Monitoring High Cost
and Connect America Fund (CAF) Compliance

WTA Spring Educational Forum

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Universal Service
Administrative Co.

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Monitoring High Cost and Connect America Fund (CAF) Compliance

Today's Presenters

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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 service
  - 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
  - Rely on forward-looking cost models and competitive bidding to give carriers a set amount of support to deploy broadband at certain speeds over a clear timeline—with interim and final deployment milestone deadlines—to a defined number of locations in rural communities
  - Provide support to not only traditional rural phone companies, but also rural electric cooperatives, cable operators, wireless operators, wireless Internet service providers and 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.

CAF compliance process consists of three steps:

HUBB Portal: Tracking Broadband Deployment

Verification Reviews: Confirming Broadband Deployment

Network Performance Testing: Measuring Speed and Latency

Carriers may also be subject to site visit audits following final deployment milestones.

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 – requiring them to provide voice and broadband service to a specific number of fixed locations in areas eligible for support - must file deployment data annually with the High Cost Universal Broadband (HUBB) portal

- HUBB collects: geographic coordinates (latitude/longitude) of locations where carriers are deploying broadband with CAF support, broadband speeds available (speed tier) and deployment dates

- HUBB performs automated, real-time validation of data submissions and only accepts locations that pass all validations 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

- **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**

  - Coming soon: New annual certification for carriers to confirm that their filing activity for the year is complete, or that they have no locations to upload for the year, with an additional certification between Jan. 1 and March 1

- HUBB tracks carrier progress toward meeting interim and final deployment milestones. Carriers with annual milestones must also complete separate milestone certifications (including separate certifications by speed tier) in HUBB

Connect America Fund Broadband Map

Feedback

Search Location
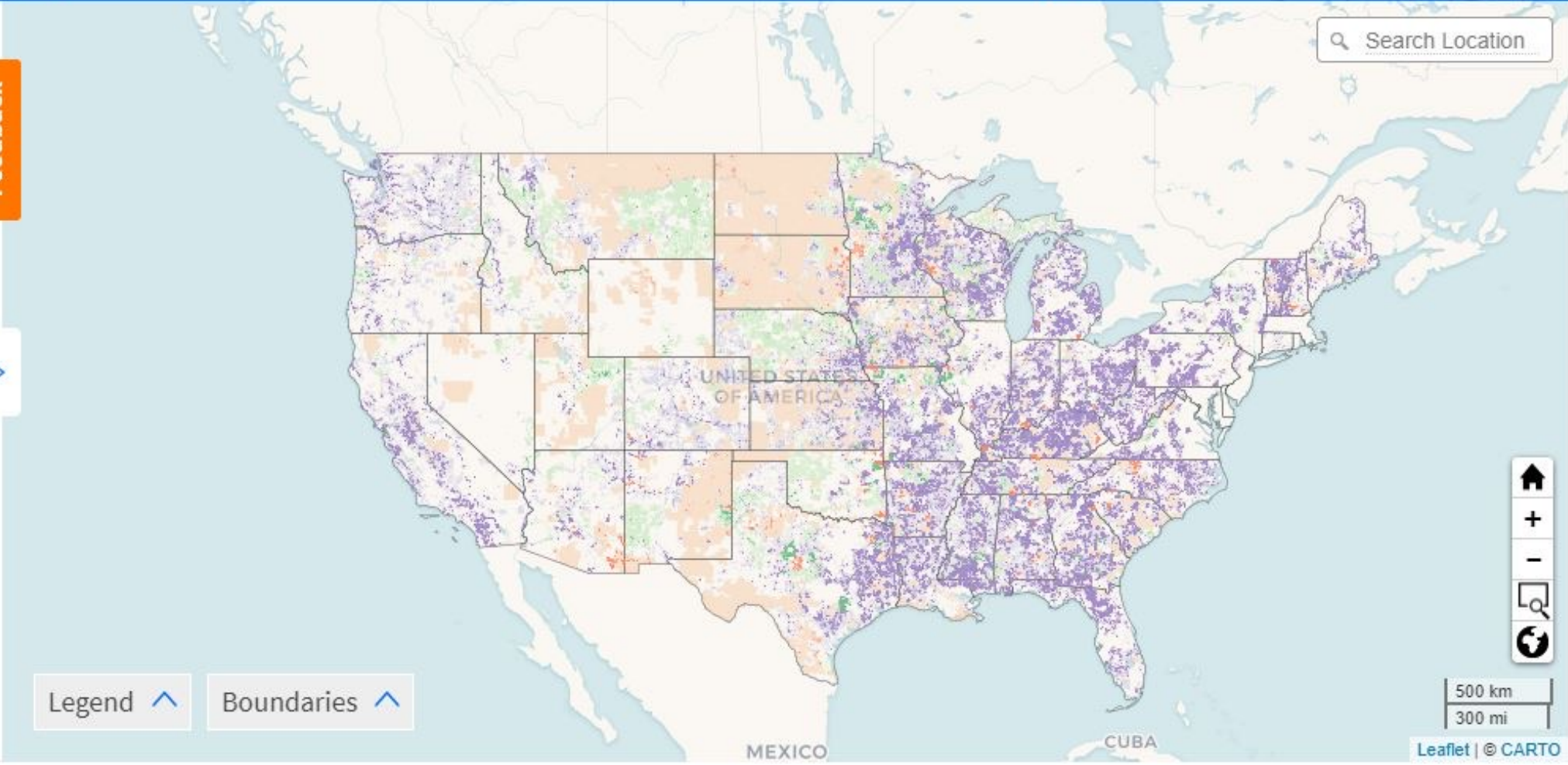
Fund

All Funds ⌄

State

All States ⌄

Company Name

Search Company Name

Speed (Applicable only to Local Data)

All Speeds ⌄

Deployment Year

All Years ⌄

UNITED STATES OF AMERICA

MEXICO

CUBA

500 km
300 mi

Leaflet | © CARTO

Legend ⌃   Boundaries ⌃

Clear All Filters

State Data   Local Data

Displaying 1-25 of 762 records | Download Data ⤓

State ▲	Fund	Company Name	Deployment Year	Locations Obligation		Locations Deployed		Total Support Disbursed	

HUBB Portal: Filing Obligations by Fund

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

- Rural Broadband Experiments (RBE)

- Alternative Connect America Cost Model (ACAM)

- Revised ACAM

- ACAM II

- 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

- Bringing Puerto Rico Together (Uniendo a Puerto Rico) and the 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)

