

# Voluntary Registry Offsets Database Calculations

Each registry records issuances, retirements, cancellations, buffer pool contributions, reversals, and transitions to ARB differently. This document explains our calculations in *PROJECTS* tab by registry. In preparing version 11 we partially automated the creation of *PROJECTS* tab from the downloaded registry tables and are still doing some of the data processing manually. The [downloaded registry files are now provided in a separate zip file](#) to make the database lighter. All calculations are done in Python and described in detail below. In the next database release we'll also post the Python code. For versions before v11, you can see the equations we used to calculate all tallies, which differ by registry, in the columns we \*ed in the last column on *PROJECTS* tab, as well as in the [version of this Calculations document for releases through v10](#).

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# Introduction

## **Issuances (green and orange columns in *PROJECTS* tab)**

Berkeley Carbon Trading Project tracks offset credits issued by when the reductions and removals occur (green columns by vintage year) and by when credits are issued (orange columns by issuance year). As of Version 6, issuances for ACR and CAR include only salable credits, not including credits put aside into the buffer pool, aligning with how Gold Standard and VCS report credit issuances. Also as of Version 6, issuances for ARB projects are not simply sourced from the *ARB Issuances and Retirements*, but for greater accuracy are now calculated as a sum of registry issuances, registry cancellations, and ARB issuances. Negative issuance by issuance year tallies in *PROJECTS* tab occur for a handful of ARB projects, and result when the year associated with credit issuance by the registry, cancellation upon transfer to ARB, reissuance by ARB, and buffer pool deductions are mismatched; for these few projects, total issuances across all years are correct even though issuances for some years appear as negative. Note that Verra's process of issuing credits differs from the other three registries. Instead of issuing all credits for a reporting period at one time, Verra allows project developers to issue credits, and pay the associated per-credit fee, in smaller batches. To align Verra issuances with the other registries, we treat all Verra credits for a single reporting period as issued if they have been approved for issuance by Verra, designated by a first issuance of credits. For this reason, our issuance totals for Verra will be shown as larger than Verra's own issuance totals.

## **Retirements (blue columns in *PROJECTS* tab)**

The Berkeley Carbon Trading Project tracks offset credits retired by the year in which they were retired. The entities retiring the credits are sometimes available in the registry retirement files. Until 2020, most ARB credits were retired in 2014, 2017, 2020, the last year of each cap-and-trade program compliance period. We also included ARB's voluntary retirements, retired intentional reversals, and retirements for Quebec compliance in the Year Unknown column (CB), because their years of retirement are unavailable. From 2020, we separate each year's Retirement using end of year totals. Cancellations are included in the retirement figures except for those associated with the transfer of credits from the registry to ARB, which are included as adjustments to the issuance figures.

## **Credits Remaining (red columns in *PROJECTS* tab)**

Offset credits that have been issued but have not been retired are tracked by credit vintage year.

## **Buffer Pool (column R of *PROJECTS* tab)**

All registries maintain a buffer pool to cover the risk that credited carbon storage, such as in forests and grasslands, is released back into the atmosphere. For each project, the buffer pool column aggregates buffer pool credits deposited across all issuance years. This column takes into account buffer pool adjustments, such as when credits are transitioned from the registry to ARB with different quantities of buffer pool deposits and when buffer pool credits are returned to the issuance pool. Buffer pool credits used to cover reversals are not deducted from the buffer pool tally, but have their own column in *PROJECTS* tab. Note that not all buffer pool deposits are traceable; notably, ACR and Gold Standard allow project developers to deposit substitute credits from other projects in place of their own credits to meet their buffer pool obligations.

### Reversals (columns S and T of *PROJECTS* tab)

Column S (Reversals Covered by the Buffer Pool) tallies all reversals covered by buffer pool credits.

Column T (Reversals Not Covered by the Buffer Pool) tallies all reversals not covered by the buffer pool that need to be replaced by the project proponent. Typically only “unintentional reversals”, those not under the control of the project developer, are covered by the buffer pool.

### Cancellations

Berkeley Carbon Trading Project records cancellations in the retirements columns with one exception.

Cancellations that occur in the process of transitioning credits to ARB are considered instead as adjustments to the issuance figures. CAR and ACR have separate cancellation tables.

## American Carbon Registry (ACR)

### PROJECTS TAB

#### ACR Issuances

Total issuances by vintage (green columns) and by issuance year (orange columns).

