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TELECOMMUNICATIONS

Enhanced Data Collection and Analysis Could Inform FCC's Efforts to Complete the Digital Transition of Low-Power Television Stations and Reallocate Spectrum

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Why GAO Did This Study

Television stations that broadcast at lower power levels were not required to meet the 2009 digital transition deadline for full-power stations. These low-power television stations transmit over a smaller area, and most are less regulated than full-power stations. Low-power television stations use valuable radio frequency spectrum, and the Federal Communications Commission (FCC) noted the stations' digital transition could aid its efforts to clear spectrum for wireless broadband. GAO examined (1) low-power television stations' location and status in transitioning to digital, (2) FCC's steps to transition low-power television stations to digital and whether these stations are facing challenges transitioning to digital, and (3) why low-power television stations were established and the extent to which FCC collects information to determine if low-power television service is meeting FCC's statutory and policy goals. GAO analyzed FCC data and documents, reviewed stakeholder comments, and interviewed agency officials, stakeholders, and low-power television licensees.

What GAO Recommends

FCC should (1) explore options for assessing the impact of low-power stations on the communities served and on FCC's goals, and (2) work with Congress as necessary to determine what the long-term role of Class A stations should be, whether additional stations should be permitted to apply for Class A status, and what criteria stations must meet to qualify for such status. FCC stated it is taking actions to address GAO's recommendations, and provided technical comments that were incorporated as appropriate.

View [GAO-11-790](#) or key components. For more information, contact Mark L. Goldstein at (202) 512-2834 or goldsteinm@gao.gov

TELECOMMUNICATIONS

Enhanced Data Collection and Analysis Could Inform FCC's Efforts to Complete the Digital Transition of Low-Power Television Stations and Reallocate Spectrum

What GAO Found

Thousands of over-the-air low-power television stations serve communities across the United States in both urban and rural areas, and about 60 percent of all such stations have either completed the digital transition or have taken steps to transition. Over half of all low-power television stations are known as translators, which retransmit major network and other stations' programming in areas that cannot receive the signals from a primary station, generally in rural and mountainous areas. The remaining stations include low-power television stations known as LPTV stations and Class A stations. Class A stations have a special status that gives them greater interference protection than translator and LPTV stations and requires them to broadcast a minimum amount of locally produced programming. Some LPTV and Class A stations serve niche or local audiences with ethnic, religious, or other programming.

In July 2011, FCC issued an order that established a deadline of September 1, 2015, for low-power television stations to cease analog broadcasts, but stations may still face challenges in making the transition to digital because of regulatory uncertainty. Specifically, an FCC proposal to reallocate spectrum from broadcasting to wireless broadband created regulatory uncertainty and difficulty for stations attempting to justify investing in transitioning to digital. Such a reallocation would leave fewer channels for television broadcasts and could make it difficult for low-power stations to find an available channel that does not interfere with other stations. FCC's order noted these concerns when adopting the 2015 deadline, rather than a previously proposed deadline of 2012, but it is currently unknown whether the uncertainty posed by the spectrum reallocation will be resolved prior to 2015. FCC's order adopted other measures, such as establishing a process for Class A stations to transfer their status to their new digital channels. Previously, without such a process, some stations delayed completing their transition to digital and others lost their Class A status after they transitioned to digital and ceased analog operation. According to FCC officials, such stations can apply to regain Class A status; however, stations may be unaware of this option as it is not explicit in the order.

Low-power television stations were established to reach underserved communities; FCC has noted that the stations can positively affect FCC's goals of localism and diversity. However, FCC has not collected data to evaluate the extent to which these stations fulfill unmet community needs or contribute to meeting FCC's policy goals. Specifically, FCC does not collect programming data, is limited in its ability to identify stations that are not broadcasting, and has not evaluated low-power stations' impact in assessments of the information needs of communities. Lacking such information, FCC does not know the public benefit of stations and is limited in its ability to weigh the effects of its decisions on low-power television stations against the increasing need for spectrum for broadband services. Furthermore, although FCC proposed allowing additional stations to apply for Class A status as a means to preserve community programming, it has not issued an order and may need legislative guidance to determine the future of Class A status.