    - HUBB reporting obligations now apply to 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 become fully deployed, have satisfied their buildout obligation
            - USAC and the FCC will develop 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: Tracking Broadband Deployment

- Carriers that do not deploy any locations in 2023 must still log into the HUBB and certify "no locations to upload" by March 1, 2024

  - **"No locations to upload" certification functionality will only be on between Jan. 1 – March 1, 2024 (new)**

- Carriers that do deploy in 2023 can file and certify locations throughout the year

- **All carriers will be required to 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 and March 1, 2024 (new)**

- Carriers with 2023 deployment milestones must also complete a separate milestone certification as part of the annual HUBB filing

  - This includes separate milestone certifications for separate deployment obligations by speed tier

  - Carriers may face verification reviews of their 2023 milestones in 2024 to confirm deployment to a random sample of reported locations

    - Carriers that had 2022 milestones may be facing verification reviews now

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

  - 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)

HUBB Data Filing Process

Compile Data	Enter Data	Validate Data	Certify Data	Certify Milestone
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 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 12th 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

* Required Field; # Required for Specific Funds

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

|	A	B	C	D	E	F	G	H	I	J	K	L	M	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
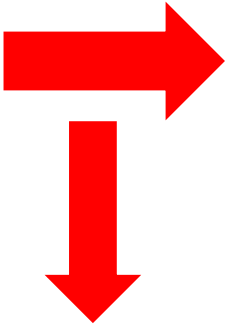
New Speed Tier ID Added in 2022
Shifted Existing Speed Tier IDs
down one number

Note Alaska Plan Carriers have different Speed
Tier IDs – Check HUBB Data Formatting Guide:
HUBB Data Formatting Guide

HUBB Portal: Tracking Broadband Deployment

For more information about filing in the HUBB,
please visit the HUBB resources webpage:

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

Resources include:

HUBB FAQs
USAC Guide to Geolocation Practices
FCC Guidance on Location Reporting
HUBB User Guide and Data Formatting Instructions
Templates for data uploads, bulk deletions and bulk modifications
HUBB webinar recording
HUBB webinar presentation

**Verification Reviews:
Confirming Broadband Deployment**

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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. Verification reviews fall into three main categories:

- Reviews tied to deployment milestones that begin after annual March 1 HUBB filing deadline
  - **Original and Revised ACAM, ACAM II and CAF II Auction carriers** had mandatory deployment milestones at end of 2022 and may face verification reviews this year
  - **Original and Revised ACAM, ACAM II, CAF II Auction and CAF BLS carriers** have mandatory deployment milestones at end of 2023 and may face verification reviews next year
- Verification reviews conducted at the request of carriers that complete deployment ahead of required milestones and are seeking to reduce their Letters of Credit (LOC) values
  - **RDOF** and **PR/USVI** carriers can take advantage of an optional 20 percent milestone by the end of the second year of support to reduce LOC values
- Verification reviews conducted as part of the Rural Broadband Accountability Plan (RBAP), a new FCC initiative to expand oversight of carrier compliance with CAF obligations, ensure public funds are properly invested and enhance program transparency
  - These reviews can occur before required deployment milestones even if a carrier does not request a review to reduce a LOC

Carriers may also be subject to site visit audits following final deployment milestones

HUBB Portal: Deployment Milestones by Fund

- **2022 Deployment Milestones**
  - **Original ACAM** carriers faced a 60 percent milestone for deploying 10/1 Mbps broadband as of the end of 2022
  - **Revised ACAM** carriers faced a 60 percent milestone for deploying 10/1 Mbps broadband <u>and</u> a 40 percent milestone for deploying 25/3 Mbps broadband, both as of the end of 2022
  - **ACAM II** carriers faced their first milestone, for deploying 25/3 Mbps broadband to 40 percent of required location counts as of the end of 2022, and were required to meet similar deployment obligations on Tribal lands
  - **CAF II Auction** carriers faced their first mandatory milestone, for 40 percent of required deployments as of the end of 2022
  - **RDOF** carriers can take advantage of an <u>optional</u> 20 percent milestone by the end of the second year of the program to reduce Letter of Credit (LOC) obligations to one year of support
- **Other Deployment Milestones:**
  - **RBE** carriers face rolling deployment milestones

HUBB Portal: Deployment Milestones by Fund

- **2023 Deployment Milestones**
    - **Original ACAM** carriers face a 70 percent milestone for deploying 10/1 Mbps broadband by end of 2023
    - **Revised ACAM** carriers face a 70 percent milestone for deploying 10/1 Mbps broadband <u>and</u> a 50 percent milestone for deploying 25/3 Mbps broadband, both by end of 2023
    - **ACAM II** carriers face a 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 a 60 percent milestone for required deployments by end of 2023
    - **CAF BLS** carriers face one final milestone (for deploying 25/3 Mbps broadband service) by end of 2023
    - **RDOF** carriers can take advantage of an <u>optional</u> 20 percent milestone, for 20 percent of required deployments by the end of the second year of the program (which is 2023 for carriers authorized in 2021) to reduce Letter of Credit (LOC) obligations
    - **PR/USVI** carriers can take advantage of <u>optional</u> 20 percent milestone, for 20 percent of required deployments, by end of 2023 to reduce Letter of Credit (LOC) obligations
- **Other Deployment Milestones:**
    - **RBE** carriers face rolling deployment milestones
    - **Alaska Plan** carriers face 10-year milestone as of the end of 2026

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:

- 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

Verification Reviews: Confirming Broadband Deployment

Carriers must submit documentation that serves as proof of deployment for each location record in the HUBB that is selected for verification review. Examples of acceptable documentation include:

- Subscriber bills
- Screen shots from public-facing service availability tool showing upload/download speeds available at a particular address
- Letters of certification certified by an outside engineer licensed by the state (including Professional Engineer number) where service was deployed
- Screen shots from an internal provisioning system showing the broadband speeds available at a particular service address (and associated geo-coordinates if available)
- DSLAM construction project completion sign-off sheets that releases all locations tied to this DSLAM to sales for marketing
- Engineering team emails showing that all locations tied to a particular DSLAM are released to sales for marketing

SAMPLE SUBSCRIBER BILL

ABC
PHONE COMPANY

KEY		
	INCLUDE: CUSTOMER ADDRESS, DATES OF SERVICE, SPEED
	REDACT: ALL CUSTOMER PERSONAL INFORMATION: NAME, ACCOUNT NUMBER, PIN

ACCOUNT SUMMARY

ACCOUNT NUMBER: ██████

PIN NUMBER: ██████

Billing Date	12/22/18
New Charges Due Date	**1/09/19**
Previous Balance	84.83
Payments Received Thru 12/08/18	-84.83
Balance Forward	.00
New Charges	84.83
TOTAL AMOUNT DUE	**$84.83**

ABC
PHONE COMPANY

PAYMENT STUB

Total Amount Due	**$84.83**
New Charges Due Date	1/09/19
Account Number	██████
Amount Enclosed	$.