For the associated vintage/issuance year:

- + ‘Total Credits Issued’ column of *ACR Issuances*  
[ACR issuances]
- ‘Total Credits Issued to the Buffer Pool’ column of *ACR Issuances*  
[Credits issued directly to the buffer pool at the time of issuance]
- ‘Total Credits Transferred to the Buffer Pool’ column of *ACR Issuances*  
[Credits transferred to the buffer pool after issuance]

For ARB projects, issuances columns further take into account any adjustments in issuance quantity when credits are transferred from ACR to ARB:

- ‘Quantity of Credits’ column in *ACR Cancellations* for ARB projects (projects listed in the *ARB Issuances and Retirements* ) for credits not held in the buffer pool (when the ‘Account Holder’ does not equal “ACR”).  
[ACR issuances, not including buffer pool deposits, that have been canceled and reissued in the ARB registry not including buffer pool]
- + ‘ARB Offset Credits Issued’ column in *ARB Issuances and Retirements*  
[ARB issuances]
- ‘Forest Buffer Account Contribution’ column of *ARB Issuances and Retirements*  
[credits deposited to the ARB forest buffer pool]

#### ACR Buffer Pool

Total buffer pool deposits (all years together).

- + Credits Issued to Buffer Pool’ column of *ACR Issuances*  
[Credits issued directly to the buffer pool at the time of issuance]
- + ‘Credits Transferred to Buffer Pool’ in *ACR Issuances*  
[Credits transferred to the buffer pool after issuance]

- ‘Quantity of Credits’ Column of *ACR Cancellations*, for ARB projects (projects listed in *ARB Issuances and Retirements*) for buffer pool credits (when the ‘Account Holder’ column equals “ACR”)
  - [Buffer pool credits from ARB projects canceled for reissuance in ARB]
- ‘Quantity of Credits’ Column of *ACR Cancellations* for non-ARB projects, buffer pool credits (when the ‘Account Holder’ column equals “ACR”), and the portion of ‘Quantity of Credits’ that does not exceed the amount of credits in the buffer pool, ignoring credits cancelled in “Compensation for Intentional Reversal” since intentional reversals should not be covered by the buffer pool.
  - [Buffer pool cancellations from non-ARB projects. Note that ACR sometimes uses the buffer pool to temporarily hold issuances, such as credits being considered for cancellation due to early project termination. These credits can be cancelled from the buffer pool without any record of them being deposited. To accommodate this, we cancel buffer pool credits up to the total credits in the buffer pool from the project and treat the remainder as cancelled issuances. Note that unintentional reversals covered by the buffer pool will only appear in the “Reversals covered by the buffer pool” column and will not be counted as a reduction in buffer pool deposits.]
- + ‘Forest Buffer Account Contribution’ column of *ARB Issuances and Retirements*
  - [credits added to the ARB forest buffer pool]

## ACR Reversals

### non-ARB projects

The American Carbon Registry does not appear to have non-ARB **unintentional** reversals to date.

**Intentional** reversals can be compensated from credit deductions from past and future issuances by the project or the cancellation of other credits. These are included under *PROJECTS* tab column T (Reversals Not Covered by Buffer Pool) and also included in *PROJECTS* tab retirement columns.

- + ‘Quantity of Credits’ Column in *ACR Cancellations* when the ‘Cancellation Type’ equals “Compensation for Intentional Reversal”

Credits compensated over time by future issuances are not traceable.

### ARB projects in the ACR registry

Reversals are identified in Column B (CARB Issuance ID) of *ARB Issuances and Retirements* when issuance ID is listed in the format “CAFR####-(reversal)”.

**Unintentional reversals** are covered by the buffer pool and are identifiable as “unintentional reversals” in the ‘Comments’ column of *ARB Issuances and Retirements*.

**Intentional reversals** are not covered by the buffer pool and are identifiable as “intentional reversals” in the ‘Comments’ column of *ARB Issuances and Retirements*. Intentional reversals must be compensated in full with replacement credits by the project developer.

These reversals are accounted into *PROJECTS* tab retirement columns as their compensations are retired in similar fashion to normal retirements.

### ACR Retirements & Cancellations

Total retirements (by retirement year) plus total cancellations (by cancellation year). The retirements columns only include cancellations that are not associated with the transition of credits from ACR to ARB, since those cancellations are already accounted for as adjustments to quantities issued. Cancellations from the buffer pool are designated when Account Holder equals “ACR.”

