

PROPOSED UPDATES TO REDD+ AND JNR REQUIREMENTS

1 INTRODUCTION

1.1 Background and Framing

The VCS [Jurisdictional and Nested REDD+ \(JNR\) Requirements](#), which provide rules for jurisdictional REDD+¹ programs, and projects and lower-level programs nesting into them, were originally developed and released in 2012. Since that time, many governments have established REDD+ strategies and plans and/or forest reference emission levels (FRELs) that have been assessed by the UNFCCC or other independent bodies as part of their national REDD+ programs.

Recognizing the importance of aligning VCS project activities with national and subnational REDD+ strategies and plans and ensuring projects are well placed to meet post-2020 market opportunities, Verra is developing additional requirements for REDD+ project nesting that will cover a range of circumstances, and updating the requirements for JNR programs.

Our objective is to provide JNR programs with workable, practical and credible accounting and crediting requirements that represent current best practices and are aligned, where relevant, with the UNFCCC decisions on REDD+ and with other major GHG programs, while being supportive of national REDD+ frameworks.

Additional background information about our objectives and reasoning for this update can be found in the [2019 Nested REDD+ Public Consultation](#) documents.

1.2 Document Summary

This document provides a description of the proposed updates to the VCS Program nesting requirements, *VCS Jurisdictional and Nested REDD+ (JNR) Requirements*, and *JNR Validation and Verification Process*. These updates would impact the development and assessment of jurisdictional programs and jurisdictional reference levels under the VCS Program, as well as REDD+ projects nesting into a jurisdictional program or reference level.

This document also summarizes the main feedback received during the [2019 Nested REDD+ Public Consultation](#) and follow-up discussions with stakeholders and the JNR Advisory Group, and how Verra has taken this feedback into consideration.

¹ REDD+ includes reduced emissions from deforestation and degradation (REDD), improved forest management (IFM) and afforestation/reforestation/revegetation activities (ARR), as defined under the VCS Program.

The following proposed updates are described in more detail below:

Section 2	Updates to Jurisdictional Reference Level Requirements
Section 2.1	Technical Considerations for the Development of Jurisdictional Reference Levels
Section 2.2	Shortening the Historical Reference Period where an Historical Average is Used
Section 2.3	Shortening the JNR Reference Level Reassessment Period
Section 2.4	Nesting into a Reference Level Developed under Another Program or for Another Purpose
Section 2.5	Allocation Tool
Section 2.6	Monitoring
Section 3	Updates to the Jurisdictional Program Requirements
Section 3.1	Reorganizing and Restructuring the <i>JNR Requirements</i>
Section 3.2	Uncertainty Requirements
Section 3.3	Carbon Rights
Section 3.4	Removing Requirements for including Carbon Decay in the Calculation of Baseline GHG Emissions or Removals
Section 3.5	Aligning Jurisdictional Monitoring with the National Forest Monitoring System
Section 3.6	Removing Requirements for Overlapping Leakage Belts and for Projects Crossing Jurisdictional Boundaries
Section 3.7	Facilitating Joint Validation and Verification Between JNR and REDD+ Social and Environment Standards (REDD+SES)
Section 3.8	Updating the Loss Event Reporting Requirements
Section 3.9	Updates to the Program and Project Crediting Period Requirements
Section 4	Update to the <i>JNR Validation and Verification Process</i>
Section 4.1	Proposed Update to the JNR Expert Panel Assessment

In addition to the descriptions of proposed updates included within this document, the following draft documents are provided for public consultation:

- [*DRAFT JNR Requirements, v4.0*](#)
- [*DRAFT JNR Allocation Tool, v4.0*](#)
- [*DRAFT JNR Validation and Verification Process, v4.0*](#)

The background and detail of the information included in the 2019 public consultation are available in the [original consultation documents](#).

Note that, in addition to the updates described in detail in this document, there may be additional updates to the *JNR Requirements* as a result of the ongoing work that Verra is undertaking on [Scaling Voluntary Carbon Markets and Avoiding Double Counting Post-2020](#)² (which may impact Section 3.7 of the *JNR Requirements*) and updating the [AFOLU and JNR Non-Permanence Risk Tools](#) (which may impact Sections 2.2, 3.16 and 4.12 of the *JNR Requirements*).

1.3 Consultation Process and Timeline

We encourage stakeholders to review each of the proposals set out in more detail below, including the key questions sections. Please provide comments in any form, including by email or by preparing formal documents, and send those to secretariat@verra.org by **07 November 2020.**

After the consultation, we will use the input and feedback provided on these proposals to finalize the rules and requirements. As always, please let us know if you have any questions as you engage in this consultation. We look forward to your feedback.

Indicative Timeline:

Start of second consultation	08 October 2020
End of second consultation	07 November 2020
Consideration of consultation feedback	November – December 2020
Tentative release date of final requirements and guidance	Mid-January 2021

² Note that the public consultation on Scaling Voluntary Carbon Markets and Avoiding Double Counting Post-2020 is open from 18 August - 17 October 2020. Comments about the implications of this proposal on jurisdictional programs and nested REDD+ projects may be submitted through the end of the REDD+ Nesting public consultation period, 07 November 2020.

2 PROPOSED UPDATES TO THE JURISDICTIONAL REFERENCE LEVEL REQUIREMENTS

2.1 Technical Considerations for the Development of Jurisdictional Reference Levels

Background

Verra is revising the technical and procedural requirements for the development and registration of jurisdictional reference levels in order to reflect current best practices, state-of-the-art technologies as well as methods and the experience gained by governments in the last decade in the development of reference levels.

Feedback Received

There was general (but not unanimous) agreement that there should be minimum quality criteria to ensure that jurisdictional reference levels are sufficiently robust to be used as a basis nested site scale project carbon accounting. These criteria should ensure that REDD+ programs and nested activities generate credible emission reductions and are eligible to issue VCU's.