██████
CUSTOMER STREET ADDRESS
CUSTOMER CITY, STATE, ZIP CODE

MAIL TO:
ABC PHONE COMPANY
PHONE COMPANY STREET ADDRESS
PHONE COMPANY CITY, STATE, ZIP CODE

MONTHLY SERVICE CHARGES FROM 12/22/18 to 1/21/19

Digital Phone Unlimited	30.99
Broadband Service 10/1	29.99
TOTAL MONTHLY SERVICE CHARGES	**60.98**

OTHER SERVICE CHARGES AND CREDITS

Carrier Cost Recovery Surcharge	3.99
TOTAL OTHER SERVICE CHARGES AND CREDITS	**3.99**

TAXES AND OTHER CHARGES

Federal Taxes and Charges*	13.06
State Taxes and Other Charges*	6.80
TOTAL TAXES AND OTHER CHARGES	**19.86**

TOTAL	**84.83**

*INCLUDES BASIC CHARGES

DETAIL OF TAXES AND OTHER CHARGES

DETAIL OF FEDERAL TAXES AND CHARGES*

Federal Excise Tax	.26
Access Recovery Charge	1.98
Primary Federal Subscriber Line Charge	6.50
Federal USF Recovery Charge	1.71
Telecom Long Distance — Federal USF Surcharge	2.61
TOTAL FEDERAL TAXES AND CHARGES	**13.06**
STATE TAXES AND OTHER CHARGES	**6.80**
TOTAL TAXES AND OTHER CHARGES	**19.86**

*INCLUDES BASIC CHARGES

AVAILABLE FOR PUBLIC USE

SAMPLE QUALIFICATION TOOL RESULTS

Results for:

Customer Street Address, Customer City, State, Zip Code

Not your address? Change it.

INTERNET

Internet
Download and watch videos and music
Access social network sites
Surf the information superhighway

FEATURE:

Speeds of up to 10 mbps download, 1 mbps upload

Screen shot from public-facing service availability tool showing upload/download speeds available at this address.

SAMPLE ENGINEER CERTIFICATION

KEY		INCLUDE: DATES OF AVAILABILITY, PLACE, SPEED

XYZ ENGINEERING

ENGINEERING FIRM STREET ADDRESS
ENGINEERING FIRM CITY, STATE, ZIP CODE

April 18, 2018

Re: Engineering Certification of Gigabit Technology and Coverage

Dear USAC Representative,

XYZ Engineering Company has reviewed the maps, designs and equipment specifications for the ABC Phone Company fiber network build-out in the 123 exchange of Anytown, USA.

I certify that they meet or exceed the CAF II performance requirements and have the capability of providing gigabit speeds for any CAF II eligible locations within these exchanges. All locations within Anytown, USA are covered by 123 exchange and the 100% fiber network capable of delivering up to 1 gig service. The fiber in this location was live and in effect by December 31, 2017.

If you have any questions or need additional information, please let us know.

Best regards,

Signature

Firstname Lastname
Title
XYZ Engineering Company
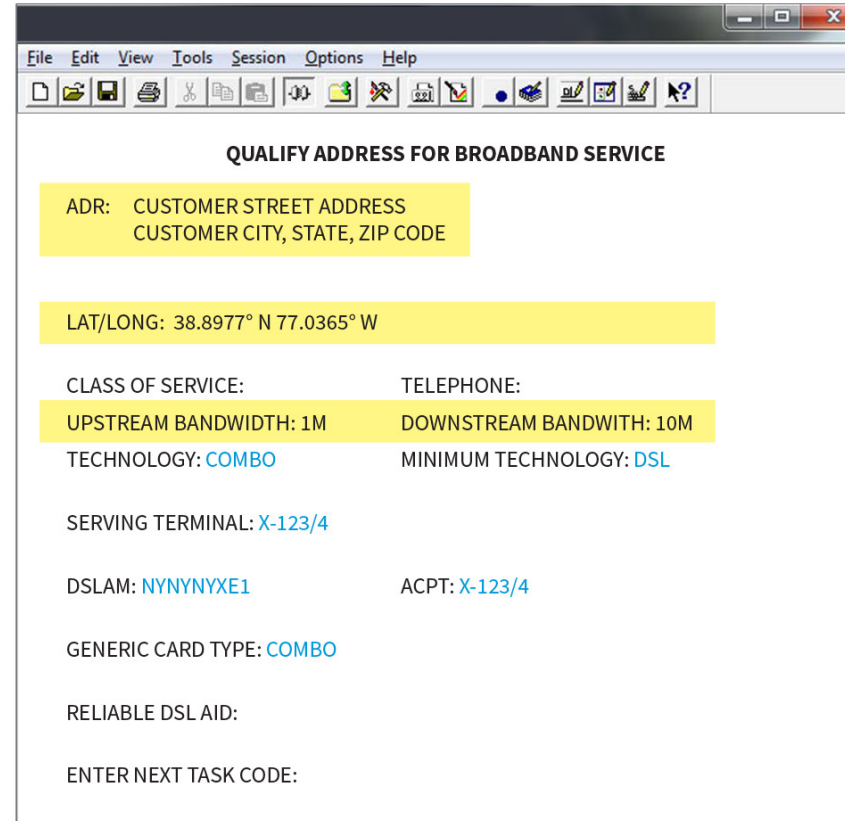123.456.7891
name@email.com
License #456789
State Licensed: VA

SAMPLE PROVISIONING SYSTEM SCREENSHOT

KEY		INCLUDE: CUSTOMER ADDRESS, LAT/LONG, UPSTREAM/DOWNSTREAM SPEEDS

File   Edit   View   Tools   Session   Options   Help

QUALIFY ADDRESS FOR BROADBAND SERVICE

ADR: CUSTOMER STREET ADDRESS
        CUSTOMER CITY, STATE, ZIP CODE

LAT/LONG: 38.8977° N 77.0365° W

CLASS OF SERVICE: TELEPHONE:
UPSTREAM BANDWIDTH: 1M   DOWNSTREAM BANDWITH: 10M
TECHNOLOGY: COMBO   MINIMUM TECHNOLOGY: DSL

SERVING TERMINAL: X-123/4

DSLAM: NYNYNYXE1   ACPT: X-123/4

GENERIC CARD TYPE: COMBO

RELIABLE DSL AID:

ENTER NEXT TASK CODE:

Screen shot from internal provisioning system showing service address
and broadband speeds available at this location.

