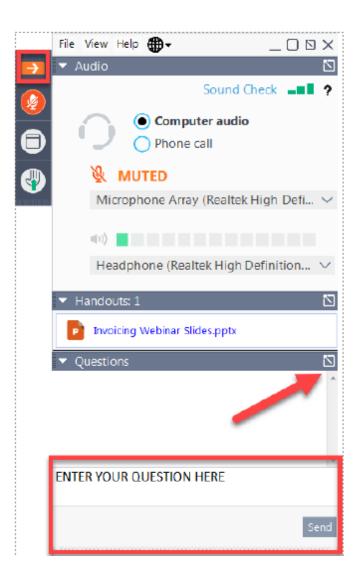


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- Enter questions at any time using the "Questions" box.
- If your audio or slides freeze, restart the webinar.
- A copy of the slide deck is in the "Handouts" section of webinar panel.



Today's Speaker

John Putman

Communications Specialist | High Cost

High Cost and the Connect America Fund (CAF)

The High Cost program ensures universal availability of essential telecommunications services in rural America

Legacy Voice Funds

- Subsidize voice service to provide universal access to basic phone lines
- Calculate support based on carrier costs
- Provide support to traditional rural telephone companies
- Are subject to USAC audit process

Modernized Broadband Funds (Connect America Fund)

- Subsidize broadband to support advanced communications networks and high-speed Internet access
- Use cost models and competitive bidding to give carriers fixed payments to deploy broadband with minimum speeds to a defined number of rural locations by interim and final milestone deadlines
- Provide support to traditional rural phone companies, rural electric cooperatives, cable operators, wireless operators, wireless Internet service providers, satellite providers
- Are subject to CAF compliance framework to ensure required deployment

Connect America Fund Compliance

USAC closely monitors carrier compliance with broadband deployment obligations to ensure that carriers are using CAF support to build out high-speed Internet access that meets minimum speed and latency standards to required location counts by relevant deployment milestone deadlines in rural areas eligible for funding.

Compliance process consists of several steps:

HUBB Portal: Tracking Broadband Deployment

Verification Reviews: Confirming Broadband Deployment

Network Performance Testing: Measuring Speed and Latency

Carriers may also be subject to audit site visits.

This compliance framework safeguards Connect America Fund accountability, transparency and integrity.

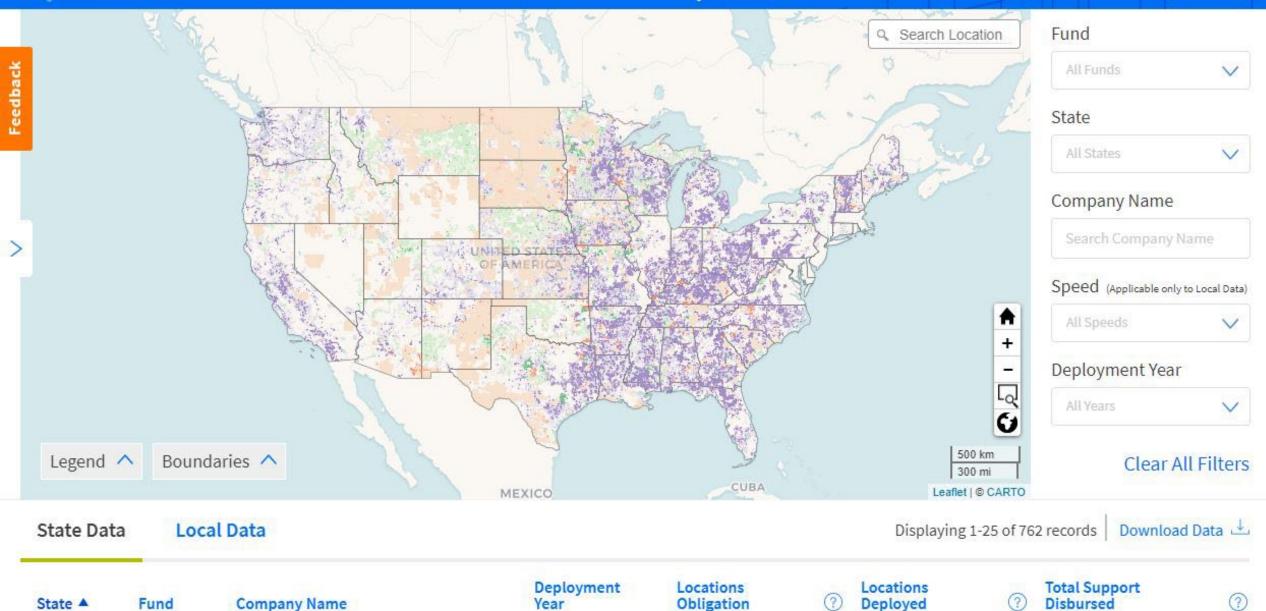
HUBB Portal: Tracking Broadband Deployment

