial years following plantation establishment. The 4" DBH threshold for site index calculation was used to allow for plot specific site index calculation in younger plantation areas and to assure a sufficient number of incense cedar and Douglas-fir sample trees were used for the calculation. Trees between 2.5" and 5.5" DBH were measured during the initial project inventory but were not included in the reported project carbon stocks. For reference, the complete inventory tree list, including sub 5.5" trees is provided in the 'CHY_inventory_all_original_Challenge' excel file.**Auditor Response:** Thank you for this clarification. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** M/C

NCR 9 Dated 12 Jun 2024**Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24.pdf**Finding:** Section 4.2 of the Methodology states, “The Project Proponent shall provide a graph of the projected baseline stocking levels and the long-term average baseline stocking level for the entire crediting period (see Figure 1).”

While Figure E1 of Section E8., CHY Challenge GHG Plan Final 4_8_24.pdf displays Project Stocks and Baseline Stocks over the 20 year crediting period, the data series “Baseline” is not indicative of the long-term average baseline stocking level, and thus is not in conformance with the Methodology.

Project Personnel Response: Figure E1 has been revised to show the 20 year average baseline carbon stocks to address this finding. Reference ‘CHY Challenge GHG Plan Final 6_24_24’ pdf document**Auditor Response:** Confirmed updates to documentation. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NCR 10 Dated 12 Jun 2024****Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge ACR monitoring report RP1 signed.pdf**Finding:** Section 2.3 of the Methodology states, “In accordance with the ACR Standard, all projects will have a crediting period of twenty (20) years.” Section II.7 of the MR lists the crediting period as “10/10/2022-04/01/2022” and is not in conformance with the methodology.**Project Personnel Response:** Section II.7 of the Monitoring report has been revised to address this finding. Reference ‘CHY Challenge ACR monitoring report RP1 signed_6_24_24’ pdf document.**Auditor Response:** Confirmed updates to documentation. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C**NCR 11 Dated 12 Jun 2024****Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge ACR monitoring report RP1 signed.pdf**Finding:** Section 5.2 of the Methodology lists the minimum data parameters that must be monitored to be listed in the GHG Plan and Monitoring Report: project area, sample plot area, tree species, tree biomass, wood products volume, and dead wood pool if included.

Section V of the MR does not list project area, sample plot area, or tree species in Section V and thus is not in conformance with the methodology.

Project Personnel Response: Section V of the Monitoring Report has been revised to address this finding. Reference ‘CHY Challenge ACR monitoring report RP1 signed_6_24_24’ pdf document.**Auditor Response:** Confirmed updates to documentation. Finding closed.**Bearing on Material Misstatement or Conformance (M/C/NA):** C

NIR 12 Dated 12 Jun 2024**Standard Reference:** ACR Tool for Risk Analysis and Buffer Determination v1.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24.pdf**Finding:** The ACR Risk Tool v1.0 states that projects are to assume 8% risk if the project is located in an area where fire greater than 1,000 acres has occurred within 30 mile radius of project area in prior 12 months.

Section B8. of the GHGPP says "E. Fire: 8% due to fire over 1000 acres within 30 miles of project boundary within prior 12 months"

According to the NIFC database, 10 fires were identified to be within 30 miles of the project area in the previous 12 months, however, the largest of these fires is only 921 acres. Perhaps the GHGPP is referencing is the Bear aka North Complex Fire which burned roughly 319,00 acres. The fire has a discovery date of 8/17/2020 and an extinguished date of 12/3/2020. The scope for a risk-altering fire is limited to 10/10/2021 (12 months prior to the project start date) through the end of RP1. While this approach is conservative, the audit team requests more information as to the applicability of the 8% fire risk score.