Current Proposal

The following requirements would replace the existing requirements for developing a jurisdictional reference level in Section 3.12 and allocating a jurisdictional reference level to nested projects and lower-level jurisdictional programs in Section 4.7 of the *DRAFT JNR Requirements, v4.0*.

Reference Period

- 1) Historical reference period: The historical reference period from which activity data are estimated for the development of the jurisdictional reference level must be of at least 4 years and up to a maximum of 6 years.³
- 2) Baseline period: The baseline period, i.e. the period for which the reference level is constructed, must be of at least 4 years and up to a maximum of 6 years. After this period, the reference level shall be updated and revalidated.⁴
- 3) Time gap between period: The time gap between the historical reference period and the baseline period shall not exceed 2 years.

Development Approach

A number of approaches could be used to construct the jurisdictional level, as described below. Different approaches to construct the reference level may be used for different REDD+ activities covered by it. However, the same approach must be used for each REDD+ activity (e.g., avoided planned and unplanned deforestation) across the entire jurisdictional program area. We intend for this

³ See Section 2.2, below, for additional context and information about the proposed update to shorten the historical reference period.

⁴ See Section 2.3, below, for additional context and information about the proposed update to shorten the reference level reassessment period.

approach to be consistent, to the extent possible, with approaches used by other GHG programs (e.g., the FCPF); however, there are differences between the approach under the VCS Program as we have placed a strong focus on following best practices and the most robust technical and scientific knowledge in order to ensure the integrity of jurisdictional reference levels.

- 1) Historical average emissions shall be used to construct the reference level.
- 2) In jurisdictions where the annual average of the estimated historical emissions would represent emissions above those that could be caused by the loss of all remaining forest lands under threat within the jurisdictional boundaries during the reference level period, a negative adjustment factor or a decreasing linear extrapolation of the historical trend in emissions shall be used to construct the reference level so as to avoid an overestimation of emissions.
- 3) In jurisdictions where historical data show a consistent decrease in emissions and the analysis of agents and drivers does not support the hypothesis of a change in trend, the reference level shall be constructed by linearly extrapolating the historical declining trend in emissions into the reference level period.
- 4) In a future update, Verra will be exploring options on how to consider increasing trends taking into account national (and subnational) circumstances and robust methodological approaches.

Planned Deforestation and Degradation

- 1) Activity data for planned deforestation and planned degradation shall be estimated from historical data separately for each type of permit.
- 2) The areas for which different permits have been awarded or will be awarded during the reference period must be determined *ex ante* and shall be spatially explicit so as to make it possible to identify the baseline land-uses that exist within each of them.
- 3) The estimated average historical deforestation rate and, where applicable, forest degradation rate per permit type shall be used to construct the reference level of planned activities.
- 4) Where historical activity data per permit type are unavailable to estimate the historical deforestation and degradation rates, emissions from planned activities shall be estimated using the same approach used for unplanned activities.

No Spatial Overlap of REDD+ Activities Included in the Reference Level

- 1) Where several activities have been included in the reference level, these shall not spatially overlap. This shall be demonstrated by generating a jurisdictional map depicting the areas where different REDD+ activities are the reference level.
- 2) To determine the REDD+ baseline activity of each location, analysis of agents and drivers, probability maps and other tools can be used.
- 3) The REDD+ reference level activities shown in the jurisdictional map shall be consistent with the REDD+ reference level activity of the nested projects (i.e. a project registered as an avoided deforestation project should not be in an area where the jurisdictional map has defined forest degradation as the baseline activity).

Consistent Definition of REDD+ Activities

Sometimes, depending on the number of observations collected in the historical reference period, multiple land-cover transitions are present in the historical data set. For practical reasons, changes in land-cover, in the context of REDD+, are often interpreted as land-use changes.

- 1) Consistent definitions of REDD+ activities across the VCS-JNR project portfolio are required to ensure the fungibility of the VCU. This implies that activity data corresponding to different categories of land-use change must be interpreted and classified into a REDD+ activity using consistent decision rules. To ensure that multiple land-use transitions are interpreted consistently and classified into REDD+ activities in a consistent manner, the following decision rules are proposed (note that these rules do not imply that all activities need to be accounted for) :

- a) Deforestation:

- i) The oldest land-use observation in the historical time-series is FOREST LAND; and
- ii) At least one of the land-use observations in the historical time-series is NON-FOREST LAND.

- b) Forest degradation:

- i) All land-use observations in the historical time-series are FOREST LAND; and
- ii) The carbon stock of the most recent land-use is lower than the carbon sock of the oldest land-use.

- c) Forest carbon stock enhancement:

- i) All land-use observations in the historical time-series are FOREST LAND; and
- ii) The carbon stock to the most recent land use is higher than the carbon sock of the oldest land-use.

- d) Afforestation and Reforestation:

- i) The oldest land-use observation in the historical time-series is NON-FOREST LAND; and
- ii) The most recent land-use observation in the historical time-series is FOREST LAND.

- e) Forest Conservation:

- i) All land-use observations in the historical time-series are FOREST LAND; and
- ii) The oldest and the most recent land-user observations are the same type of forest, with the same carbon stock.

Note - “Forest conservation” does not generate any emission or removal as carbon stocks are conserved in FOREST LAND remaining FOREST LAND. For this reason, if “Forest Conservation” has been included in the jurisdictional reference level being evaluated, it should not make any difference in excluding it when adjusting or developing the reference level.

- f) Improved Management of Forests:

- i) All land-use observations in the historical time-series are FOREST LAND; and

- ii) The areas subject to IFM are identified and classified as such by the jurisdiction.

Note - “Improved Forest Management” should be avoided in the development of a reference level because improved management of forests either leads to avoided deforestation, avoided forest degradation, carbon stock enhancement, afforestation and reforestation, or conservation of forest carbon stocks. In all these cases “Improved Forest Management” overlaps with other REDD+ activities that are more clearly defined. For this reason, if “Improved Forest Management” has been included in the jurisdictional reference level being evaluated, the corresponding activities should be reclassified into another REDD+ activity when developing the reference level.