- Carriers participating in modernized funds with defined fixed broadband build-out obligations must file deployment data annually with the HUBB
- Annual HUBB filing deadline is March 1 for carriers to report broadband deployed with CAF support in the prior calendar year or certify "no locations to upload" for the year
- HUBB collects: geographic coordinates (latitude/longitude) of locations where carriers are deploying broadband with CAF support, speeds available (speed tier) and deployment dates
- HUBB performs automated, real-time validation of data and only accepts locations that pass all checks:
 - Checks that lat/long of a reported location fall within area eligible for funding
 - Checks that the location is not a duplicate of one already submitted
 - Checks that date of deployment falls within fund timeline
- HUBB tracks carrier progress toward meeting interim and final deployment milestones.
- Accurate geolocation data is key to filing successfully in the HUBB
 - See USAC guide on geolocation best practices

HUBB Portal: CAF Map and BDC

- FCC expects HUBB data to be consistent with Broadband Data Collection (BDC) data and the Broadband Serviceable Location Fabric
 - Compliance review process will cross-check fixed broadband deployment data submitted to the HUBB and BDC databases, and will require carriers to explain and address identified discrepancies
- HUBB dataset is the foundation for the CAF Map
 - Public map that displays geographic areas eligible for CAF support and specific fixed locations where carriers have reported deployment in the HUBB
 - CAF Map is only as good as the data that carriers file in the HUBB so accuracy matters!

Connect America Fund Broadband Map



Verification Reviews: Confirming Broadband Deployment

All carriers participating in CAF programs with defined broadband build-out obligations are subject to verification reviews to confirm reported deployment. Reviews fall into three categories:

- Reviews tied to mandatory annual deployment milestones (interim and final) that begin following the annual March 1 HUBB filing deadline
- Reviews conducted at the request of carriers that complete deployment ahead of required milestones (meet optional milestones) and are seeking to reduce their Letters of Credit (LOC) values
- Reviews conducted as part of the FCC Rural Broadband Accountability Plan (RBAP)
 - Can occur before a required milestone even if a carrier does not request a review

Carriers may also be subject to site visit audits.

Carriers found to have missed deployment milestones face increased reporting obligations and potential withholding/recovery of support

Verification Reviews: Confirming Broadband Deployment

The goal of the verification review process is to confirm that a carrier deployed broadband service meeting the FCC's performance standards to a qualifying number of locations by the relevant deployment milestone deadline. The review seeks to confirm that (among other things):

- The structure at the reported location is eligible for CAF support
- The reported service address accurately corresponds with the reported lat/long coordinates
- The upload and download speeds available are at or above the speeds the carrier must deliver
- The carrier deployed service at the required speeds in time to meet the deployment milestone
- The actual number of units or dwellings at the location accurately ties back to the reported number of units or dwellings for the location record

Carriers must supply documentation to serve as evidence of deployment to all locations selected for verification review

 Examples of acceptable documentation include: customer bills, screen shots from service availability and provisioning tools, letters of certification by outside engineers, lease agreements for broadband equipment/facilities

Network Performance Testing: Measuring Speed and Latency

- Framework ensures that CAF-supported broadband service meets basic performance measures standards
- Carriers must conduct one week of speed and latency testing at a random sample of CAF-supported locations in the HUBB that have active subscribers in each quarter of the year, and submit and certify <u>all</u> test results for all selected locations (unless subject to FCC waiver) for all four quarters in the PMM by the following July 1
 - Coming soon: FCC will require carriers to report test results within two weeks of the end of the quarter (timing of this new mandate is still TBD)
- At least 80 percent of speed measurements must be at 80 percent of required speeds and 95 percent of low-latency measurements must fall at or below 100 milliseconds round-trip time
 - FCC considers failure to meet speed and latency standards as a failure to deploy and may withhold support
- Before official testing begins, carriers must conduct a year of quarterly "pre-testing"
 - Carriers must submit and certify <u>all test results for all selected locations</u> (unless subject to FCC waiver) in the PMM within one week of the end of the quarter, but will not face withholding of support for failing to meet speed and latency standards
- USAC provides quarterly compliance reports during pre-testing and to carriers that file and certify test data within one week of the end of the quarter during official testing to help carriers track their progress