SAMPLE ACCEPTANCE TEST

KEY		INCLUDE: COMPLETION DATE, DSLAM NAME OR CLLI CODE, SIGNATURE, SIGN-OFF DATE

ACCEPTANCE TEST

Facility:	Any City, USA	WBS No.: 000-0000	
Location:	Anytown, USA	Engineer:	COM acceptance to be done by: XYZ
Spec issue date:			

Install start date:	Install completion date: 4/14/2016

ITEM	INSPECTION CHECKLIST	Task to be done by:	DateShop	COM	Completed by (name[s]):	ACCEPTED by COM Initials	ACCEPTED by COM Date
0	Review spec & drawing						4/15/2016
1	Inventory Material			☒	First Name, Last Name	FNLN	4/15/2016
2	Provision & tum up system			☒	First Name, Last Name	FNLN	4/15/2016
3	Complete redlines, leave copies with COs & copy in job folder						
4	Notify engineer when equipment is acccepted & ready for traffic			☒	First Name, Last Name	FNLN	4/15/2016
5	DSLAM name or CLLI code: NYNYNYXE1						

CO Installer verification CO Installation tasks are complete and ready for inspection by COM.

Signature of CO Installer: *Signature* Date: 4/15/2016

COM Maintenance Acceptance		☐ Partial Acceptance
If partial acceptance, what exceptions remain?	☒	Final Acceptance

Remarks:

Final acceptance by CO Foreman

Signature of CO Foreman or designee: Date: 4/15/2016

DSLAM construction project completion sign-off sheet and release of all
locations tied to this DSLAM to sales for marketing.

SAMPLE RELEASED FOR SALE EMAIL

Wed 6/21/2017 9:48 am

Doe, John
Re: Released for Sale

To: Richard Roe, Sales

DSLAM

NYNYNYXE1

is built and ready for release.

John Doe
Specialist, Network Engineer
Company Communications
123-456-7890
website.url

Email from engineering team showing that all locations tied to this DSLAM are released for sale.

Verification Reviews: Confirming Broadband Deployment

Verification reviews of multi-unit locations – i.e. locations with more than one living unit, such as apartment buildings or duplexes – will also confirm that the number of units at the location selected for review ties back to the number of units reported for that location in the HUBB

- Carriers will be required to submit documentation to prove the existence of each individual unit at that location
- Carriers that cannot provide acceptable documentation proving the number of units at a multi-unit location reported in the HUBB may see a reduction in the number of units counting toward deployment obligations

Tips for success:

- Carriers should not group separate single-unit locations together – using the same latitude/longitude coordinates, but labeled as multiple units at one location – when reporting deployment in the HUBB
- Carriers that provide separate broadband connections to multiple structures on a single property, lot or land parcel should report each structure served as a separate location record – with separate latitude and longitude coordinates – in the HUBB.

Verification Reviews: Confirming Broadband Deployment

Examples of acceptable documentation for multi-unit locations include:

- Subscriber bills for each individual unit at the location
- Screen shots from a public-facing service availability tool showing upload/download speeds available for each individual unit at the location
- Screen shots from an internal provisioning system showing upload/download speeds available for each individual unit at the location
- Screen shots of a mapping software street view or satellite view of the location that provide evidence of the number of units at that location, such images showing two separate front entrances or two separate driveways
- Screen shots from an apartment complex website, property tax website or real estate website (such as Realtor.com, Xome, Trulia, Redfin, etc.) showing the number of units at the location
- Geotagged photos or video clips (taken using a mobile phone or camera with geotagging turned on) that provide evidence of the number of units at the location, such as images of separate electric meters or separate mailboxes, along with a screenshot of the file properties page for each picture or video that displays the associated latitude/longitude coordinates

SAMPLE PHOTO OF LOCATION WITH MULTIPLE UNITS

Street Level Photo

Photo shows two units at this location— two entrances and two mail boxes.

High Altitude Photo

Photo shows two units at this location— two separate walkways that lead to two separate entrances.

Verification Reviews: Confirming Broadband Deployment

Step One: Announcement and Data Collection

- Following each deployment milestone deadline, USAC selects carriers for verification review
    - RDOF and PR/USVI carriers must contact hcverifications@usac.org to initiate an on-demand milestone verification review after certifying deployment data in the HUBB
- For each carrier, USAC selects a statistically valid, random sample of locations certified in the HUBB for review
- USAC sends announcement letters to carriers identifying sampled locations and requesting documentation
- Carriers cannot edit or modify HUBB records for locations selected for review

Step Two: Document Review and Testing

- USAC encourages carriers to send documentation as it becomes available, rather than waiting to provide everything at once
- Documentation will be unique to each carrier and may vary by region of the country
- Carriers may need to submit more than one piece of evidence to prove location, speed and date of service availability for a particular HUBB record
- USAC reminds all carriers to retain all records and analysis needed to demonstrate that USF support is being used in accordance with High Cost Program rules

Step Three: Conclusion

- When the verificatio process is complete, USAC holds exit conferences with carriersto provide findings
- USAC sends closure letters summarizing findings and carriers have an opportunity to respond
- Carriers found to have missed milestones face increased reporting obligations and potential loss of support

Verification Reviews: Confirming Broadband Deployment

For more information about the verification review process,

please visit the verification resources webpage:

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

Resources include:

Verification webinar recording

Verification webinar presentation

Verification review schedule (by fund)
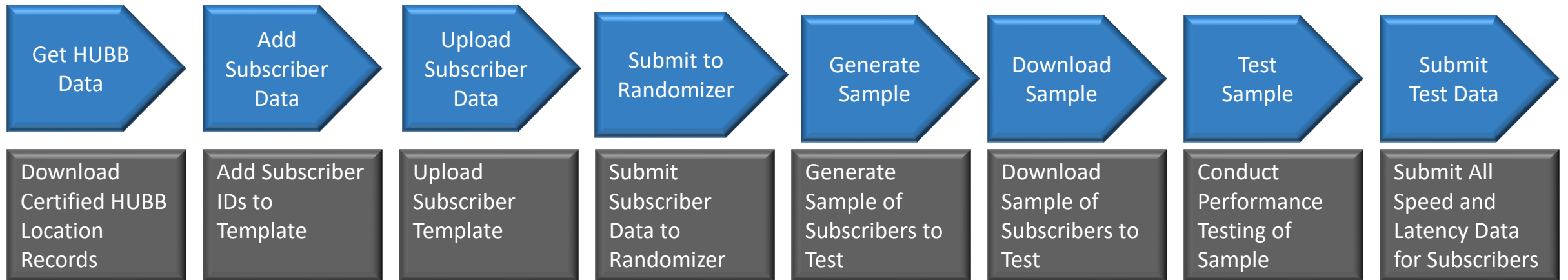
Examples of the types of documentation that carriers can supply to prove deployment

Network Performance Testing: Measuring Speed and Latency

- Performance Measures testing framework ensures that CAF-supported broadband service meets basic speed and latency standards

- Carriers must conduct one week of speed and latency testing in each quarter of calendar year at a USAC-selected random sample of CAF-supported locations reported in the HUBB that have active subscribers, and submit and certify all test results for all selected locations (unless subject to FCC waiving stating otherwise)

- 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 will consider failure to meet speed and latency requirements as a failure to deploy and may withhold support

- Before official testing begins, carriers are subject to a year of quarterly "pre-testing"

  - Carriers must submit and certify all results from quarterly pre-testing within one week of the end of the quarter, but will not face withholding of support for failing to meet speed and latency standards if they submit and certify the required data

- **During official testing, carriers have until July 1 to submit and certify results from quarterly testing conducted during the prior calendar year, but USAC encourages carriers to submit and certify results after testing is complete each quarter**

  - **USAC provides compliance reports to carriers that submit and certify quarterly to help them track their progress in meeting FCC metrics**

- Carriers must obtain a new sample after two years of pre-testing/testing

Network Performance Testing: PMM Process Flow

Get HUBB Data	Add Subscriber Data	Upload Subscriber Data	Submit to Randomizer	Generate Sample	Download Sample	Test Sample	Submit Test Data
Download Certified HUBB Location Records	Add Subscriber IDs to Template	Upload Subscriber Template	Submit Subscriber Data to Randomizer	Generate Sample of Subscribers to Test	Download Sample of Subscribers to Test	Conduct Performance Testing of Sample	Submit All Speed and Latency Data for Subscribers

Remember To Certify Your PMM Data

Network Performance Testing: Testing Obligations by Fund

Carriers in the following funds began quarterly pre-testing in January of 2021 and quarterly official testing in January of 2022 (cycle year: CY2021_22), and are now in their second year of quarterly official testing (cycle year: CY2023_24):

- **Alternative Connect America Cost Model (ACAM) and Revised ACAM**
- **Rural Broadband Experiments (RBE)**
- **Alaska Plan**

These carriers (along with ACS) were required to obtain new randoms sample for quarterly testing starting this year (cycle year: CY2023_24)

Carriers in the following funds began quarterly pre-testing in January of 2022 and quarterly official testing in January of 2023 (cycle year: CY2022_23), and are now in their first year of quarterly official testing:

- **ACAM II**
- **Connect America Fund-Broadband Loop Support (CAF BLS)**
- **Connect America Fund (CAF) Phase II Auction**

Carriers in these funds will be required to obtain new random samples for quarterly testing starting next year (cycle year: CY2024_25)

Network Performance Testing: Tracking Compliance

- Carriers in all funds listed on previous slide had until March 31, 2023, to complete one week of first quarter network speed and latency testing. These carriers must file and certify all test results for all obligated speed tiers for the full sample of locations selected for testing for all four quarters of 2023 in the PMM no later than July 1, 2024.

- **But USAC strongly encourages carriers to file and certify results on a quarterly basis after each quarter's testing is complete**

- The PMM produces quarterly compliance reports for carriers that file and certify test data within one week of the end of the quarter to allow them to track their progress in meeting speed and latency metrics and address any shortfalls before the end of the year

  - Compliance reports include details at the Study Area Code (SAC) level about the percent of upload and download speed tests and latency tests conducted in the quarter that met FCC network performance standards

  - PMM calculates compliance using only certified data

  - See <u>PMM Compliance Calculations</u> for explanation of how the PMM calculates compliance

- USAC will not withhold support from carriers that file and certify data on a quarterly basis and fail to meet speed and latency metrics before evaluating certified data for the full year

- USAC will only calculate final performance compliance – and withhold support from carriers that fail meet speed and latency requirements – after carriers submit and certify test data for the entire year

Network Performance Testing: Tracking Compliance

- Carriers that were in official testing in 2022 (Original and Revised ACAM, Alaska Plan, RBE and ACS) have until July 1, 2023, to submit and certify quarterly test results from 2022 in the PMM

- USAC will calculate final annual compliance for 2022 testing until after that deadline

- **But these carriers can currently view and download compliance reports for all four quarters of 2022 if they have been submitting and certifying test data on a quarterly basis**

- **USAC encourages carriers to check these compliance reports as soon as possible to find out if they are at risk of being in the compliance gap for 2022 testing because either their speed and latency test results did not meet FCC standards or they didn't submit all required test data**

- Carriers that did not meet FCC speed and latency standards for 2022 testing can potentially avoid penalties by submitting passing quarterly results for 2023

- Carriers that have not yet submitted all required test data for 2022 – that is all test data for each obligated speed tier for the full sample of locations selected for testing all four quarters of 2022 – should submit and certify the missing data as soon as possible to address any remaining omissions before July 1, 2023