- g) Devegetation:
 - i) The oldest and the most recent land-use observation are both NON-FOREST LAND; and
 - ii) The carbon stock of the most recent observation is lower than the carbon stock of the oldest land-use observation.
- h) Revegetation:
 - i) The oldest and the most recent land-use observation are both NON-FOREST LAND; and
 - ii) The carbon stock to the most recent observation is higher than the carbon stock of the oldest land-use observation.
- i) Non-Forest Conservation:
 - i) The oldest and the most recent land-use observation are both NON-FOREST LAND; and
 - ii) The oldest and the most recent land-use observations have the same carbon stock.

Activity Data

Verra is considering the following updates related to activity data and remote sensing to reflect current best practices and available technologies, and will work with a technical expert to set out specific requirements:

- 1) Only activity-based accounting would be considered. Activity-based accounting will not prevent a jurisdiction from accounting for its forests in accordance with IPCC categories of forest converted to non-forest, forest remaining forest, and conversion of non-forest to forest. Land based accounting should not be used to develop a jurisdictional reference level; if a jurisdiction wants to use land-based accounting, Verra will work with the jurisdiction on a case-by-case basis.
- 2) The analysis of remote sensing imagery would be required to estimate activity data. Other surveys and logging statistics would not be acceptable data sources for estimating emissions from forest degradation.
- 3) Emissions would be required to be estimated using activity data and emission factors. Methods that rely on a comparison of total carbon stocks through re-measured forest inventory plots would not be allowed.

- 4) Activity data would be required to be determined consistently with the definition of REDD+ activities.
- 5) Activity data would be required to be determined for each land-use transition and not only for each REDD+ activity. This also implies that bias-corrections when using pixel counts and accuracy assessment would both need to be done at the level of land use transition.
- 6) For estimating areas of deforestation and of forest degradation, both sample-based methods and map-based methods would be allowed. Where map-based methods are used, an accuracy assessment would be required to be undertaken and any (statistically significant) biases would need to be corrected for.
- 7) There would be requirements for detailed standard operating procedures for data collection.
- 8) Requirements for the minimum data quality would be strengthened (e.g., the minimum spatial resolution of data).

Emission Factors

Verra is considering the following updates related to the calculation of emission factors, and will work with a technical expert to set out specific requirements:

- 1) Clarify that emission factors would be required to be calculated as the difference between biomass before and after deforestation and forest degradation.
- 2) Provide additional detail on the requirements for the uncertainty analysis of emission factors (see Section 3.2, below, about the updates to uncertainty analysis requirements).
- 3) Consider whether the requirements for the use of default factors and field measurements of biomass need to be updated.
- 4) Emission factors would be required to be calculated as net emission factors (i.e. they must be calculated as the difference in carbon stocks of the land-uses participating in each transition (carbon stock of the initial land use minus carbon stock of the final land use)).
- 5) Where multiple land-use transitions are present in the historical time series, emissions factors would be required to always be calculated as the difference in carbon stock of the first land use in the time series minus the carbon stock of the most recent land use in the historical time series. Carbon stocks of in-between land uses would be ignored in the calculation of emission factors.
- 6) Emission factors would be required to be determined for each land-use transition (not only for each REDD+ activity). This also implies that accuracy assessment of emission factors would need to be undertaken at the level of land use transition.

Key Questions

- 1) As noted above, Verra is exploring methodologically robust and credible options to establish jurisdictional reference levels with increasing trends where they are justified by national circumstances, such as in the case of high forest low deforestation countries and countries with legacy emissions (e.g. countries with cumulative emissions from peatland decomposition). Which science-based and robust methodological approaches should Verra consider?

- 2) Are the requirements for planned deforestation and degradation sufficient?
- 3) Are the requirements for no spatial overlap of REDD+ activities sufficient?
- 4) Are there other requirements we are not considering that should be relevant? (Note that Verra is currently developing updated requirements related to activity data and emission factors that will complement the above proposals).
- 5) What approaches to estimating activity data should be acceptable? (There is a trend for countries to increasingly use sample-based approaches to estimate activity data, while other countries continue using map-based approaches with pixel counts to estimate activity data.)
- 6) What types of satellite imagery should be acceptable for the estimation of activity data through a) map making and pixel counts, b) map accuracy assessment, and c) sample-based approaches to estimating activity data? What is the acceptable minimum spatial resolution that should be required?
- 7) To what extent should it be required to generate activity data estimates for several sub-periods within a measurement period (within the reference period or the crediting period)? It may be sufficient to produce one land-use change map only for all of the reference period. Or is it necessary to generate several sets of estimates for sub-periods within the reference period?
- 8) Should there be guidance as to whether countries must estimate gross rates of deforestation and forest degradation or net rates? (I.e., excluding or including any reforestation or natural regeneration that may have subsequently occurred?)
- 9) The current version of the JNR Requirements requires that default values can only be used for carbon pools representing less than 15 percent of total carbon stocks. Would it be equally acceptable and potentially clearer to allow the use of default factors for deadwood, litter and soil-organic carbon – while requiring the use of field measurements for living biomass of forests?
- 10) The current JNR Requirements allow the use of default factors from the scientific literature at large. Would it strengthen the guidance if the update only allowed the use of default factors from the 2006 IPCC guidelines and the 2019 refinement?

2.2 Shortening the Historical Reference Period where an Historical Average is Used

Feedback Received

Similar to the proposal to shorten the JNR reference level reassessment period, Verra received mixed feedback on this proposal. Those in support of this change agreed that shortening the historical reference period would likely lead to a more accurate representation of local conditions and recent deforestation dynamics. However, others argued that a longer timeframe (of at least 10 years) is needed in order to capture potential fluctuations in the rates and drivers of deforestation for this method to accurately represent deforestation risk, and that it will be difficult to achieve three points in time need to quantify land-use change thin the shorter historical reference period.