HUBB Portal: Filing Obligations by Fund

Carriers in these funds (and ACS) have until March 1, 2024, to file and certify data for locations deployed in 2023 or certify "no locations to upload":

- Alternative Connect America Cost Model (ACAM)
- Revised ACAM
- ACAM II
- Connect America Fund Broadband Loop Support (CAF BLS)
 - HUBB will only accept CAF BLS locations deployed since May 25, 2016
- Connect America Fund (CAF) Phase II Auction (CAF II Auction)
- Rural Digital Opportunity Fund (RDOF)
 - RDOF carriers must submit any locations deployed since July 1, 2019
- Rural Broadband Experiments (RBE)
- Alaska Plan (other than carriers with individualized performance plans)
 - Alaska Plan carriers must also submit node and link data for middle-mile fiber and microwave networks
- Bringing Puerto Rico Together (Uniendo a Puerto Rico) and Connect USVI Fund (PR/USVI) Stage 2 Fixed Support

HUBB Portal: Filing Obligations by Fund (Cont.)

Carriers in these funds have until March 1, 2024, to file data for locations deployed in 2023 or certify "no locations to upload":

- Connect America Fund-Broadband Loop Support (CAF BLS)
 - All CAF BLS carriers must file in the HUBB, including CAF BLS carriers that were exempt in the past because they had already built out 10/1 Mbps broadband to at least 80 percent of their study area
 - The HUBB will not accept any CAF BLS locations deployed before May 25, 2016
 - CAF BLS carriers that were fully deployed to all locations in their study area with 25/3 Mbps broadband before that date, or became fully deployed after that date, have satisfied their buildout obligation
 - USAC and the FCC will soon announce a process for these carriers to certify to full deployment
 - CAF BLS carriers must still file any locations deployed in 2023 or certify "no locations to upload"
- Alaska Plan (other than carriers with individualized performance plans)
 - Alaska Plan carriers with individualized performance plans requiring them only to maintain service at existing levels do not have defined deployment obligations and do not have to file in the HUBB
 - USAC encourages these carriers to certify annually that they did not deploy service during the previous year
 - If these carriers do deploy service to new locations or upgrade service to existing locations, they should report those locations in the HUBB
 - In addition to filing last-mile locations, Alaska Plan wireline carriers must submit node and link data showing any new deployments or upgrades made to the middle-mile fiber and microwave nodes or networks needed to deliver CAF-supported broadband

HUBB Portal: Deployment Milestones by Fund

Carriers in the following funds have <u>mandatory</u> deployment milestones at end of 2023 and may face verification reviews in 2024:

- Original ACAM carriers face an interim 70 percent milestone for deploying 10/1 Mbps broadband by end of 2023
- **Revised ACAM** carriers face an interim 70 percent milestone for deploying 10/1 Mbps broadband and interim 50 percent milestone for deploying 25/3 Mbps broadband, both by end of 2023
- ACAM II carriers face an interim 50 percent milestone for deploying 25/3 Mbps broadband by end of 2023, and must meet similar deployment obligations on Tribal lands
- CAF II Auction carriers face an interim 60 percent milestone for required deployments by end of 2023
- CAF BLS carriers face one final, five-year milestone for deploying 25/3 Mbps broadband by end of 2023

RDOF and **PR/USVI** carriers can take advantage of an <u>optional</u> 20 percent deployment milestone by the end of the second year of support (which is 2023 for carriers authorized in 2021) to reduce LOC values

RBE carriers face rolling deployment milestones

HUBB Portal: Certifying Broadband Deployment

- Carriers with 2023 deployment milestones (interim and final) must complete a <u>separate</u> milestone certification in addition to the general certification as part of the annual HUBB filing
 - This includes separate milestone certifications for separate deployment obligations by speed tier
 - USAC and the FCC will soon announce a process for CAF BLS carriers to certify to full deployment for the fund's final, five-year milestone
 - Carriers that miss a deployment milestone must inform the FCC, USAC and relevant state and Tribal governments within 10 days of the milestone deadline (by early January for year-end milestone deadline)
 - Carriers may face verification reviews of their 2023 milestones in 2024 to confirm deployment to a random sample of reported locations
 - Carriers found to have missed deployment milestones face increased reporting obligations and potential withholding/recovery of support

HUBB Portal: Certifying Broadband Deployment (Cont.)