Project Personnel Response: The fire risk score has been revised from 8% to 4% based on this finding. The 'ACR_IFM_ERTcalculator_Methodology_v2.0_2022.07.06 RP1 - by vintage - 6_21_24 update' workbook, 'CHY Challenge ACR monitoring report RP1 signed_6_24_24' pdf document, and 'CHY Challenge GHG Plan Final 6_24_24' pdf document have been revised to address this. Please note that although there were no fires within a 30 mile radius during the 12 months prior to the first reporting period, there was a 1000+ acre fire on June 15, 2024 within a 30 mile radius of the project. This fire, the Junes Fire, was a 1056 acre grass fire to the west of the project.

Auditor Response: Thank you for this updated information. Given the language in the methodology, the scope for a risk altering fire begins 12 months prior to the project start date through the end of the first Reporting Period. So a qualifying fire would have to occur between 10/10/2021 - 04/01/2024. The Junes Fire (Start date: 6/15/24, Containment date: 6/18/24, 1056 acres) is outside the scope of verification. Finding closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C

NIR 13 Dated 12 Jun 2024**Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24.pdf

Jenkins Carbon Calculator 3_29_24 RP end 4_1_24.xlsx

Finding: Section 7.4 of the Methodology states, “verification shall assess [...] calculations used to generate estimates of emissions, emission reductions, and removals; assessment of growth and yield model outputs and projections”.

Section E3 of the GHGPP describes how FVS-derived tree mortality was accounted for and applied to End-RP project carbon stocks:

“Mortality was accounted for by averaging the default FVS mortality per acre estimates across all tree records over the 10 year projection period and dividing this number by 10 to calculate the estimated average annual mortality per acre for all tree records. The estimated mortality per acre for each tree record between the measurement date and reporting period end date was calculated by dividing the number of days between the measurement date and 4/1/24 by 365 and multiplying this number by the estimated average annual mortality per acre for all tree records calculated in the previous step. The trees/acre for each tree record was reduced by this mortality factor in the final reporting period end tree list”.

Data in sheets column W of ‘full tree list live+dead+notes’ and columns AD and AE of ‘tree list’ in Jenkins Carbon Calculator 3_29_24 RP end 4_1_24.xlsx indicate that a plot-specific mortality reduction factor was applied, rather than a tree-specific mortality reduction factor.

Interpreting the language in the GHGPP, the audit team utilized data from an FVS grow-only cycle, which after recalculation, resulted in a tree-specific mortality reduction factor which conflicts with the PP’s plot-specific mortality reduction factor.

The audit team requests clarification regarding the calculation of RP-end TPA.

Project Personnel Response: During our initial calculation runs of RP end carbon stocks we also used the default tree specific mortality estimates provided by FVS, but noticed that some tree records were given very high mortality factors by FVS, with some tree records reported as no longer having any live trees/acre. We felt that this could potentially cause issues during field verification as standing dead is not included as a reported carbon pool. For example, if FVS modeled a measured tree as no longer having any live trees/acre, but the tree was found to still be alive during field verification, this could potentially result in a significant discrepancy between reported and verified carbon stocks on that individual plot. In order to address this potential issue, we averaged the mortality outputs from FVS across all tree species and applied a plot specific mortality factor based on each plot’s measurement date. The language in section E3 of the GHG plan has been revised to make it clearer that a plot specific mortality factor was applied. Reference ‘CHY Challenge GHG Plan Final 6_24_24’ pdf document

Auditor Response: Thank you for this updated language and clarification. This approach seems reasonable and was replicated with minimal differences from an SCS FVS grow cycle. Finding closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M

NCR 14 Dated 12 Jun 2024**Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24

FVS Keyfiles related to selection Regimes (e.g. f51fcf9e-19dd-4720-bc58-3476d4fc4eb4 – “Regime 1R8”)

Finding: Section 4.1.1 of the Methodology states the GHGPP must include, “...Descriptions of baseline silvicultural prescriptions, including trees retained (e.g., residual volumes, species), harvest frequency, and regeneration assumptions.” The GHGPP Table E2 describes the selection regime as “Harvest across all species and all diameter classes to 100 square feet of basal area and repeat every 30 years...”, however upon inspection of the keyfiles used to generate growth and yield estimates it appears the selection harvest (using the “ThinQFA” keyword) is constrained to only consider trees less than 50” DBH while a separate “ThinDBH” keyword is invoked which removes all trees greater than 50”.