In Verra's view, reducing the historical reference period will result in more credible reference levels and may imply a reduced effort from jurisdictional proponents to obtain the data to construct them.

Current Proposal

The proposed update would be integrated into the *JNR Requirements* as follows (and as reflected in the *DRAFT JNR Requirements, v4.0*):

Section 3.12.11: ~~Jurisdictional proponents shall develop a jurisdictional reference level for the current jurisdictional reference level period. The jurisdictional reference level shall be based on the historical annual average GHG emissions or removals over the period of 4 to 6 years ending within two years of the start of the current jurisdictional reference level period. The historical annual average GHG emissions or removals over the period of 8 to 12 years ending within two years of the start of the current jurisdictional baseline period.~~

2.3 Shortening the JNR Reference Level Reassessment Period

Feedback Received

Verra received mixed feedback on this proposal. Those who were supportive of the change agreed that it would align more closely with the likely frequency of updates to UNFCCC assessed reference levels and Biennial Update Reports (BURs), and may increase the accuracy of JNR reference levels by requiring the use of more recent data. However, there were concerns raised about whether more frequent reassessments could provide a risk for the integration between projects and national level programs, create higher uncertainty for projecting future emission reductions and therefore reduce the attractiveness of VCS JNR programs to private investors. Additionally, there was a technical concern related to the amount of time it takes to complete the modeling of large-scale reference levels.

Although there may be challenges associated with more frequent reference level reassessments, Verra considers that reducing the reference level reassessment period will lead to reference levels that will more closely represent recent deforestation trends in the jurisdictions, which may serve to avoid over or underestimating emission reductions particularly where deforestation trends experience quick variations. This is particularly relevant considering that emission reductions volumes may be potentially large in jurisdictional programs.

Current Proposal

The proposed update would be integrated into the *JNR Requirements* as follows (and as reflected in the *DRAFT JNR Requirements, v4.0*):

- Section 3.12.1: The jurisdictional ~~reference level baseline~~ shall be fixed for a period of ~~5 to 10~~ 4 to 6 years as defined by the jurisdiction in the jurisdictional program description or ~~jurisdictional reference level description~~, and shall be updated according to such frequency.
- Section 3.12.18: Jurisdictional ~~baselines~~ ~~reference levels~~ shall be updated and revalidated every ~~5 to 10~~ 4 to 6 years, as determined by the jurisdictional proponent. This update

frequency provides flexibility to align with political cycles and reporting under the UNFCCC, and it is considered good practice to update more frequently where deforestation dynamics are more fluid.

2.4 Nesting into a Reference Level Developed under Another Program or for Another Purpose

Background

Jurisdictional proponents might develop a jurisdictional program or a jurisdictional reference level under other programs (e.g., FCPF). VCS projects within the boundaries of these jurisdictions should have a pathway for nesting in such programs.

Feedback Received

To ensure all projects, regardless of the standard applied at the national or subnational scale, are able to credibly nest in such programs, guidance is needed for how to do so. The feedback that Verra received during the 2019 consultation was supportive of this approach.

Current Proposal

Where a jurisdictional proponent develops a reference level under another GHG program, or for another purpose, the reference level would be required to comply with the reference level requirements set out in the *JNR Requirements*. Where the reference level does not comply with the reference level requirements set out in the *JNR Requirements*, there would be two options to facilitate project nesting:

- 1) The jurisdictional proponent could develop and register a new reference level following the requirements of the *JNR Requirements*.
- 2) The jurisdictional proponent could use the data from the original reference level as the input for the *JNR Allocation Tool*, which will estimate the reference level in order to comply with the *JNR Requirements*.

Note that, where the jurisdictional proponent cannot follow either of the above options, REDD+ projects located within the jurisdiction may continue to operate as standalone projects using project-level methodologies.

Key Questions

- 1) Where the data from the original reference level is used in the *JNR Allocation Tool* to estimate the reference level in order to ensure compliance with the *JNR Requirements*, should Verra allow project proponents to undertake this allocation or should this always be done by the jurisdictional proponent?

2.5 Allocation Tool

Background

The *JNR Allocation Tool* will allow users to allocate jurisdictional reference levels to nested projects and jurisdictional programs according to a deforestation risk map.

Feedback Received

Most feedback received during the first public consultation indicated that Verra should develop such a tool, and that the allocation tool should be mandatory, where applicable, to ensure consistent and credible nested accounting. However, some experts have proposed that Verra should allow alternative tools, where they can produce demonstrably more accurate results.

Current Proposal

The proposed *JNR Allocation Tool* can be found here: ***DRAFT JNR Allocation Tool, v4.0.*** (Note that Verra will include a guidance document for the use of the *JNR Allocation Tool* when it is officially released.)

The following sections describe the conditions under which the *JNR Allocation Tool* will be applicable and include the proposed requirements for data and risk mapping.

Applicability

The *JNR Allocation Tool* is applicable in the following circumstances:

- 1) Where the jurisdictional proponent has developed a jurisdictional reference level that meets the JNR Requirements for jurisdictional reference levels, or where the proposed reference level originally did not comply with such requirements and was estimated by applying the *JNR Allocation Tool*;
- 2) Where the national government has proposed, endorsed or not objected to the use of the jurisdictional reference level for project baseline and lower-level jurisdictional reference level allocation.
- 3) The tool is currently applicable to the following REDD+ activities:
 - a) Unplanned deforestation
 - b) Planned deforestation
 - c) Unplanned forest degradation
 - d) Planned forest degradation

Note - The current version of the tool is not applicable to carbon enhancement activities or to REDD+ activities that include peatlands and soil organic carbon because emissions factors in the tool are calculated as the difference in carbon stocks, a method that cannot be used for peatland and soil organic carbon. Verra will explore options for including additional activities and carbon pools in 2021.