- + ‘Quantity of Offset Credits’ column of *ACR Retirements*  
[ACR retirements]
- + ‘Quantity of Credits’ column of *ACR Cancellations* for non-ARB non-Ecology projects, that are not in the buffer pool (when ‘Account Holder’ column does not equal “ACR”)  
[All cancellations not involved in the transition of credits from ACR to ARB or Ecology (since these are accounted for as adjustments to issuances) and not in the buffer pool]
- + ‘Quantity of Credits’ Column of *ACR Cancellations* for non-ARB non-Ecology projects, that are from the buffer pool account (when the ‘Account Holder’ column equals “ACR”), for the portion of ‘Quantity of Credits’ that exceeds the amount of credits in the buffer pool.  
[Any cancellations of credits from the buffer pool in excess of the credits in the buffer pool. This can happen when ACR uses the buffer pool account to temporarily hold issued credits.]

ARB projects:

- + ‘Retired 1st Compliance Period - CA’ of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2014]
- + ‘Retired 2nd Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2017]
- + ‘Retired 3rd Compliance Period - CA’ of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2020]
- + ‘Retired 4th Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2022, 2023, and 2024. For the 4th compliance period, retirements are separated using end of differences]
- + ‘Retired Voluntarily’ Column of *ARB Issuances and Retirements*  
[ARB voluntary retirements, included in the “Year Unknown” retirement column]
- + ‘Retired for Compliance - Quebec’ Column of *ARB Issuances and Retirements*  
[Quebec Compliance retirements, included in “Year Unknown” retirement column]
- + ‘Retired Intentional Reversal’ Column of *ARB Issuances and Retirements* [Compensation for intentional reversals]

### ACR Vintage Remainders

Total credits remaining by vintage.

For the associated vintage:

- + Total issuances from the green issuance columns [ACR and ARB issuances]
- All retirements and cancellations included in the blue columns, per vintage year instead of retirement year

## REGISTRY COLUMNS DESCRIPTION

### *ACR Cancellations*

- D. Status Effective – The year when cancellations took effect. Note that no year listed indicates cancellations were made before 2010 and that the Berkeley Carbon Trading Project integrated these cancellations from the ACR Credit Status report.
- S. Account Holder – The entity in possession of the credits. Note that when account holder equals “ACR” it pertains to credits that have been canceled from the buffer pool.
- T. Cancellation Type –
  - “Compensation for Early Project Termination” pertains to credit cancellations compensated when a project resulted in premature cessation
  - “Compensation for Intentional Reversal” pertains to credit cancellations used to compensate for intentional reversals
  - “Convert to ARB offset credits” pertains to credits canceled then reissued as ARB,
  - “Removal of credits from the registry” pertains to credit adjustments of the original issuance, for example credits not reissued during the transition into ARB
  - “Convert to Ecology” pertains to credits canceled then reissued as Washington Ecology

## Climate Action Reserve (CAR)

### PROJECTS TAB

#### **CAR Issuances**

Total issuances by vintage (green columns) and by issuance year (orange columns).

For the associated vintage/issuance year:

- + ‘Total Offset Credits Issued’ column of *CAR Issuances* [CAR issuances]

For ARB projects, issuances columns further take into account any adjustments in issuance quantity when credits are transferred from CAR to ARB:

- ‘Quantity of Offset Credits’ Column of *CAR Cancellations* for ARB projects (projects listed in the *ARB Issuances and Retirements* table).  
[CAR issuances that have been canceled during the transition process to ARB. These credits consist of credits canceled and reissued to ARB (when the ‘Cancellation Reason’ column equals “ARB”) as well as credits canceled and not reissued which are adjustments when ARB issuance quantities differ from CAR issuances for the same reporting period (‘Cancellation Reason’ column does not equal "ARB").]
- + ‘ARB Offset Credits Issued’ Column of *ARB Issuances and Retirements* [ARB issuances]

Minus total amount of credits deposited into the buffer pool (see buffer pool calculations description below)

- ‘Offset Credits Deposited’ column of *CAR Buffer*
- + ‘Offset Credits Released’ column of *CAR Buffer*
- + ‘Offset Credits Canceled’ column of *CAR Buffer*
- + ‘Offset Credits Canceled for ARB’ column of *CAR Buffer*
- ‘Offset Credits Intended for ARB Buffer Pool’ column of *CAR Issuances*
- ‘Forest Buffer Account Contribution’ column of *ARB Issuances and Retirements*



## CAR Buffer Pool

Total buffer pool deposits (all years together).