- Carriers that do not deploy locations in 2023 must certify "no locations to upload" by March 1, 2024
 - New this year: "No locations to upload" certification functionality only available between Jan. 1-March 1, 2024
 - USAC has reverted all "No locations to upload" certifications for carriers that completed this certification for 2023 before the end of the year
 - These carriers must complete this certification again between Jan. 1-March 1, 2024.
- Carriers that do deploy in 2023 can file and certify locations throughout the year
- New this year: All carriers must complete a new annual certification to confirm that their filing activity for 2023 is complete, or that they have no locations to upload for the year, with an additional certification between Jan. 1-March 1, 2024
 - Functionality now live for all funds other than CAF BLS coming soon for CAF BLS carriers

HUBB Portal: System Entitlements

The HUBB is accessible through USAC's <u>E-File</u> system. Please see USAC's <u>Multifactor</u> <u>Authentication Troubleshooting Steps</u> for help logging into E-File. Users must have one of the following HUBB entitlements to access the system:

- HUBB SPO (Service Provider Officer): allows the user to enter and certify data.
- HUBB SPU (Service Provider User): allows the user to enter but not certify data (typically provided to users inside the carrier).
- HUBB SPA (Service Provider Agent): allows the user to enter but not certify data (typically provided to agents outside the carrier).

The individual listed as the company officer on the carrier's Form 498 can assign these entitlements. See <u>USAC's 498 ID webpage</u> for help registering for a Form 498 ID, also called a Service Provider ID (SPIN).

HUBB Data Filing Process



Use templates to compile location data, using Geolocation best practices

Upload template with location data to the HUBB

Location data validated by HUBB – address any errors or warnings

Certifying Officer certifies location data in the HUBB

Certifying Officer completes New Annual Certification that all deployments are reported, or No Locations were deployed for the year

Certifying Officer certifies milestone in the HUBB (if applicable)

HUBB Data Fields

Field Name	Description	Example / Notes
Study Area Code (SAC) *	6-digit study area code	579999
Latitude *	Latitude of the location	6 decimal places = (35.509220)
Longitude *	Longitude of the location	6 decimal places = (-98.433700)
Date of Deployment *	Date the carrier made service available	08/04/2022
Download / Upload Speed Tier *	ID representing the speed available	4 = (25mbps / 3mbps)
Address *	Location Street Number and Name	700 12 th Street
City *	Location City Name	Washington
State *	2-Letter State Abbreviation	DC
ZIP Code *	Location Zip Code	20005
# of Units *	Number of units at location	2
HUBB Location ID	ID Assigned by System	12345
Carrier Location ID	ID Assigned by the Carrier	12345
Technology ID #	Technology Type ID	Required for CAF II Auction, RDOF
Other Technology	Description of Other Technology	Text Description
Latency ID #	High or Low	Required for CAF II Auction, RDOF, Alaska

HUBB New Locations CSV Template

Latency Field

- Required for CAF 2 Auction and Alaska Plan
- Optional for other programs
- Values
 - 1 High Latency
 - 2 Low Latency

Fields with an Asterisk (*) are Required

4	Α	В	С	D	E	F	G	Н	1	J	K	L	М	N
1	Study Area Code*	Latitude*	Longitude*	Date of Deployment*	Download/Upload Speed Tier*	Address*	City*	State*	Zip Code*	# of Units*	Carrier Location ID	Technology	Other Technology	Latency
2														
3														
4														
5														

Technology Field

- Required for CAF 2 Auction
- Optional for other programs
- Values
 - 1 DSL
 - 2 Cable
 - 3 Fiber
 - 4 Wireless
 - 5 Low Earth Orbit Satellite
 - 6 Geostationary Satellite
 - 7 Other Technology (Description Required)