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Abbreviations

CDBS	Consolidated Database System
CBPA	Community Broadcasters Protection Act of 1999
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
LPTV	low-power television stations that are not translator or Class A stations
MHz	megahertz
NTIA	National Telecommunications and Information Administration
OMB	Office of Management and Budget
UHF	ultra-high frequency
USDA	United States Department of Agriculture
VHF	very-high frequency

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G A O

Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

September 7, 2011

The Honorable Henry A. Waxman
Ranking Member
Committee on Energy and Commerce
House of Representatives

The Honorable Anna G. Eshoo
Ranking Member
Subcommittee on Communications
and Technology
Committee on Energy and Commerce
House of Representatives

There are thousands of licensed over-the-air low-power television stations located throughout the country.¹ Such low-power television stations, like full-power television stations, use highly valued radio frequency spectrum to transmit programming.² Some low-power television stations provide network programming to audiences otherwise unable to receive television signals; others might originate niche programming that can be targeted to specific groups, such as a Vietnamese-speaking community in a large city, or local programming, such as coverage of high-school sports and community events. Other stations provide general programming, such as home shopping programming. Although the statutes governing the digital transition of full-power stations did not require low-power television stations to transition from analog to digital broadcasts during the 2009

¹Low-power television stations transmit over a smaller area and most are subject to fewer regulatory requirements than full-power stations. In addition, they operate at lower power levels: The maximum effective radiated power level for a digital low-power television station will range from 3 kilowatts for very-high frequency (VHF) channels to 15 kilowatts for ultra-high frequency (UHF) channels, while the maximum effective radiated power level for a digital full-power television station ranges from 10 kilowatts for VHF to 1,000 kilowatts for UHF.

²The radio frequency spectrum is a finite natural resource of electromagnetic radiation lying between the frequencies of 3 kilohertz and 300 gigahertz. A television broadcast channel consists of 6 megahertz (MHz) of spectrum. Spectrum is necessary for essential government functions and missions such as national defense, homeland security, weather services, and aviation communication, as well as commercial services such as television broadcasting and mobile voice and data.

transition of full-power stations,³ some low-power television stations have transitioned to digital on their own accord. The remaining stations still broadcast in analog. On July 15, 2011, the Federal Communications Commission (FCC) issued an order establishing September 1, 2015, as the deadline for low-power television stations to cease analog broadcasts and convert to digital operations.⁴

Digital transmissions are more efficient than analog transmissions in their use of spectrum,⁵ and FCC has noted that transitioning low-power television stations from analog to digital could aid FCC's current efforts to identify spectrum that could be made available for broadband services. Specifically, in response to federal initiatives, FCC is reviewing options to identify radio frequency spectrum that can be reallocated to commercial wireless broadband services,⁶ with one such option being to reallocate 120 MHz of television broadcasting spectrum in this way.⁷ As more Americans use Internet-connected mobile devices, analysts have expressed concern that a lack of available spectrum for wireless

³Digital Television Transition and Public Safety Act of 2005, Pub. L. No. 109–171, title III, 120 Stat. 4, 21 (2006), as amended by the DTV Delay Act, Pub. L. No. 111–4, 123 Stat. 112 (2009) and codified at 47 U.S.C. § 309(j)(14)(A).

⁴*Second Report and Order: In the Matter of Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations*, FCC 11-110 (2011) (July 15 Report and Order). (By the terms of the order, requirements subject to Office of Management and Budget (OMB) review under the Paperwork Reduction Act of 1995 do not go into effect until OMB has approved them and FCC has published a notice announcing an effective date for them. *Id.* ¶72.) FCC stated that stations unable to complete construction of their digital facilities by this date due to circumstances that were either unforeseeable or beyond their control or due to financial hardship can apply for an additional 6 months to complete construction. Thus, while all analog broadcasts must cease on September 1, 2015, all stations may not be broadcasting in digital until March 1, 2016. *July 15 Report and Order*, ¶15.

⁵Digital broadcasting allows for the use of digital compression technologies, which enable more efficient use of the radio frequency spectrum than analog technologies.

⁶The *National Broadband Plan* recommends that 500 MHz of spectrum be made newly available for broadband use within the next 10 years. Additionally, in February 2011, the President announced a plan to provide wireless broadband to 98 percent of Americans and to use voluntary incentive auctions to free up spectrum for wireless broadband.

⁷*Notice of Proposed Rulemaking: In the Matter of Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, 25 F.C.C.R. 16498 (2010).

broadband will lead to higher prices, declines in service, and a lack of innovation in the United States.