- + ‘Offset Credits Deposited’ column of *CAR Buffer*  
[credits deposited into the buffer pool]
- ‘Offset Credits Released’ column of *CAR Buffer*  
[credits released back from the buffer pool into the issuance pool]
- ‘Offset Credits Canceled’ column of *CAR Buffer*  
[this column lists cancellations for non-reversal reasons, including credits from CAR’s buffer pool that have been re-issued to the ARB registry (only for re-issuances through 2012) and credit modifications when ARB issues fewer credits into their buffer pool than CAR]
- ‘Offset Credits Canceled for ARB’ column of *CAR Buffer*  
[credits canceled from CAR’s buffer pool to be re-issued to the ARB registry (only for re-issuances after 2012)]
- + ‘Offset Credits Intended for ARB Buffer Pool’ column of *CAR Issuances*  
[credits designated to become forest buffer contributions pending registration in the ARB registry]
- + ‘Forest Buffer Account Contribution’ column of *ARB Issuances and Retirements*  
[credits deposited into the ARB forest buffer pool]

## CAR Reversals

### Non-ARB projects

**Unintentional reversals** are covered by the Reserve’s buffer pool.

CAR has no unintentional reversals to date and these will be identifiable in ‘Offset Credits Retired’ column of *CAR Buffer*.

**Intentional reversals** are not covered by the buffer pool, but instead are compensated by the project operator. CAR specifies that credits to be retired in compensation for intentional reversal are first covered by that project’s credit issuances. Should an estimated loss be greater than the number of non-transacted issuances available, project developers can fulfill their compensation contribution with registered issuances from other projects of the same storage mechanism (e.g., improved forest management, avoided grassland conversion).

Intentional reversals are identifiable through the ‘Quantity of Offset Credits’ column of *CAR Retirements* when the ‘Retirement Reason’ column equals "Compensation for Avoidable Reversal".

### ARB projects in the CAR registry

Reversals are identified in Column B (CARB Issuance ID) of *ARB Issuances and Retirements* when issuance ID is listed in the format “CAFR####-(reversal)”.

**Unintentional reversals** are covered by the buffer pool and are identifiable as “unintentional reversals” in the ‘Comments’ column of *ARB Issuances and Retirements*.

**Intentional reversals** are not covered by the buffer pool and are identifiable as “intentional reversals” in the ‘Comments’ column of *ARB Issuances and Retirements*.

Intentional reversals must be compensated in full with replacement credits by the project developer.

These reversals are accounted into *PROJECTS* retirement columns as their compensations are retired in similar fashion to normal retirements.

## **CAR Retirements & Cancellations**

Total retirements & cancellations (by retirement and cancellation year).

- + ‘Quantity of Offset Credits’ column of *CAR Retirements* [CAR retirements]
- + ‘Quantity of Offset Credits’ column of *CAR Cancellations*, for projects that are not ARB projects (not listed in *ARB Issuances and Retirements* table)  
[CAR cancellations unrelated to the ARB transition process]

For ARB projects, retirements further include the California and Quebec compliance retirements, voluntary retirements, and intentional reversal retirements.

ARB projects:

- + ‘Retired 1st Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2014]
- + ‘Retired 2nd Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2017]
- + ‘Retired 3rd Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2020]
- + ‘Retired 4rd Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2022, 2023, and 2024. For the 4th compliance period, retirements are separated using end of differences]
- + ‘Retired Voluntarily’ column of *ARB Issuances and Retirements*  
[ARB voluntary retirements, included in “Year Unknown” retirement column]
- + ‘Retired for Compliance - Quebec’ column of *ARB Issuances and Retirements*  
[Quebec Compliance retirements, included in “Year Unknown” retirement column]
- + ‘Retired Intentional Reversal’ column of *ARB Issuances and Retirements* (for ARB projects with listed intentional reversals in the *ARB Issuances and Retirements* table).  
[Compensation for intentional reversals]

## **CAR Vintage Remainders**

Total credits remaining by vintage.

For the associated vintage:

- + Total issuances from the green issuances column [CAR and ARB issuances]
- All retirements and cancellations included in the blue columns, per vintage year instead of retirement year

## **REGISTRY COLUMNS DESCRIPTION**

### ***CAR Buffer***

- M. Offset Credits Deposited – Credits deposited into the buffer pool.
- N. Offset Credits Released – Credits returned to project developers from buffer pool.
- O. Offset Credits Retired – Credits in the buffer pool used in compensation for an unintentional reversal.