Other Technology Field

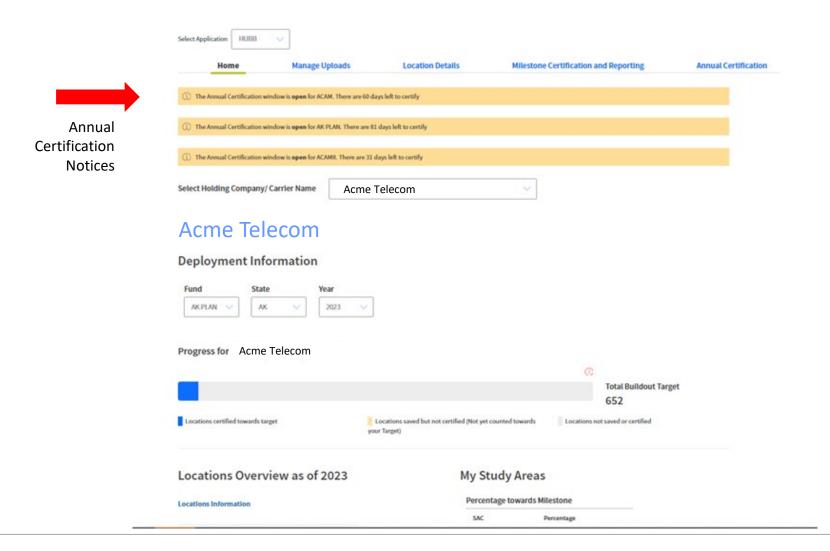
 Description of Technology

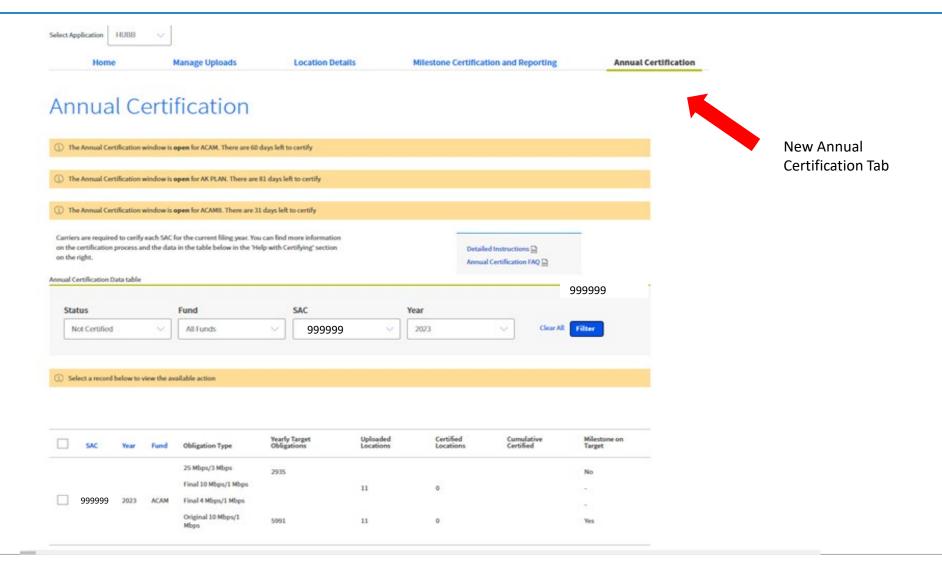
HUBB Speed Tier IDs Revised

Speed Tier ID	Download Speed	Upload Speed		
1	1 Mbps	256 Kbps		
2	4 Mbps	1 Mbps		
3	10 Mbps	1 Mbps		
4	25 Mbps	3 Mbps		
5	25 Mbps	5 Mbps		
6	50 Mbps	5 Mbps		
7	100 Mbps	20 Mbps		
8	100 Mbps	25 Mbps		
9	1 Gbps	500 Mbps		