Data Requirements

- 1) Definition of the start date and end date of the historical reference period and baseline period, consistently with the VCS JNR Requirements on minimum and maximum duration of these periods and maximum time interval between them;

- 2) Definition, separately for each REDD+ activity included in the jurisdictional reference, of the reference level construction approach;
- 3) Carbon stock data for each IPCC land-use class and its stratification in strata and sub-strata, consistently with the land use stratification used in the construction of the jurisdictional reference level;
- 4) Standard error estimates of carbon stock data estimated according to the revised VCS *JNR Requirements* on uncertainties (See Section 3.2);
- 5) Wall-to-wall map of the Forest Land stratification and sub-stratification;
- 6) Historical activity data for each land-use change transition considered in the construction of the jurisdictional reference level, for the entire jurisdictional program boundary and for each project located within it. Activity data estimated through pixel-counts shall be bias-corrected following VCS *JNR Requirements* (See Section 3.2);
- 7) Standard error estimates of the estimated activity data estimated according to the revised VCS *JNR Requirements* on uncertainties (See Section 3.2);
- 8) Wall-to-wall historical activity data maps for each REDD+ activity included in the jurisdictional reference level, as consistent as possible (but not necessarily equivalent) with the activity data estimates used in the construction of the reference level;
- 9) Non-overlapping wall-to-wall maps for the entire jurisdictional program boundary depicting up to 30 risk classes for each REDD+ activity included in the jurisdictional reference level. These maps must include an additional class depicting areas of insignificant risk, defined as the areas at a distance from the forest edge at the beginning of the baseline period above which historical emissions were insignificant (i.e. < 1%);
- 10) A forest cover benchmark map depicting Forest Land areas existing in the jurisdictional program boundaries at the beginning of the reference level period or, in its absence, at the end of the historical reference period;
- 11) Map of the jurisdictional programs and projects to which a portion of the reference level will be allocated;
- 12) For each jurisdictional program and project and REDD+ activity, the total number of verified emission reductions credited in past periods (to avoid double crediting);
- 13) If unplanned activities are included in the jurisdictional reference level, the following additional data are required:
 - a) A map of the areas to which different types of deforestation or degradation permits have been awarded during the historical reference period and will be awarded during the jurisdictional reference level period.
 - b) The estimated historical activity data rate (deforestation rate, degradation rate) for each type of permit.

If such data are not available for certain types of permits, the tool will calculate the reference level allocation in the same way as for unplanned deforestation and unplanned degradation.

Requirements for Risk Mapping

- 1) The *JNR Allocation Tool* does not perform spatially explicit assessments of the risk of deforestation or forest degradation. These assessments must be performed externally using appropriate spatial modeling tools.
- 2) The tool assumes that non-overlapping jurisdictional wall-to-wall maps depicting up to 30 discrete categories of risk have been developed for each REDD+ activity included in the reference level, and that the jurisdictional proponent has decided to use these maps for allocating the jurisdictional reference level to projects and lower-level jurisdictions using the *JNR Allocation Tool*.
- 3) We recommend including a requirement of defining a risk class with zero (or insignificant) risk using the proposed criterion of distance to forest edge above which historical emissions have been less than 1%.
- 4) We are considering recommending the proposed methodology (currently being tested) as the default or fallback methodological option for risk mapping that should be used every time risk maps developed with different methodologies are less accurate.
- 5) The accuracy of risk maps can be tested based on historical data, by dividing the historical reference period in a “calibration” period and “validation” period. The risk map developed with the calibration data set that more accurately represents observed deforestation or degradation during the validation period should be considered the most accurate one. (Note that we are currently working to find a robust statistical test to compare maps).

Key Questions

- 1) Should Verra require the use of the proposed *JNR Allocation Tool* or should we also allow for jurisdictional proponents to use their own allocation approach, as long as it complies with certain criteria (e.g., is based on risk maps complying with the criteria set out above and results in an allocation that reflects such risks)?
- 2) Should Verra allow for the use of different methods to develop risk maps, as long as their accuracy is higher than the one obtained from the application of the proposed default method?
- 3) What statistical test should be used to compare different risk maps (e.g., measure the correlation of the deforestation rates measured in different risk classes of the calibration period with the deforestation rates measured in different risk classes of the validation period or a different method)?

2.6 Monitoring

Background

Where jurisdictional proponents register a reference level for lower-level and projects to nest, the data required to re-assess such reference level must be collected. In the previous consultation, Verra asked if nested lower-level jurisdictional programs and project proponents could undertake together, or if it was more appropriate for the government to carry out.

Feedback Received

In the 2019 consultation, stakeholders noted that monitoring the whole jurisdiction could be challenging, and that coordination among nested projects and programs might not be easy to achieve for such a task. Moreover, it was noted that the intervention of the government would be needed at some point, if only to validate the data, and that governments normally gather such data to produce national reports to the UNFCCC.

Current Proposal

In order to ensure that the jurisdictional reference level will be re-assessed, thus providing certainty to investors, Verra is exploring the possibility of requiring higher-level jurisdictional proponents to monitor the area covered by reference levels developed in accordance with the *JNR Requirements*.

Key Questions

- 1) Should Verra require a jurisdiction developing only a reference level for nesting to carry out monitoring in order to be able to reassess the reference level)?
- 2) Where the jurisdictional proponent does not have the capacity to monitor the area covered by the reference level following the *JNR Requirements*, should nesting be allowed, or what other alternatives should be explored?

3 PROPOSED UPDATES TO THE JNR REQUIREMENTS

The following document provides the proposed format and incorporates the proposed updates described in more detail below: ***DRAFT JNR Requirements, v4.0.***

Note that this draft version of the *JNR Requirements* include tracked changes to existing requirements. New text that was added that does not represent a change to existing requirements (e.g., background information added into the “concept” sections) does not appear in tracked changes. Text in **grey highlight** is intended to help readers understand the proposed updates and will be removed from the final version of the document.