Please address this inconsistency between the silvicultural description found in the GHGPP and the FVS model formulation.

Project Personnel Response: Standard practice in the region with selection silviculture is to remove all crop trees above a certain diameter, which is why the model removes all trees greater than 50”. As the model still retains 100 square feet of basal area in trees less than 50” DBH, this is still compliant with California Forest Practice rules requirements and in-line with industry standards. Figures E2 and E9 have been revised to clarify this. Reference ‘CHY Challenge GHG Plan Final 6_24_24’ pdf document.

Auditor Response: Thank you for this correction. Confirmed that updates to GHGPP reflect the parameters used to generate growth and yield estimates. Finding closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

NCR 15 Dated 12 Jun 2024**Standard Reference:** ACR IFM V2.0**Document Reference:** CHY Challenge GHG Plan Final 4_8_24

FVS Keyfiles related to with-project Clearcut + CT Regimes (e.g. 5c4f6aa4-b479-4e32-952e-546e5cca4964– “Regime 2R35”)

Finding: Section 4.1.1 of the Methodology states the GHGPP must include, “...Descriptions of baseline silvicultural prescriptions, including trees retained (e.g., residual volumes, species), harvest frequency, and regeneration assumptions.” The GHGPP Table E9 describes the clearcut regime as including a commercial thin at age 40, however upon inspection of the keyfiles used to generate growth and yield estimates it appears the with project clearcut regime does not trigger a commercial thin entry.

Please address this inconsistency between the silvicultural description found in the GHGPP and the FVS model formulation.

Project Personnel Response: Upon review of the with-project FVS run a minor error in the .kcp file script was discovered that was preventing the commercial thin entries from being triggered during the FVS model runs. This has been corrected. The corrected with-project run is included in the 'ProjectBackup_2024-06-24_19_51_54' FVS backup zip file and updated with-project outputs are detailed in the 'CHY Challenge NPV calculator - with project - 6_24_24' excel workbook. The projected with project stocks over the crediting period were also recalculated using these updated outputs in the 'ACR_IFM_ERTcalculator_Methodology_v2.0_2022.07.06 crediting period - 6_24_24 update' excel workbook.

Auditor Response: Thank you, the finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): C

OBS 16 Dated 12 Jun 2024**Standard Reference:** ACR IFM V2.0

Document Reference: CHY Challenge NPV calculator - baseline no CT - front load harvest.xlsx
CHY Challenge NPV calculator - with project.xlsx

Finding: Section 4.2.4 of the Methodology states “If actual or baseline harvested wood volumes are reported in units besides cubic feet or green weight, convert to cubic feet using the following conversion factors”.

The audit team has noted that the PP elected to use harvested board foot volumes from FVS and convert then to cubic feet using the conversion factor specified in the Methodology. While this is in compliance with the Methodology, the audit team notes that FVS also reports harvested volumes in cubic feet. In general it appears the native cubic foot volumes output by FVS are slightly higher than the volumes derived from converting board foot volumes to cubic foot volumes using the conversion factor of 165 cubic feet per thousand board feet. These differences are small in magnitude and consistent between the project and baseline scenario, therefore are not impacting the final ERT materiality calculation. Regardless the audit team is issuing a formal closed observation noting the difference.

Project Personnel Response:

Auditor Response:

Bearing on Material Misstatement or Conformance (M/C/NA): NA

NCR 17 Dated 12 Jun 2024**Standard Reference:** ACR IFM V2.0**Document Reference:** ACR_IFM_ERTcalculator_Methodology_v2.0_2022.07.06 RP1.xlsx

Finding: Equation 13 in section 5.3 of the Methodology requires “The change in with-project carbon stock to be computed from the end of the prior reporting period”. In this case the reporting period is longer than 1 year (539 days), therefore the change in both the baseline and with-project carbon stocks need to be prorated to account for the extended RP. For the baseline this is accomplished by adding the prorated change in stocks to the RP Start carbon stocks. It is unclear how this was handled for the with-project stocks, however it appears not to be consistent with the method used for the baseline stocks and the audit team is unable to recreate the value reported in (ACR_IFM_ERTcalculator_Methodology_v2.0_2022.07.06 RP1, tab “Example B-Light Harvest Project”, cell E23).