Network Performance Testing: Tracking Compliance
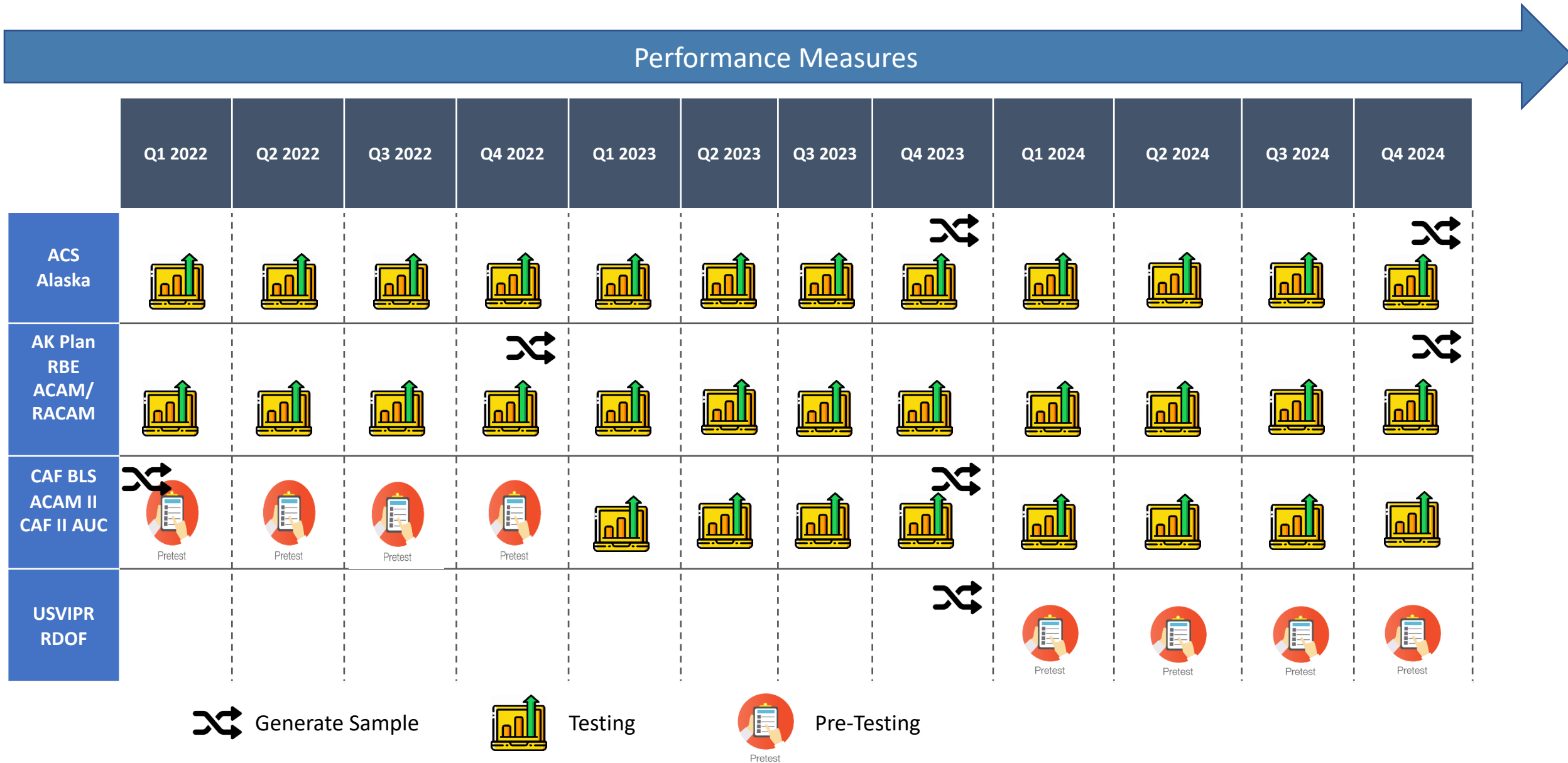
Displaying 1-10 of 6618 records

Fund	SAC	State	Speed Tier	Test Type	Sample Size Met	# of Tests Certified	Compliance %	Compliance Level ▲	Actions
CAFII		AK	3	UL Speed	Passed	2100	100 %	Fully Compliant	☑
CAFII		AK	3	DL Speed	Passed	2100	100 %	Fully Compliant	☑
CAFII		AK	3	Low Latency	Passed	126000	100 %	Fully Compliant	☑
ACAM		AK	2	UL Speed	Passed	1680	100 %	Fully Compliant	☑
ACAM		AK	3	UL Speed	Passed	2100	100 %	Fully Compliant	☑
ACAM		AK	4	UL Speed	Passed	2100	100 %	Fully Compliant	☑
ACAM		AK	2	UL Speed	Passed	210	100 %	Fully Compliant	☑
ACAM		AK	3	UL Speed	Passed	252	100 %	Fully Compliant	☑
ACAM		AK	4	UL Speed	Passed	210	100 %	Fully Compliant	☑
ACAM		AK	2	DL Speed	Passed	1680	100 %	Fully Compliant	☑

Network Performance Testing: High-Level Timeline

Performance Measures

	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024
ACS Alaska	Testing	Testing	Testing	Testing	Testing	Testing	Testing	Generate Sample / Testing	Testing	Testing	Testing	Generate Sample / Testing
AK Plan RBE ACAM/RACAM	Testing	Testing	Generate Sample / Testing	Testing	Testing	Testing	Testing	Testing	Testing	Testing	Testing	Generate Sample / Testing
CAF BLS ACAM II CAF II AUC	Generate Sample / Pretest	Pretest	Pretest	Pretest	Testing	Testing	Testing	Generate Sample / Testing	Testing	Testing	Testing	Testing
USVIPR RDOF								Generate Sample	Pretest	Pretest	Pretest	Pretest

Generate Sample   Testing   Pre-Testing

Network Performance Testing: Managing the Random Sample

- Replacing subscribers
  - To replace a selected subscriber with the next randomly selected one, a carrier must provide a reason:
    - Subscriber Refused to Allow Installation of Testing Equipment
    - Subscriber Dropped Service (no longer active)
    - Subscriber Demands Removal of Testing Equipment
    - Subscriber Subscribes to Lower Speed Than Being Tested
    - Natural Disaster
    - Other – Requires Explanation and USAC / FCC Review
- Adding subscribers
  - Carriers may request additional randomly selected subscribers to test, but are responsible for submitting test data for any additional subscribers
- No Valid Subscribers
  - Carriers that cannot find five active subscribers to test are subject to verification that more subscribers are not available

Network Performance Testing: Replacing Subscriber Locations

Steps for replacing subscriber locations selected for testing:

- Carriers that are able to collect data for all subscriber locations selected for testing in quarter:
  - First submit and certify data for the quarter
  - Then request replacement of subscriber location with the next randomly selected one
  - Provide a reason for replacing the subscriber
    - See list of valid replacement reasons (next slide)

- Carriers that are unable to collect data for all subscriber locations selected for testing in quarter:
  - Request replacement of subscriber location with the next randomly selected one
  - Provide a reason for replacing the subscriber
    - See list of valid replacement reasons (next slide)
  - Submit all available data for active subscriber locations
  - Certify data for the quarter as the last step

Network Performance Testing: Test Status Codes

- Status Code 1 - Successful

  - Successful test submitted to the PMM System are assigned status code 1. A successful test is defined as a single, discrete observation of speed or latency conducted from the customer premises of an active subscriber within the criteria above.