3.1 Reorganizing and Restructuring the *JNR Requirements*

Feedback Received

The feedback Verra received indicated broad support for the reorganization and restructure of information within the *JNR Requirements* in a way to make it clearer which requirements applied to jurisdictional programs, and which ones to nesting, and a general consensus that this change would make the *JNR Requirements* more user-friendly. There was one suggestion to ensure that, as part of these changes, the VCS Program documents are clear that standalone VCS AFOLU projects are not required to follow the nesting requirements; they may continue to follow the requirements for project-level activities set out in the *VCS Standard* and other VCS Program documents.

Current Proposal

The following changes were made to the *JNR Requirements* document:

- 1) Removed references to “Scenarios” and replaced them with a more accurate description of the different phases of jurisdictional program development (i.e., jurisdictional reference level and jurisdictional program) and crediting approaches (i.e., crediting only to projects, crediting only to jurisdictions, and crediting to both projects and jurisdictions).
- 2) Updated the introductory text in Section 1 and the summary of jurisdictional program and reference level options in Section 2.1.
- 3) Separated requirements for the development of a jurisdictional program from requirements related to nesting and development of a jurisdictional reference level to enable nesting (see Section 4) and approaches for crediting (see Appendix I).
- 4) Separated each subsection into “concept” and “requirements” sections to more clearly distinguish between background or descriptive information and requirements that jurisdictions or projects must follow.
- 5) Removed references to the *VCS Standard* where the requirements for nested projects are the same as the requirements for standalone projects.
- 6) Made the following changes to language (throughout):
 - a) Replaced references to Scenario 1, 2 and 3 in accordance with the update described above.
 - b) Replaced “jurisdictional baseline” with “jurisdictional reference level”.
 - c) Updated references to other VCS Program documents (e.g., the *AFOLU Requirements*) as needed.
- 7) Made minor clarifying changes to the text and requirements (throughout).

3.2 Uncertainty Requirements

Background

The proposed updates below are intended to ensure that uncertainty calculations and deductions are undertaken in a consistent, transparent and robust manner, while allowing for practical approaches to apply uncertainty deductions that reduce the risk of overestimating emission reductions generated by jurisdictional programs and nested projects and lower-level jurisdictional programs.

Feedback Received

This proposal was included at a very high-level in the 2019 public consultation. However, the feedback Verra received indicated general support for the proposal to develop a standardized approach to calculating uncertainty for standalone and nested REDD+ projects and programs.

Current Proposal

The proposed requirements will be incorporated into the *JNR Requirements* (e.g., replacing the text that is currently included in Section 3.12, Section 3.15, Section 4.7 and 4.12 of the ***DRAFT JNR Requirements, v4.0.***

Requirements for Jurisdictional Programs

Jurisdictional programs will be required to conduct an analysis of systemic uncertainty and random uncertainty in accordance with the following requirements:

- 1) **Systemic Uncertainty:** jurisdictional programs must meet specific requirements on data collection processes and the minimum quality of key data sources for establishing emission factors and estimating activity data.
- 2) **Random Uncertainty:** jurisdictional programs must meet requirements that may include the following elements:
 - a) Specific requirements on the quantification of random uncertainty, which may include a list of calculation factors where random uncertainties must be quantified and taken into account when estimating uncertainties of emissions and emission reductions.
 - b) Requirements to aggregate random uncertainties through the calculation chain, and as a result estimate the random uncertainty of emissions, the reference level and emission reductions. A tabular overview of uncertainties of standard variables from this calculation chain (e.g., deforestation area, average forest biomass, and emissions from deforestation and from forest degradation) must be provided to enable comparison between jurisdictional programs.
 - i) The aggregation of random uncertainties could use error propagation equations or Monte Carlo simulation techniques.
 - ii) Where aggregate emission reduction uncertainty exceeds a minimum threshold, a conservative discount must be applied. This discount will ensure that the risk of overestimating emission reductions is limited.
 - c) Requirements to report all percentage uncertainties referring to the half-width of two-sided 90% confidence intervals.

Requirements for Nested REDD+ Projects

There is no uncertainty associated with the allocation of a jurisdictional reference level to nested REDD+ projects. Conservativeness of the allocation therefore must be ensured by applying discounts to the jurisdictional reference level before allocation to projects. For this reason, nested projects cannot quantify the expected uncertainty of emission reductions. However, projects must undertake rigorous data collection (e.g., for measuring actual emissions) and conduct an uncertainty analysis for collected data, including reporting on a set of standard variables that enables comparison with the jurisdictional program (or reference level) and other projects.

Key Questions

- 1) What are the acceptable approaches to estimating activity data (i.e., areas of deforestation and forest degradation)?
 - a) *Context:* A growing number of countries apply sample-based methods to estimate activity data for REDD+. Where countries use map-based pixel counts, an accuracy assessment of the maps is getting more common, which would then usually include a bias correction of map-based estimates. There is also a group of countries that

still uses map-based pixel counts without quantifying or correcting for biases.

Requiring an accuracy assessment of maps to be carried out, and any observed biases to be corrected for, may place significant burden on some countries and create a strong barrier to entry.