In response to your request and in light of FCC's recent proceedings on the digital transition of low-power television stations, we examined (1) where low-power television stations are located and the status of their transition to digital, (2) the steps FCC has taken to transition low-power television stations to digital and whether the stations are facing challenges transitioning to digital, and (3) why low-power television stations were established and the extent to which FCC collects information to determine if low-power television service is meeting FCC's statutory and policy goals.

To address these questions, we analyzed data from FCC's Consolidated Database System to determine the number of existing licenses for low-power television stations, as well as data on their location, ownership, and status in transitioning to digital. To determine the reliability of the data, we reviewed FCC user guides and application forms, examined data runs for duplicates and other inconsistencies, and interviewed knowledgeable FCC officials regarding data entry and analysis procedures. We interviewed selected low-power licensees and asked them to verify FCC's data regarding their status in transitioning, and to give us their general impressions regarding the accuracy of FCC's data on low-power television stations. FCC's system automatically captures applications for station permits and licenses—necessary steps in transitioning from analog to digital—and we cross-checked stations' tower coordinates against the community served by the station. We determined the data were reliable for our purposes. When discussing the number of stations in the report, we note that while FCC's rules require licensees to notify FCC when their station is silent (not broadcasting) for more than 10 days, there may be some licensed stations that are not actively broadcasting and have not notified FCC.⁸ We did not attempt to determine the number of stations that have gone silent without notifying FCC that they are not broadcasting; therefore, we are including them in our station counts. As a result, when we describe numbers of "stations" in the report, we are referring to the number of current broadcast licenses.

⁸FCC's rules also require licensees to obtain authority from FCC to be silent for more than 30 days, and state that if a station is silent for 12 consecutive months, then its license is expired. 47 CFR § 74.763.

We reviewed documentation of FCC's actions to transition stations to digital, and of any challenges stations may face in transitioning to digital. This included FCC orders and notices of proposed rulemaking, and the comments submitted by licensees and other stakeholders in response to those notices. We interviewed FCC officials to better understand FCC's actions related to low-power television stations. In addition, we interviewed representatives of 18 low-power licensees, which cumulatively hold licenses for approximately 838 low-power television stations, as well as industry representatives and legal counsel for some low-power television stations. We reviewed documents and data from the National Telecommunications and Information Administration (NTIA) and the United States Department of Agriculture (USDA) to determine the amount of federal funds used to aid low-power television stations' transition to digital. We also analyzed FCC documents regarding the creation of low-power television stations, and interviewed FCC officials and reviewed documentation to determine the extent to which FCC tracks whether low-power television stations are meeting FCC's statutory and policy goals.

We conducted this performance audit from October 2010 to September 2011 in accordance with generally accepted government auditing standards. These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. See appendix I for more information about our scope and methodology.

Background

Low-power television stations, as indicated by their name, operate at lower power levels and transmit over a smaller area than full-power television stations. Low-power television station licensees can include municipalities, universities, nonprofit groups, and small businesses. The development of low-power television stations has evolved since FCC's 1956 order allowing licensing of low-power translator stations.⁹ FCC has maintained that most low-power television service is a "secondary service," meaning low-power television stations may not cause interference to, and must accept interference from, full-power television

⁹21 Fed. Reg. 3680 (1956).

stations, which are classified as a “primary service.” When interference cannot be remedied by adjusting an antenna or other technological methods, low-power television stations must vacate the channel. In such cases, low-power television stations can submit a displacement application to FCC requesting permission to move to another channel or they can request permission to turn off their broadcast signal while searching for another channel. Cable and satellite providers are generally not required to carry signals from low-power television stations, but some low-power television stations are carried by cable or satellite systems in situations where the low-power station wants to be carried and the cable or satellite provider decides to carry it.

FCC uses the term “low-power television stations” to collectively refer to three types of stations: (1) translator stations; (2) low-power television stations that are not translator or Class A stations, which FCC refers to as LPTV stations; and (3) Class A stations. To ensure consistency with FCC’s terminology, we are using the term “low-power television stations” to refer to all three types of stations.