- Status Code 2 – Failed Due to Cross-Talk

  - Deferred test, due to cross-talk, submitted to the PMM System are assigned status code 2. If the consumer load is greater than 64 Kbps downstream for download tests or 32 Kbps upstream for upload tests, the provider may defer the affected test for one minute and reevaluate whether the load exceeds the relevant 64 Kbps or 32 Kbps threshold before retrying the test.

  - This load check and-retry must continue at one-minute intervals until the speed test can be run or the one-hour test window ends. For speed tests, a carrier that begins attempting speed tests within the first fifteen minutes of a testing hour, and repeatedly retries and defers the test at one-minute intervals due to consumer load meeting the adopted cross-talk thresholds may report that no test was successfully completed during the test hour because of cross talk.

- Status Code 3 – Failed (modem off, etc.)

  - Failed test submitted to the PMM System are assigned status code 3. For a failed test, a carrier was unable to conduct a single, discrete observation of speed or latency from an active subscriber within the criteria above.

Network Performance Testing: Calculating Compliance

- The PMM totals all test status records (statuses 1, 2 and 3) to determine if the correct number of test records have been submitted
  - The system gives credit for subscribers replaced during the quarter
  - The system adds missing test records into the compliance calculations as zero records
- PMM uses <u>only</u> test status 1 records to calculate speed and latency compliance
- PMM calculates compliance using only certified data
- <u>Reminders</u>
  - Collect and submit ALL test records to PMM
  - When cross-talk or failed tests are detected, continue testing at one-minute intervals to ensure all data records are collected
- The PMM allows carriers to view and download quarterly compliance reports displaying details at the Study Area Code (SAC) level about the percent of upload and download speed tests and latency tests that met network performance standards set by the FCC
- For a detailed explanation of how the PMM calculates compliance, please see: https://www.usac.org/wp-content/uploads/high-cost/documents/Tools/PMM-Compliance-Calculations.pdf

Network Performance Testing: Measuring Speed and Latency

For more information about performance measures testing,

please visit the performance measures resources 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

Performance measures testing webinar recording

Performance measures testing webinar presentation

An explanation of PMM compliance calculations

Universal Service Program Integrity High Cost Audits and Assessments

Agenda

- Overview
- PQA Assessments
- BCAP Audits
- BCAP Audits: Modernized Funds
- Tips and What's Next

Overview

PQA

(**Payment Quality Assurance Program**)

Designed to assess estimated rates of improper payments via assessments in accordance with the Payment Integrity Information Act of 2019 (PIIA) (<u>not</u> audits)

BCAP

(**Beneficiary and Contributor Compliance Audit Program**)

Designed to assess compliance with FCC rules and safeguard the USF via performance audits or agreed-upon procedure reviews

SCAP

(**Supply Chain Audit Program**)

Designed to assess participant compliance with the Federal Communications Commission (FCC) rules, orders, and program requirements (FCC Rules) related to protecting the communications supply chain

Note: USAC also performs program integrity assurance reviews (<u>not</u> audits or assessments)

Overview

| PQA	BCAP	SCAP
Determines improper payment rates for the FCC in accordance with PIIA	Assesses compliance with FCC Rules	Assesses compliance with FCC Rules as it relates to the Supply Chain
Evaluates accuracy of data submitted for USF purposes (a high level review) and USAC (internal) disbursement processes	Evaluates accuracy of data submitted for USF purposes (a detailed review)	Evaluates whether program participants have used USF funds and federal subsidies to purchase any equipment or services provided or manufactured by Covered Companies.
Identifies overpayments that must be recaptured	Identifies correct contribution obligations (for contributor audits)/overpayments that must be recaptured (for beneficiary audits)	AAD will work with the FCC to determine what corrective action is appropriate
Initiates other corrective actions to decrease improper payment rates	Initiates other corrective actions to increase compliance rates	Initiates other corrective actions to increase compliance rates
Deters waste, fraud and abuse		
Identifies FCC Rules that may require the attention of USAC or FCC management		

BCAP Audits

Beneficiary and Contributor Compliance Audit Program (BCAP)

BCAP

- Audits incorporate a 3-phase process.