- 2) What is the right list of calculation factors where random uncertainties must be quantified and taken into account through the calculation chain for estimating uncertainty of emission reductions and removals?
 - a) *Context:* For the purpose of aggregating random uncertainties, the focus could be put on the sampling errors from estimating activity data, and the sampling errors from quantifying forest. Rather than quantifying and propagating measurement and model errors, it would attempt to reduce these types of errors as far as possible through guidance on minimum data quality.
- 3) Should the uncertainty analysis and any subsequent conservative discounting focus more on the uncertainties in estimating emissions (i.e., the reference level and actual emissions during the crediting period) or on emission reductions?
- 4) What is the maximum uncertainty of a jurisdictional program's emission reduction estimates that is acceptable for crediting?
 - a) *Context:* Some jurisdictions may manage to reduce emissions only by small amounts (e.g., 10% below their reference level) and such emission reduction estimates will typically be highly uncertain (e.g., emission reduction uncertainties could be close to or exceed 100%). Arguably because of this, all jurisdictional REDD+ crediting programs that we are aware of have not defined a maximum threshold for acceptable *emission reduction* uncertainty.
- 5) What is the right balance between the probability of underestimating emission reductions and overestimating emission reductions for *individual programs*?
 - a) *Context:* Individual programs' emission reduction estimates are statistical variables that come with a probability of underestimation and of overestimation. Conservative discount factors rebalance these probabilities. One option could be to set up conservative discount factors in such a way that, for each individual program, the probability of underestimating emission reductions is at least double the probability of overestimating emission reductions. Regardless of performance of individual programs, the VCS JNR portfolio as a whole will be structured to ensure that overestimation risks are very small (i.e., neglectable).
- 6) Should these proposed requirements for estimating and deducting for uncertainty in JNR programs also be applied at the project level (for AFOLU and non-AFOLU projects)?

3.3 Carbon Rights

Background

Jurisdictional proponents that participate in REDD+ activities aimed at generating offsets face the challenge of identifying the holders of carbon rights. As mentioned by [Streck \(2020\)](#), “establishing forest carbon rights can lead to a claim to ERRs, and from there, to resulting offset credits as well as participation in REDD+ payments”. Carbon rights can arise from control of the asset (e.g., the actual biomass or land) or from the control of the activities (e.g., those that enable such achievement through finance, technology or training). Additionally, legal considerations vary by country, including those where the government controls the land and those where land rights are clear. Because of the above, it is important to ensure that carbon credit ownership respects established rights in the country under the *JNR Requirements*. This can be achieved through stakeholders (e.g., community) engagement and participation, a means to prevent and manage conflict (e.g., means to address grievances), and respect for existing rights in legislation (including customary or ancestral rights).

Currently under the *JNR Requirements*, GHG credits for emission reductions and removals achieved by each level, after accounting for leakage and any non-permanence risk buffer withholding, may be issued directly to the entity with rights over such reductions and removals. Program ownership, defined as the legal right to control and operate the program activities, shall be demonstrated with respect to those areas for which the jurisdictional proponent intends to seek VCU issuance. Where projects are nested, the higher-level jurisdictional proponent shall determine which jurisdictional level is accorded program ownership over which elements of the program.

Feedback Received

This update was not included in the 2019 consultation.

Current Proposal

The program ownership section (Section 3.6 and Section 4.8 of the *DRAFT JNR Requirements, v4.0*) will be reviewed and updated to make sure that provisions are set so that existing rights are respected and that those producing the emission reductions are compensated (e.g., by allowing projects to claim their VCUs or through an appropriate benefit sharing mechanism. Definitions should be clear on which activities contribute to the program’s objectives, who are the executing agents (government or land owners) and who holds the rights to carbon.

Key Questions

- 1) What are current best practices or experiences that countries are using to address the issue of carbon rights?

3.4 Removing Requirements for including Carbon Decay in the Calculation of Baseline GHG Emissions or Removals

Feedback Received

The feedback that Verra received was generally not supportive of this proposed change. There were concerns about the effects of removing the carbon decay requirements on the accuracy and conservativeness of emission reduction quantification, especially as it is not technically difficult to account for carbon decay as currently required. There was some support for this proposed change because it would align more closely with most FRELs, which currently do not include carbon decay functions.

Current Proposal

Although accounting for carbon decay adds complexity and few countries currently include it in their FRELs, as a result of the feedback received, Verra is still considering whether to remove or update the requirements to account for carbon decay in the calculation of GHG emissions or removals.

Key Questions

- 1) Should Verra keep, update or remove the requirements to account for carbon decay (as set out in Sections 3.12.16, 3.12.17 and 3.15.7 of the ***DRAFT JNR Requirements, v4.0***)?
- 2) Are there certain carbon pools (e.g., peat soils) or activity types where carbon decay should always be calculated?

3.5 Aligning Jurisdictional Monitoring with the National Forest Monitoring System

Feedback Received

The feedback Verra received indicated general support for the proposal to align jurisdictional monitoring with the National Forest Monitoring System (NFMS) to the extent possible.

Current Proposal

The proposed update would be integrated into the *JNR Requirements* as follows (and as reflected in the ***DRAFT JNR Requirements, v4.0***):

Section 3.12.4 Jurisdictional proponents shall demonstrate how the development of the jurisdictional baseline has achieved, or is expected to achieve, consistency with ~~the data and methods used to account for forest related GHG emission reductions and removals contained in the country's existing or emerging UNFCCC GHG inventory.~~ the National Forest Monitoring System (NFMS) to the extent possible. Where the forest definition (and other relevant definitions) are different from those used by the government in the national GHG and forest inventories, the jurisdictional proponent shall include an explanation.

3.6 Removing Requirements for Overlapping Leakage Belts and for Projects Crossing Jurisdictional Boundaries

Feedback Received

The feedback Verra received indicated general support for the proposal to remove requirements for overlapping leakage belts and projects crossing jurisdictional boundaries.

Current Proposal

The proposed update would be integrated into the *JNR Requirements* as follows (and as reflected in the *DRAFT JNR Requirements, v4.0*):

Section 3.5.9 (in the *JNR Requirements, v3.4*) would be removed.

Section 3.12.14 (in the *JNR Requirements, v3.4*) would be removed.

3.7 Facilitating Joint Validation and Verification Between JNR and REDD+ Social and Environment Standards (REDD+SES)

Feedback Received

The feedback Verra received indicated general support for the proposal to facilitate joint validation and verification between VCS JNR and REDD+ SES.