- *Translator stations:* Translator stations retransmit programming from a primary station, such as a major network (ABC, CBS, FOX, or NBC) or its affiliate, to audiences unable to receive the signal directly from the primary station, usually because of distance or terrain barriers (mountains) that limit the signal’s ability to travel long distances. FCC rules prohibit translators from originating any programming.¹⁰
- *LPTV stations:* As with translator stations, FCC’s rules allow stations with LPTV licenses to retransmit another station’s signals, but the rules also allow LPTV stations to originate programming.
- *Class A stations:* Unlike translator stations and LPTV stations, Class A stations are classified as a primary service. When Congress passed the Community Broadcasters Protection Act of 1999 (CBPA),¹¹ it

¹⁰In addition, FCC allowed full-power television stations that lost a portion of their service area after transitioning to digital to apply for replacement translators to serve such areas. We did not include replacement translators in our review since FCC’s database codes replacement translators differently than other translators and replacement translators are already operating in digital.

¹¹Pub. L. No. 106-113, § 5008, 113 Stat. Appendix I at pp.1501A-594 – 1501A-598 (1999).

provided the existing LPTV stations a onetime opportunity to apply for a special primary status that gave the stations some interference protection from full-power stations, thereby limiting the instances in which Class A stations could be displaced by full-power stations. To qualify for Class A status, an LPTV station was required, during the 90 days prior to enactment of CBPA on November 29, 1999, to

- have broadcast a minimum of 18 hours per day,
- have broadcast an average of at least 3 hours of locally produced programming per week, and
- be in compliance with FCC's requirements for low-power television stations.

Stations that applied for and received Class A status must meet requirements that are not applied to other low-power television stations, such as broadcasting an average of at least 3 hours per week of locally produced programming.

Digital broadcasting provides clearer pictures and sound than analog broadcasting. Analog signals fade with distance, so consumers living farther from a television tower may experience degraded audio and video. With digital technology, pictures and sounds are converted into a stream of digits consisting of zeros and ones. Although digital signals also fade with distance, techniques can be applied to maintain and improve the quality of the broadcast so that pictures and sound generally retain their quality.

To transition from analog to digital broadcasts, existing low-power television stations must take the following steps:

- Apply to FCC for a construction permit for a digital "flash cut," digital companion channel, or digital displacement. A flash cut means the station will simultaneously turn off its analog signal and turn on its digital signal, using its current analog channel as its new digital channel. A digital companion channel means a different channel is being used for the digital channel; thus, a station could operate its analog and digital transmissions concurrently on different channels until it decides to cease analog broadcasts. A digital displacement would mean that a station is moving to another channel and is transitioning to digital. It is similar to a flash cut in that the station will simultaneously turn off its analog signal and turn on its digital signal, but it will be using a different channel for the digital signal.

-
- Construct its digital facilities by September 1, 2015.¹²
 - Apply to FCC for a digital license upon completing the construction of its digital facilities. The station may begin broadcasting digitally while FCC is processing its license application.

By completing the digital transition of low-power television stations, FCC will be able to reclaim spectrum being used by the stations that are broadcasting in both analog and in digital (on a companion channel). In addition, FCC has stated that having low-power television stations complete their digital transition will simplify FCC's efforts to reallocate broadcast spectrum for broadband purposes, since there will be more certainty regarding which channels low-power television stations are using for their digital operations.

The federal government has established some funding for low-power television stations to transition to digital. Congress created the Low-Power Television and Translator Upgrade Program, through which NTIA made \$44 million available to eligible rural stations for reimbursement of equipment costs related to the transition from analog to digital service.¹³ In addition, some public television low-power facilities used NTIA's Public Telecommunications Facilities Program¹⁴ and USDA's Public Television Station Digital Transition Grant Program to fund some of the costs for transitioning to digital.

¹²Stations can apply for an extension of their construction permit to May 1, 2016. *July 15 Report and Order*, ¶15.

¹³The Digital Television Transition and Public Safety Act of 2005, Pub. L. No. 109-171, § 3009, 120 Stat. 4, 21, 26 (2006).

¹⁴The program did not receive new grant funding in fiscal year 2011 and is in the process of completing all outstanding projects.