- P. Offset Credits Canceled – Credits removed from the buffer pool for non-reversal reasons, including credits from CAR’s buffer pool that have been re-issued to the ARB registry (only for re-issuances through 2012) and credit modifications when ARB issues fewer credits into their buffer pool than CAR.
- Q. Offset Credits Canceled for ARB – Credits from the buffer pool that have been re-issued to the ARB registry.
- R. Buffer Pool Balance – Credits remaining in the buffer pool, all deposits and removals as noted in columns M through Q taken into account.

### ***CAR Issuances***

- R. Canceled for ARB Compliance – Cancellations of credits transitioned from CAR to ARB. These correlate with canceled credits in CAR Cancellations when cancellation reason (column M) equals "ARB".
- S. Canceled – Cancellations of credits not transitioned from CAR to ARB. These correlate with canceled credits in CAR Cancellations when ‘Cancellation Reason’ column does not equal "ARB".

### ***CAR Cancellations***

- N. Issuance Year – The year when the cancelled credits were first issued. We take the issuance year from *CAR Issuances* for the project and vintage year. When a project has more than one issuance associated with a single vintage year, we manually identify the correct issuance year by matching the quantity issued. When there wasn’t a single matching issuance quantity we looked for multiple issuances that matched when added together.  
 [This is the only column in the downloaded registry files added by the Berkeley Carbon Trading Project. We added this column to facilitate the calculation of issuances by issuance year. This is because credits for ARB and Ecology projects first are issued by CAR, and then are cancelled by CAR when the credits transition to ARB or Ecology. To estimate the issuances by issuance year, we need to know the issuance year associated with the cancellations associated with the transition to ARB.]

## Gold Standard (GS)

### **PROJECTS TAB**

#### **GS Issuances**

Total issuances by vintage (green columns) and by issuance year (orange columns). Note that ex-ante credits, called PERs (Planned Emissions Reductions), are not included in issuances and recorded separately in column ‘PER’ of *PROJECTS* tab.

For the associated vintage/issuance year:

- + ‘Quantity’ column of *Gold Issuances*, when ‘Product Type’ column equals “VER” and “CER” [Gold Standard Verified Emission Reduction issuances and Clean Development Mechanism issuances]

#### **GS Buffer Pool**

Total buffer pool deposits (all years together). Gold Standard allows substitution credits to be used to fulfill a project’s buffer pool contribution. When a substitution occurs, the buffer

contribution is recorded for the projects whose credits are deposited, not by the project fulfilling its buffer pool requirements with another project's credits.

- + 'Quantity' column of *Gold Buffer*  
[credits deposited into the Compliance Buffer pool]

### GS Reversals

**Unintentional** reversals are replaced with credits from the Compliance Buffer pool.

### GS Retirements & Cancellations

Total retirements (by retirement year) of CER & VER credits.

- + 'Quantity' column of *Gold Retirements*  
[Gold Standard retirements]

### GS Vintage Remainders

Total CER & VER credits remaining by vintage.

For the associated vintage:

- + Total issuances from the green issuances column [Gold Standard issuances]
- 'Quantity' column of *Gold Retirements* [Gold Standard retirements]

## Verified Carbon Standard (VCS)

### PROJECTS TAB

#### VCS Issuances

Total issuances by vintage (green columns) and by issuance year (orange columns).

Note that VCS issues credits differently from the other registries. Instead of issuing all of the credits for a single reporting period (vintage) at one time, VCS allows project developers the option to issue credits, and pay the associated per-credit fee, in smaller batches. To make VCS issuances comparable with the other registries, we report the total vintage quantity as fully issued in *PROJECTS* tab if any credits from the vintage have been issued. If any credits are issued from a vintage, this means that all credits of the vintage are approved for issuance and can be issued at the request of the project developer. We use the date of that first issuance as the issuance date for the whole vintage.

For VCS and VCS-ARB Early Action projects and their associated vintage/issuance year:

- + "Total Vintage Quantity" column for each unique instance of Project ID, vintage quantity, and vintage year in *VCS Issuances and Retirements*  
[VCS issuances, including credits released from buffer account back into the issuance pool]

For VCS-ARB Compliance projects and their associated vintage/issuance year:

- + 'ARB Offset Credits Issued' column of *ARB Issuances and Retirements*  
[ARB issuances]
- 'Forest Buffer Account Contribution' column of *ARB Issuances and Retirements*  
[credits deposited to the ARB forest buffer pool]

## VCS Buffer Pool

Total buffer pool deposits (all years together). Verra does allow for credits in the buffer pool to be released into the salable issuance pool, with continued verification of no disturbances to the project activity.