Current Proposal

The proposed update would be integrated into the *JNR Requirements* by making a number of clarifications and minor procedural changes in Section 3.8, *Environmental and Social Safeguards*, and adding the following new requirement related to benefit-sharing:

Section 3.8.4 Jurisdictional proponents shall build equitable and transparent benefit-sharing systems. These systems shall consider land ownership rights and carbon rights and shall be developed through a participatory process in which stakeholders participation is justifiably representative and transparent, with a special emphasis on local and indigenous communities.

Additionally, Verra plans to update the *JNR Validation and Verification Process* to include technical expertise requirements for joint validation and verification of a jurisdictional program under VCS JNR and REDD+SES, and release joint JNR and REDD+SES templates for the jurisdictional program description, jurisdictional validation report, jurisdictional monitoring report and jurisdictional verification report to facilitate joint validation and verification.

3.8 Updating the Loss Event Reporting Requirements

Feedback Received

The feedback Verra received indicated general support for the proposal to update the loss event reporting requirements.

Current Proposal

The proposed update would be integrated into the *JNR Requirements* as follows (and as reflected in the *DRAFT JNR Requirements, v4.0*):

Section 3.16.6 Where an event occurs that is likely to qualify as a loss event (see the VCS Program document *Program Definitions* for definition of loss event) ~~and VCUs have been previously issued~~, the entity(s) that has experienced a potential loss (i.e., the project proponent(s) or jurisdictional proponent(s)) shall ~~notify Verra within 30 days of discovering the loss event~~. prepare and submit a loss event report to ~~Verra the VCS Program registry administrator~~. Where VCUs have previously been issued, a loss event report shall be prepared and submitted to the Verra registry, as follows:

- 1) No significant changes
- 2) No significant changes
- 3) The loss event report shall be submitted to the ~~Verra registry VCS Program registry administrator~~ within two years ~~of the date of discovery~~ of the loss event. Where a loss event report is not submitted within two years of the date ~~of discovery~~ of the loss event ~~occurred~~, the project or jurisdiction shall no longer be eligible to issue VCUs. ~~., except where it can be demonstrated the loss was not detected (e.g., it was detected at the subsequent monitoring event, that may have been more than two years after the event).~~
- 4) No significant changes

3.9 Updates to the Program and Project Crediting Period Requirements

Background

Two updates related to program and project crediting period requirements will: 1) allow jurisdictional proponents the option to choose longer crediting periods for jurisdictional programs, and; 2) recognize existing projects that subsequently nest into a jurisdiction program or reference level may “restart” their crediting period in order to align with the jurisdictional crediting period.

Feedback Received

These updates were not included in the 2019 consultation.

Current Proposal

The proposed updates would be integrated into the *JNR Requirements* as follows (and as reflected in the *DRAFT JNR Requirements, v4.0*):

Section 3.4.1 The program crediting period shall be 10 - 20 years with a maximum of 30 years of crediting (e.g., ~~10 years twice renewable or 20 years with a 10 year renewal~~). ~~a maximum of ten years, which may be renewed at most twice.~~

Section 4.3.1 For VCS projects that were registered prior to the registration of the jurisdictional reference level or the jurisdictional program they have nested into, the first nested crediting period shall begin on the start date of the first allocated baseline.

Note – The allocated baseline must be incorporated into the project description and validated in order to change the crediting period start date for such already registered VCS REDD+ project.

4 PROPOSED UPDATE TO THE JNR VALIDATION AND VERIFICATION PROCESS

4.1 Proposed Update to the JNR Expert Panel Assessment

Background

The *JNR Validation and Verification Process* requires that all jurisdictional elements undergo an independent expert panel review at validation and at any verification where the reference level is updated, in addition to the validation conducted by a JNR-approved VVB. This expert panel must be made up of one local expert and two international experts. The purpose of the expert panel review is to evaluate the appropriateness and scientific rigor of any underlying data and assumptions used in developing the jurisdictional element, including, but not limited to, those related to development of the baseline and monitoring plan, and to provide a local perspective.

The expert panel review step was originally intended to be an independent assessment of the jurisdictional element, conducted in addition to and separately from the VVB validation (paralleling the two independent VVB assessments that methodologies were required to undergo as part of the VCS *Methodology Approval Process*, prior to the VCS Version 4 revision to that process).

The *JNR Validation and Verification Process* was established in 2012, when the VCS Program required double validation of methodologies, and JNR was developed to be parallel to that (with one VVB review and an expert panel). The update made to the VCS Program requirements with the VCS Version 4 release subsequently removed the second VVB assessment for methodologies. In addition, in 2012 there was no agreed best-practice for jurisdictional validation and verification, for example under Results-Based Payments (PbR) programs (for example FCPF and GCF) or market-based payment approaches (like ART TREES). The procedures now in place for FCPF and ART validation and verification require only a single VVB assessment.

The existing process for expert panel review has also been deemed infeasible due to government contracting issues. Requiring governments to transfer money to Verra directly for these reviews, in addition to directly paying the VVB increases contracting complexity and conflict of interest issues that may make government approval of such payments impossible. In some cases, these payments may not be allowed by law or may entail potentially long and cumbersome bureaucratic processes.

Feedback Received

This update was not included in the 2019 consultation.

Current Proposal

We are proposing to update the expert panel review process in a way that will be equally as robust and more efficient than the existing process set out in the *JNR Validation and Verification Process*, and will also align more closely with the updates made to the Methodology Approval Process in VCS Version 4. Rather than requiring a separate Expert Panel review, VVBs must ensure that they have appropriate expertise embedded in their own review (as is done for embedding an AFOLU expert in a methodology validation). The key elements of a JNR expert panel review (Step 4 of the *JNR Validation and Verification Process*) would therefore be incorporated into the VVB assessment (Step 3 of the *JNR Validation and Verification Process*), as set out in the ***DRAFT JNR Validation and Verification Process, v4.0***.