Several Thousand Low-Power Television Stations Are Located across the United States and Its Territories, and the Majority of Stations Have Taken Steps to Transition to Digital

Thousands of Low-Power Television Stations Provide Programming to Communities across the United States

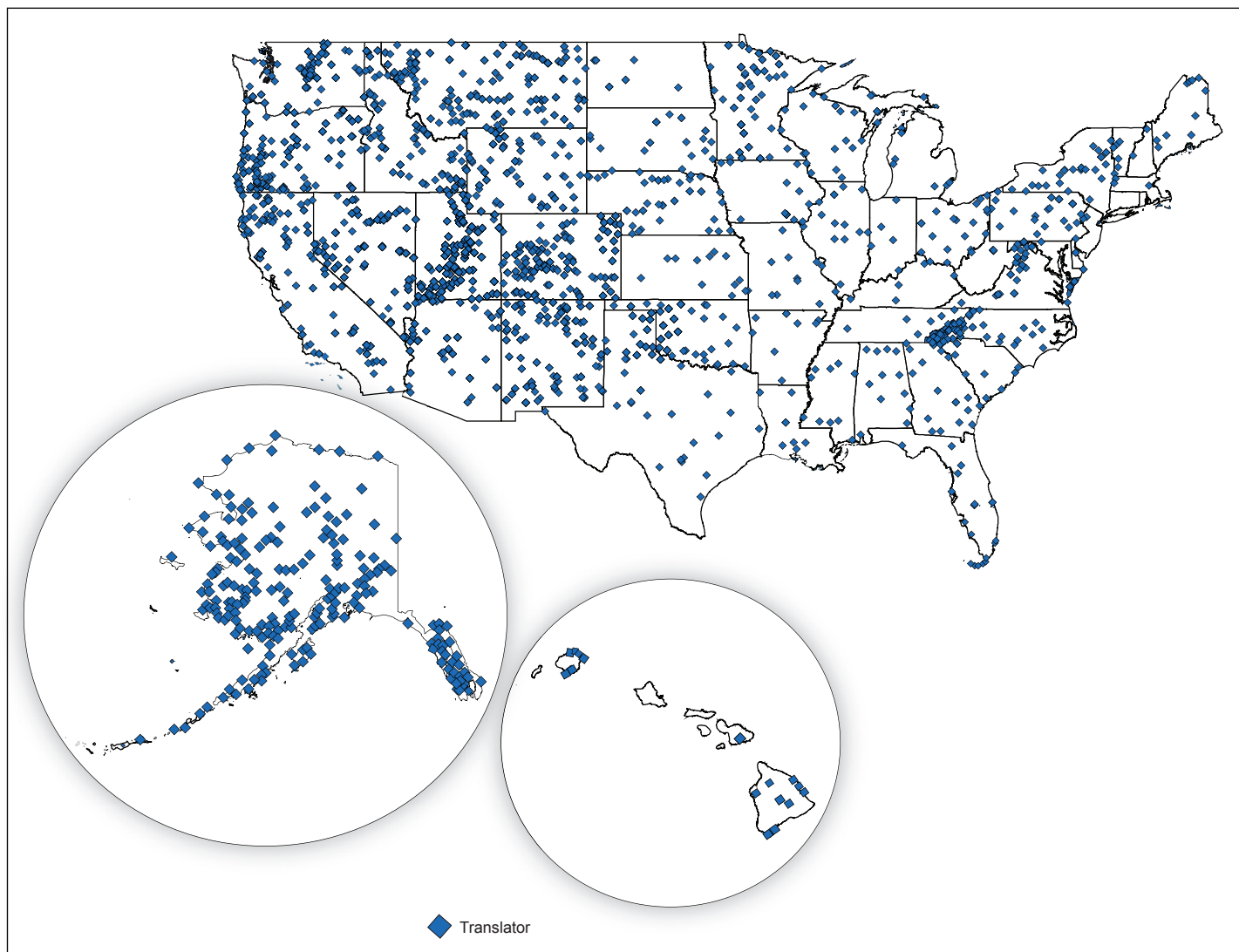
As previously noted, we are using the term “low-power television stations” to refer to translators, LPTV stations, and Class A stations. These stations provide programming to communities throughout the United States and its territories.

Translators: Over half of the roughly 6,400 low-power television stations are translators.¹⁵ According to FCC data, there are about 3,900 translators located across the country, as shown in figure 1. Translators tend to be concentrated in both rural and mountainous areas. Translator stations may be part of publicly owned systems that retransmit television signals to areas that cannot receive signals from full-power stations because they are too far away, or because terrain blocks the signals. In such cases, translators may be the only source of free over-the-air programming from nearby full-power television stations, including network programming, public broadcasting, and emergency alerts. For example, a translator association in Colorado is a publicly owned system of stations funded by local taxes that provides the only over-the-air television service in the area, retransmitting a number of satellite and regional full-power stations’ signals to rural communities surrounded by mountainous terrain. Many viewers in this area cannot otherwise receive over-the-air television

¹⁵When discussing the number of translator, LPTV, and Class A stations, we note that we are counting analog stations with a licensed digital companion channel as one station to avoid double counting such stations when determining the amount of progress made by low-power stations in transitioning to digital. In contrast, FCC officials told us they count such stations as two stations when reporting the total number of broadcast stations.

signals from regional network broadcasters because of long distances and rugged terrain.