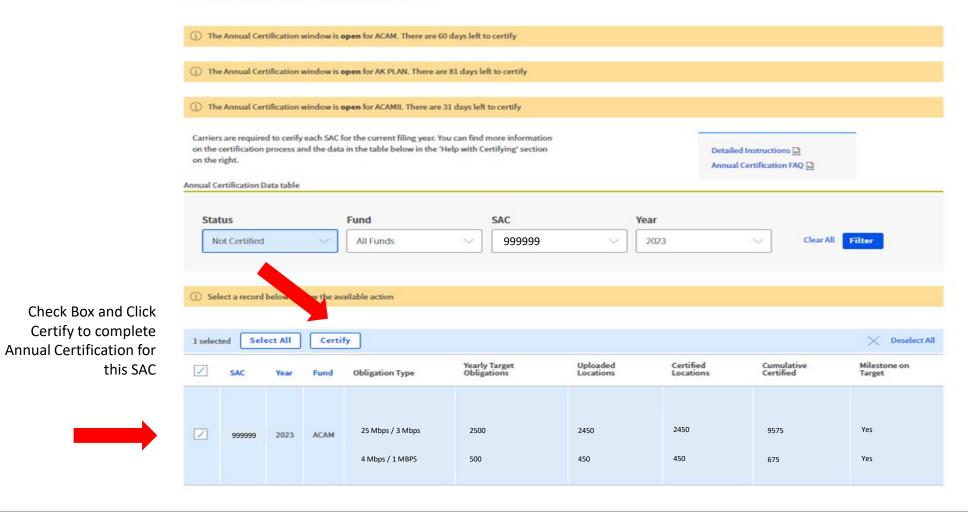


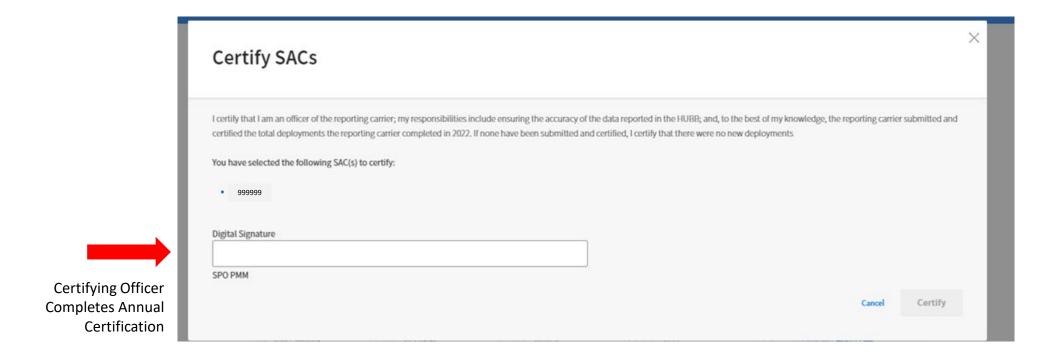
New Speed Tier ID Added in 2022 Shifted Existing Speed Tier IDs down one number Note Alaska Plan Carriers have different Speed Tier IDs – Check HUBB Data Formatting Guide: <u>HUBB Data Formatting Guide</u>