Please ensure that the with-project carbon stock change is computed correctly, and is consistent between baseline and project.

Project Personnel Response: The calculation workbooks were reviewed and one minor error in data transposition was found that resulted in an error in the calculation of project carbon stocks as of the RP end date. The relevant workbooks have been corrected to address this and the resulting RP end carbon stocks were calculated to be 1,247,398 metric tons. The general procedure used for this calculation is summarized below:

1. The initial inventory dataset was input into FVS and grown forward for 10 years. The 'FVS individual strata' tab of the 'CHY_inventory_all_original_Challenge-snags and small trees removed' workbook was used as the treelist and was pasted into 'CHY_Challenge_individual_strata_final' access database as the basis for the 10 year forward growth modeling.
2. The FVS_treelist file was saved from this model run as the 'FVS 2033 Tree List 3_28_24' excel file
3. The tree list from the 'FVS 2033 Tree List 3_28_24' excel file was copied and pasted into the '2033 tree list FVS' tab of the 'grown_trees_4_1_24 – 6_21_24 update' excel workbook. This tree list was used to populate the '2033 tree list' tab in the same workbook.
4. Each tree diameter was increased by a unique factor corresponding to the time in years between the plot measurement date and the reporting period end date. This was calculated in the 'grow ratios' and 'grow lookup' tabs in the 'grown_trees_4_1_24 – 6_21_24 update' excel workbook as reported in the 'annual portion to grow' column.
5. Reporting period end date DBH for each tree record was calculated in the 'grow calculation' tab of the 'grown_trees_4_1_24 – 6_21_24 update' excel workbook by calculating the average annual DBH growth for each tree record then multiplying that by the grow ratio calculated in the previous step.
6. Mortality was taken into account by estimating a mortality reduction factor for each tree record. The MortPA value from the 2033 FVS tree list for each tree was divided by the tree count to then this figure was averaged across all tree records. A mortality reduction factor for each tree record was then calculated by dividing the average mortality across all tree records into 10 and multiplying by this figure by the time in years between the plot measurement date and the RP end date (reference column Q of the 'grow calculation' tab in the 'grown_trees_4_1_24 – 6_21_24 update' workbook).
7. The 'grown tree list with notes' tab of the 'grown_trees_4_1_24 – 6_21_24 update' excel workbook was copied and pasted into the 'CHY_inventory_all_Challenge -4_1_24 -updated 6_21_24' excel workbook. This tree list was manually filtered to remove all plots that were remeasured immediately prior to the RP end date and the remeasured tree data was manually input into the tree list. Remeasured tree data was conservatively not grown forward as it was remeasured during the dormant season and not predicted to have significant growth between the measurement date and RP end date.
8. The tree list from the 'CHY_inventory_all_Challenge -4_1_24 -updated 6_21_24' workbook was copied and pasted into the 'full tree list live+dead+notes' tab of the 'Jenkins Carbon Calculator 3_29_24 RP end 4_1_24 – 6_21_24 update' workbook. Any trees in the dataset coded as 'OS' were manually updated to the correct species code (NM, PY, or MC). Plot, strata, and project level carbon stocks are summarized under the 'plot carbon calc' tab of this workbook. Total project carbon stocks are displayed in cell T6. Sampling error statistics are summarized under the 'SE calc stratified tab of this workbook'. These data represent the values calculated for the RP end date.

Auditor Response: Thank you for this explanation. The finding is closed.

Bearing on Material Misstatement or Conformance (M/C/NA): M/C






ACR_CHY_CTF_ValidationVerificationReport_V2-7_012325

Final Audit Report

2025-01-23

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