- + ‘Total Buffer Pool Contribution’ column of *VCS Buffer*  
[credits deposited into the buffer pool]
- ‘Credits Released’ column of *Verra Buffer*  
[VCS buffer credits released from buffer pool back into the issuance pool]
- + ‘Forest Buffer Account Contribution’ column of *ARB Issuances and Retirements*  
[credits deposited into the ARB forest buffer pool]

## VCS Reversals

### non-ARB projects

**Unintentional** reversals are replaced with credits from the pooled buffer account.

- + ‘Credits Canceled’ column of *Verra Buffer*

### ARB projects in the VCS registry

Reversals are identified in ‘CARB Issuance ID’ column of *ARB Issuances and Retirements* when issuance ID is listed in the format “CAFR####-(reversal)”.

**Unintentional reversals** are covered by the buffer pool and are identifiable as “unintentional reversals” in column ‘Comments’ column of *ARB Issuances and Retirements*.

**Intentional reversals** are not covered by the buffer pool and are identifiable as “intentional reversals” in the ‘Comments’ column of *ARB Issuances and Retirements*. Intentional reversals must be compensated in full with replacement credits by the project developer.

## VCS Retirements & Cancellations

Total retirements and cancellations (by retirement/cancellation year).

- + ‘Credits Quantity Issued’ column of *VCS Issuances & Retirements*, when ‘retirement/cancellation date’ column has a date  
[VCS retirements and cancellations for non-ARB projects and ARB Early Action projects]

ARB Compliance projects:

- + ‘Retired 1st Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2014]
- + ‘Retired 2nd Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2017]
- + ‘Retired 3rd Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2020]
- + ‘Retired 4th Compliance Period - CA’ column of *ARB Issuances and Retirements*  
[ARB compliance period retirements in 2022, 2023, and 2024. For the 4th compliance period, retirements are separated using end of differences]
- + ‘Retired Voluntarily’ column of *ARB Issuances and Retirements*

- [ARB voluntary retirements, included in “Year Unknown” retirement column]
- + ‘Retired for Compliance - Quebec’ column of *ARB Issuances and Retirements*  
[Quebec Compliance retirements, included in “Year Unknown” retirement column]
- + ‘Retired Intentional Reversal’ column of *ARB Issuances and Retirements*  
[Compensation for intentional reversals]

### **VCS Vintage Remainders**

Total credits remaining by vintage.

For the associated project and vintage:

- + Total issuances from the green issuance columns [VCS and ARB issuances]
- All retirements and cancellations included in the blue columns, per vintage year instead of retirement year

## **REGISTRY COLUMNS DESCRIPTION**

### ***VCS Issuances & Retirements***

- J. Total Vintage Quantity – Total quantity of credits associated with the reporting period.
- K. Quantity Issued – Total quantity of credits from the reporting period that have been issued in the Verified Carbon Standard by Verra. Note that Verra issues credits differently from other registries. Instead of issuing all of the credits for a single reporting period at one time, Verra allows project developers the option to issue credits, and pay the associated per-credit fee, in smaller batches. Credits Quantity Issued lists the quantity of credits issued for each issuance batch, while the aforementioned Total Vintage Quantity lists the total number of credits associated with each reporting period.
- N. Retirement/Cancellation Date – In Verra’s combined issuances and retirements file, the number of credits generated for each reporting period is not only broken down into separate issuance batches as described just above, but can also be further broken down into separate retirement batches when credits are retired by different retirement beneficiaries. A date in this column indicates the day on which the credit batch was retired or canceled. If no date is listed, then the credit batch has not been retired or canceled.

### ***VCS Buffer***

- C. Total Buffer Contribution – Credits deposited into the buffer pool.
- D. Total Available Buffer – Credits remaining in the buffer pool, taking into account all adjustments noted in columns E, F, and G.
- E. Credits Released – Credits returned to a project developer from the buffer pool.
- F. Credits Canceled – Credits in the buffer pool used in compensation for an unintentional reversal.
- G. Credits on Hold – Credits set aside within the buffer pool as Verra evaluates a potential reversal and/or until updated verification reports are submitted.