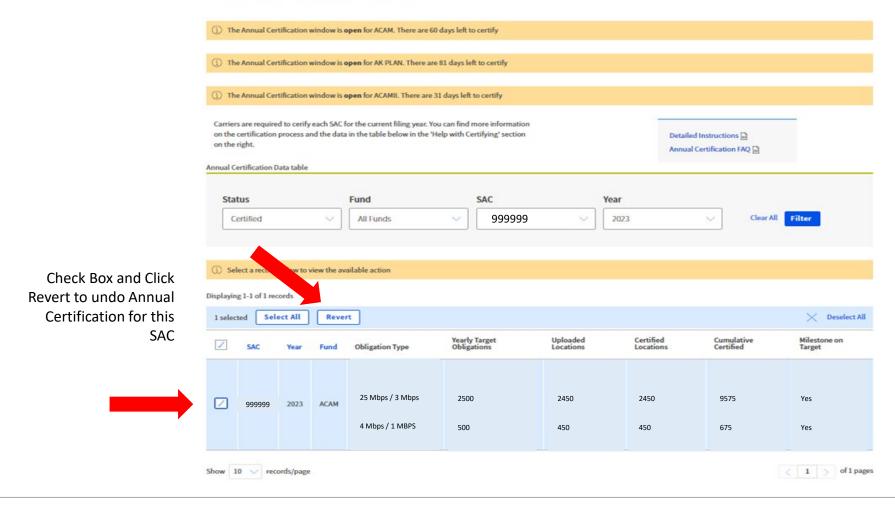


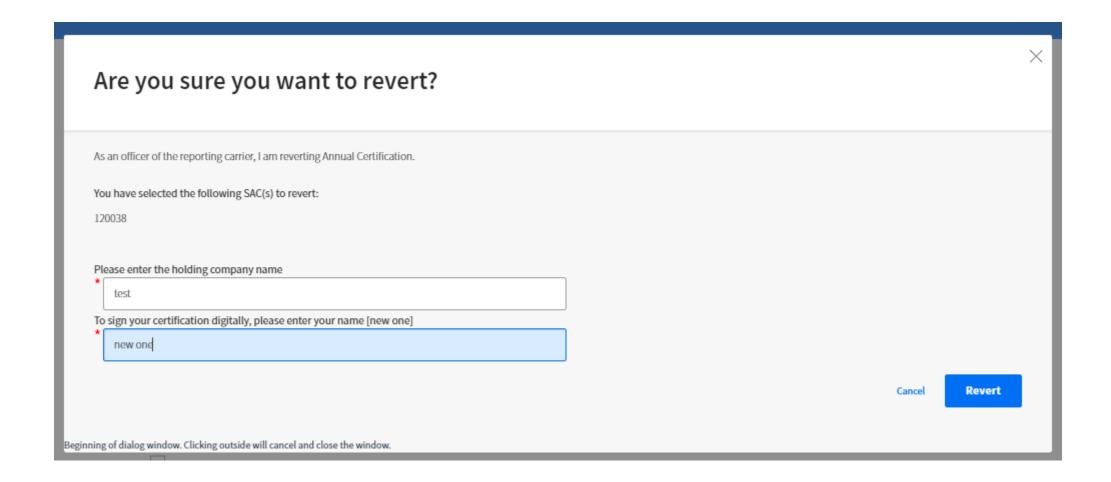
Annual Certification

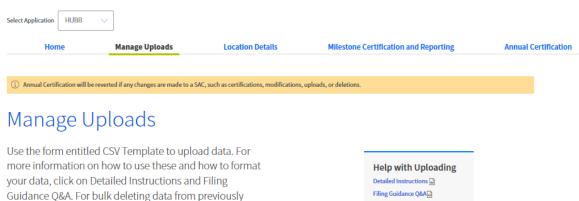




Annual Certification







The "deployment year" is derived by the system from the deployment date provided in each qualifying uploaded record that should be reported to USAC. The year associated with the deployment date is used as the "deployment year".

uploaded file, use the form entitled Bulk Deletion

Template. For bulk updating data from previously

uploaded file, use the form entitled Bulk Modification

The HUBB permits carriers to file records for multiple deployment years at once. Timeliness is based on the due date for the deployment year associated with each record. That is, if records are filed prior to the deployment year due date, they are considered ontime. If records are filed after the deployment year due date, they are considered late. For example, on March 15, 2018, a CAF-BLS recipient files some records for the 2017 deployment year (report due March 1, 2018) and some records for the 2018 deployment year (report due March 1, 2019). The records associated with the 2017 deployment year are considered late as they were filed after the 2017 deployment year due date (March 1, 2018). The records associated with the 2018 deployment year are considered on-time as they were filed before the 2018 deployment year due date (March 1, 2019).

Upload Location File

Template.