1 PLANNING

2 FIELDWORK
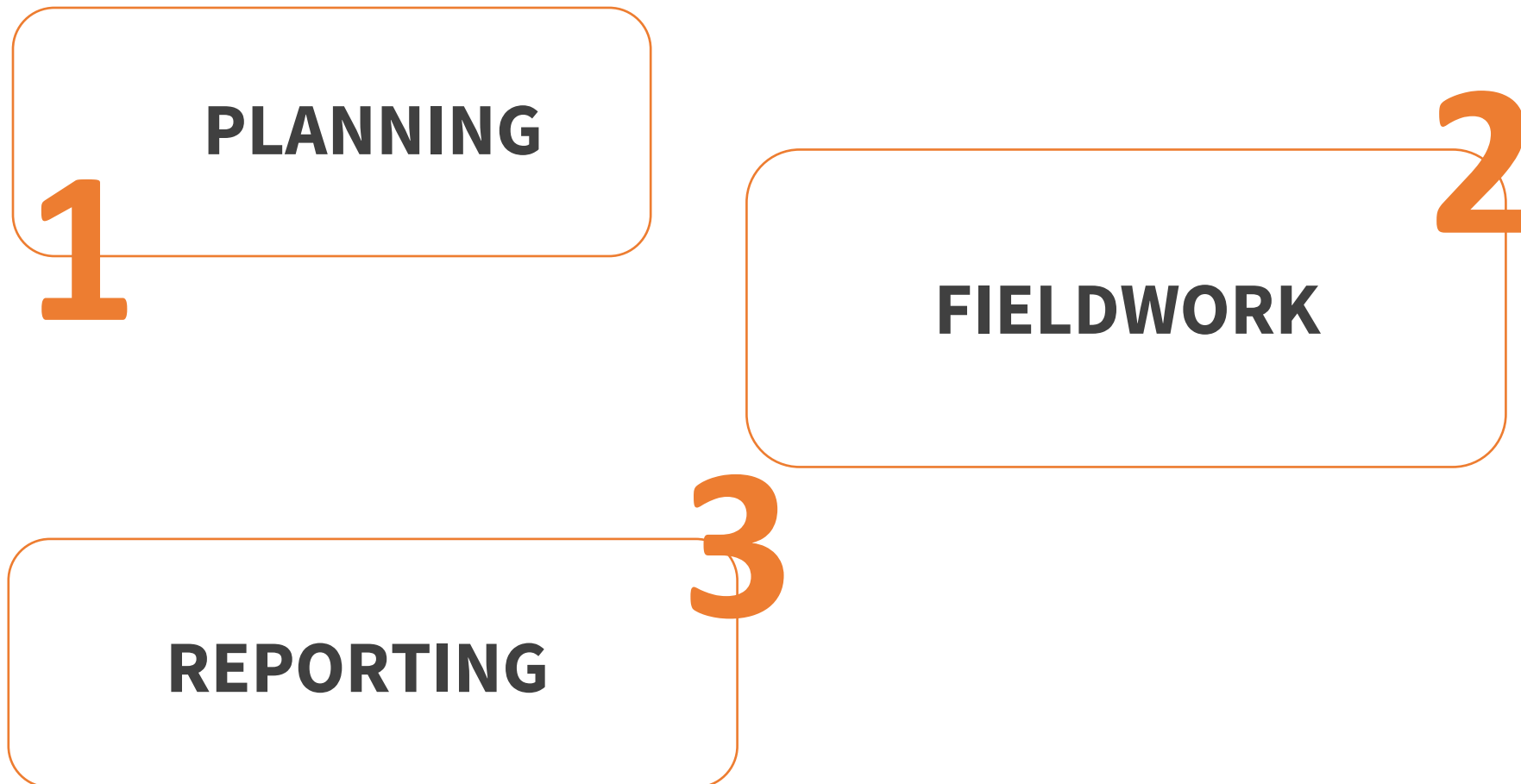
3 REPORTING

BCAP

1 PLANNING

- Announcement letter

- Entrance conference

- Initial documentation requests

BCAP

1 PLANNING

2 FIELDWORK

- Perform audit procedures

- Site visit, if applicable

BCAP

1 **PLANNING**

2 **FIELDWORK**

3 **REPORTING**

- Quality assurance review

- Exit conference

- Responses to audit findings and other matters

BCAP Reporting Phase

- Quality assurance review of audit work

- Prepare audit results:
  - Finding – FCC rule violations
  - Other Matter – not an FCC rule violation but issue warrants attention

- Communicate audit results to audited entity (exit conference)

- Incorporate audited entity response

BCAP Reporting Phase (cont.)

- Issue audit results, including audited entity responses to USAC Management for review/response

- Incorporate USAC Management response

- Post-audit survey

- Release final audit report to audited entity

BCAP Common High Cost Findings

- No documentation or inadequate documentation to support fixed assets (CPRs) (e.g., central office equipment or cable and wire facilities, etc.)

- Fixed assets were recorded improperly

- Fixed asset amounts are categorized and/or classified incorrectly
  - As an example, assets were reported as Category 1 with no end users connected to the facilities.

- Non-regulated (unallowable) assets, expenses, revenues are reported on the High Cost forms (Data Collection Form and Form 509, etc.)

- Inaccurate depreciation calculation

This list is not meant to be all-inclusive.

BCAP Common High Cost Findings (cont.)

- No or inadequate documentation to support expenses (e.g., cable and wire expense, corporate operations expense, etc.)

- Operating expenses were recorded improperly

- No or inadequate documentation to support cost study adjustments

- No or inadequate documentation to support allocation methodology or affiliate transactions

This list is not meant to be all-inclusive.

BCAP Audits

Modernized Funds

BCAP Audits: Modernized Funds

- Successful HC Modernized audits start with the Beneficiary analyzing the locations by:
  - Researching the particulars of the sample locations such actual location addresses.
  - Researching the type of technology associated with the location (and identifying applicable personnel to assist with that type of technology).
  - Conducting pretesting to ensure the location meets the KPIs ahead of the actual engineering site visit.
  - Alerting the local authorities of possible site visit days and traffic disruptions.
  - Considering the safety of all parties.
  - Communicating any issues upfront and maintaining open lines of communication.
  - Identifying multiple personnel to deploy multiple crews.
  - Assisting with determining routes to effectively conduct the site visits.
  - Sending communications to alert active subscribers that the testing will occur and the potential time frame.

BCAP Audits: Modernized Funds

- Successful auditees understand the following:
  - Even if a location does not have an active subscriber, the location will be required to be tested.
    - The Beneficiary will have to provision a test line for locations with inactive subscribers.
  - Beneficiary must provide a representative to attend all of the site visit locations.
  - USAC has been tasked with conducting an independent testing, which is separate from the verifications that was conducted by High Cost Program Mgmt.
    - The main difference between USAC Program Mgmt.'s verifications and AAD's audits are the site visits.

BCAP Audits: Modernized Funds (cont.)

- The sample is a statistically valid sample that was selected by USAC and not by the engineering firm, therefore, the engineering firm does not have the option to remove/change any location samples.
  - USAC has reviewed and received an approval of the testing approaches from the FCC
    - Testing to be as close to the customer premise as much as possible
      - The Beneficiary must send a letter to its subscriber for active locations to request permission to enter the home and conduct the testing.
      - In the event that the subscriber does not respond or declines, the testing will occur at the nearest point to the location such as the NID or pedestal.
  - If there is an issue with the engineering firm, the Beneficiary should refer to the USAC contact information included in the USAC cover letter that accompanies the announcement letter.

Tips

- Provide documentation in a **TIMELY** manner.

- Ask **QUESTIONS** to ensure you are providing adequate documentation.

- Keep accurate **RECORDS** of all data submitted and properly **LABEL** such records.

- Provide **RECONCILIATIONS** for any conflicting or unclear information in reporting.

- Get your **NECA** regional representative and cost consultant involved, as applicable.

- Always **DOCUMENT** everything!

What's Next?

- 2023 PQA Assessments PQA closure – August/September

- 2024 PQA Assessments Announcements Q4 2023 Begin

- BCAP Audits
  - Audits of Legacy Funds continue
  - Audits of Modernized Funds continue

- SCAP Audits continue