Upload Bulk Deletion File Upload Bulk Modification File

CSV Template

Bulk Deletion Template

Bulk Modification Template

Upload Location File

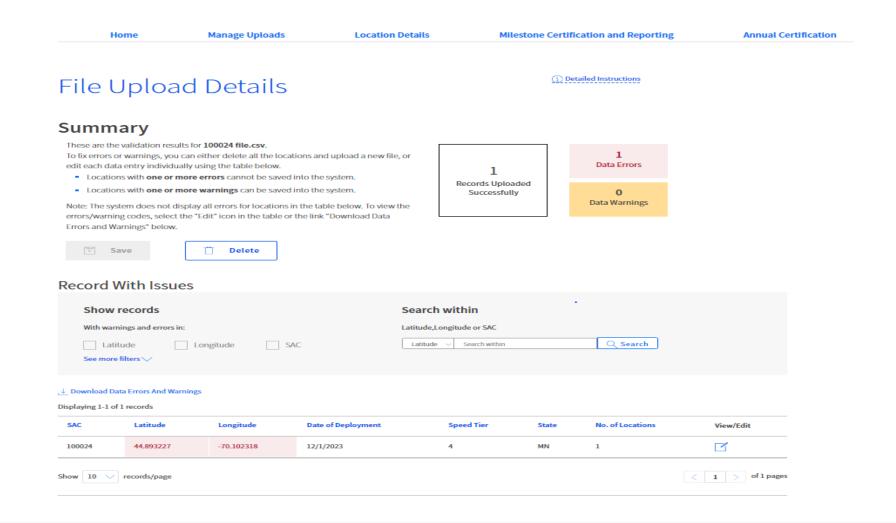
Upload Bulk Deletion File

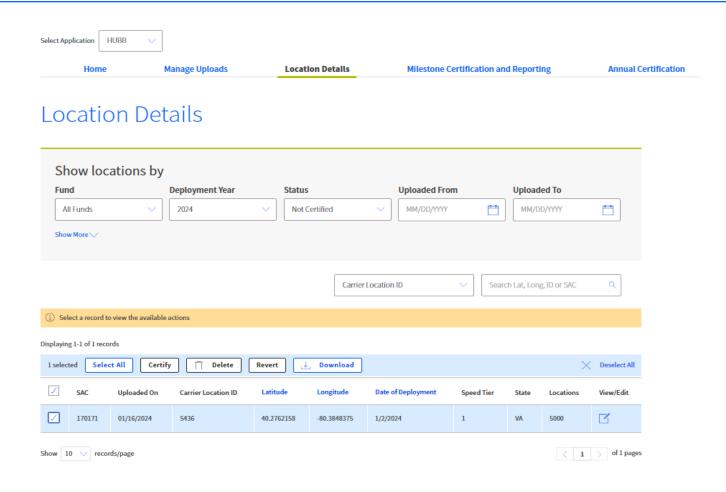
Upload Bulk Modification File

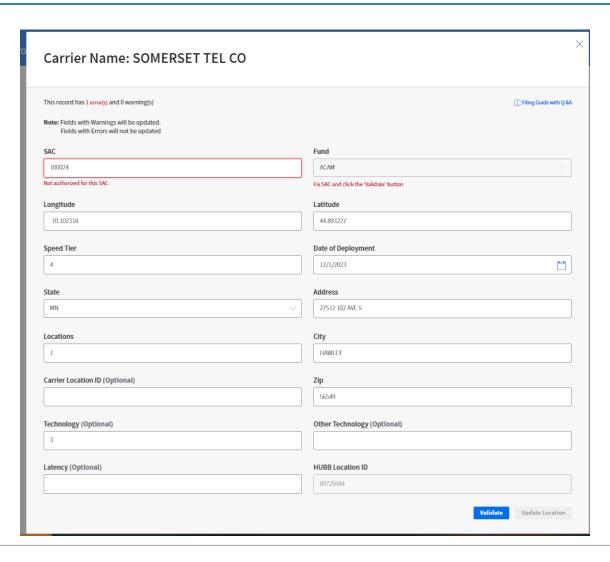
Recently Uploaded Files

Displaying 1-10 of 12 files

File Name	File Type	Uploaded	Progress	Records Uploaded	Data Errors & Warnings	Actions
Bulk_Delete_DynamicFile_Error.csv	Bulk Delete	1/17/2024, 12:29:42 PM	Completed	41	40 0	Review & Delete Error Data Log
Bulk_Modification_Template100024.csv	Bulk Modification	1/17/2024, 12:26:40 PM	Completed	9	1 0	Review & Certify Error Data Log
100024 file.csv	New Locations	1/17/2024, 12:26:24 PM	Completed	1	1 0	Review Error Log Delete
100024 file.csv	New Locations	1/17/2024, 12:25:48 PM	Completed	1	0 0	Review Delete







HUBB Portal: Tracking Broadband Deployment

For more information about filing in the HUBB,

please visit the HUBB resource webpage:

https://www.usac.org/high-cost/annual-requirements/submit-data-in-the-hubb/

Resources include:

HUBB FAQs

USAC <u>Guide</u> to Geolocation Practices

FCC **Guidance** on Location Reporting

HUBB User Guide and Data Formatting Instructions

Templates for data uploads, bulk deletions and bulk modifications

Verification Reviews: Confirming Broadband Deployment

For more information about the verification review process,

please visit the verification review resource webpage:

https://www.usac.org/high-cost/resources/fund-verification-reviews/

Resources include:

Verification review schedule (by fund)

Examples of the types of documentation that carriers can supply to prove deployment

Verification webinar recording

Verification webinar presentation

Network Performance Testing: Measuring Speed and Latency

For more information about performance measures testing,

please visit the performance measures testing resource webpage:

https://www.usac.org/high-cost/annual-requirements/performance-measures-testing/

Resources include:

Performance Measures testing schedule (by fund)

FCC information about the performance measures testing program

Charts showing acceptable test paths and remote server locations

List of vendors that are helping carriers with speed and latency testing

Quick tips guide to the PMM

An explanation of PMM compliance calculations

PMM webinar recording

PMM webinar presentation

Questions?