Figure 1: Locations of Translator Station Licenses as of July 2011



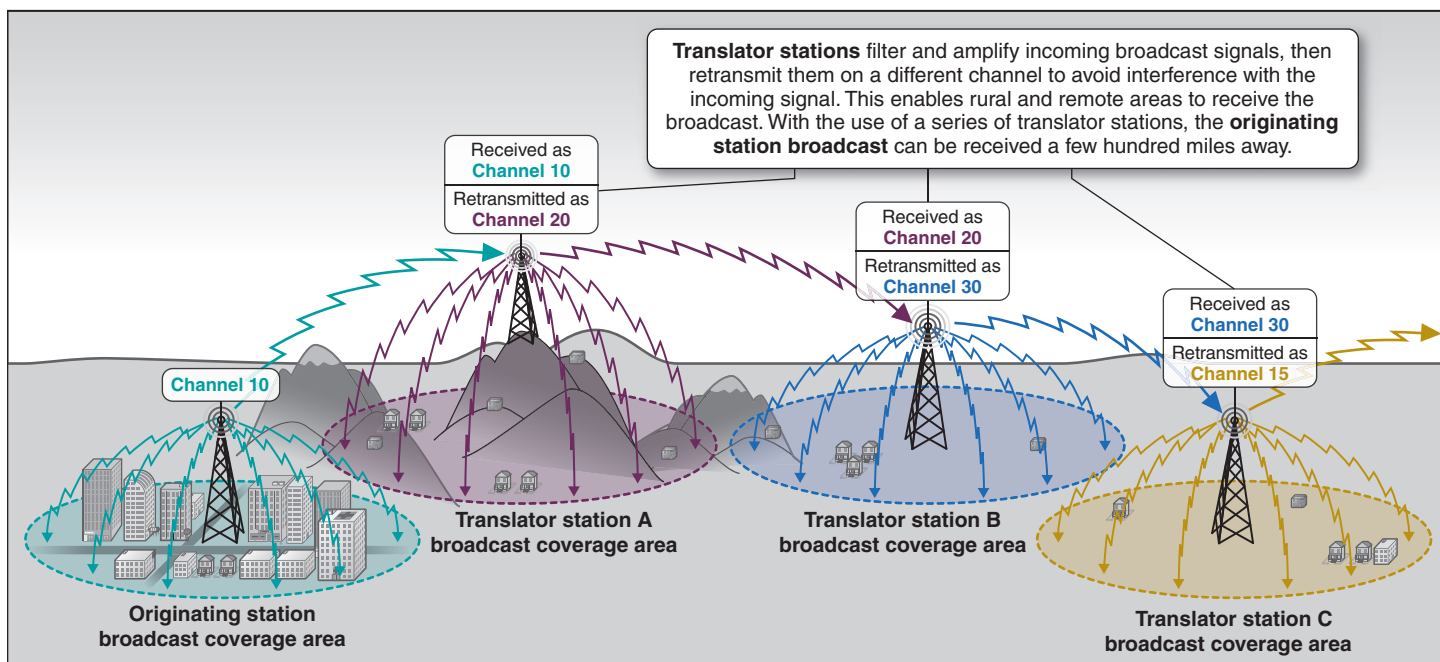
Source: GAO analysis of FCC data.

Note: Translators are also located in American Samoa, Guam, Puerto Rico, and the Virgin Islands.

Some translators are part of a “daisy chain,” in which multiple translators relay signals from one translator to another, allowing the originating station’s signal to be received a few hundred miles away. Translators

receive programming on an input channel, and retransmit the signal on an output channel, meaning two channels are used per station, as shown in figure 2. In cases where multiple stations' signals are being retransmitted, each station would require separate incoming and outgoing channels. For example, a translator system in Utah retransmits signals for several Salt Lake City stations. Because each site in Utah's translator system must use 2 separate, nonadjacent channels to successfully retransmit each station's signal with minimal interference, a site in the system retransmitting nine stations' signals would need 18 channels.

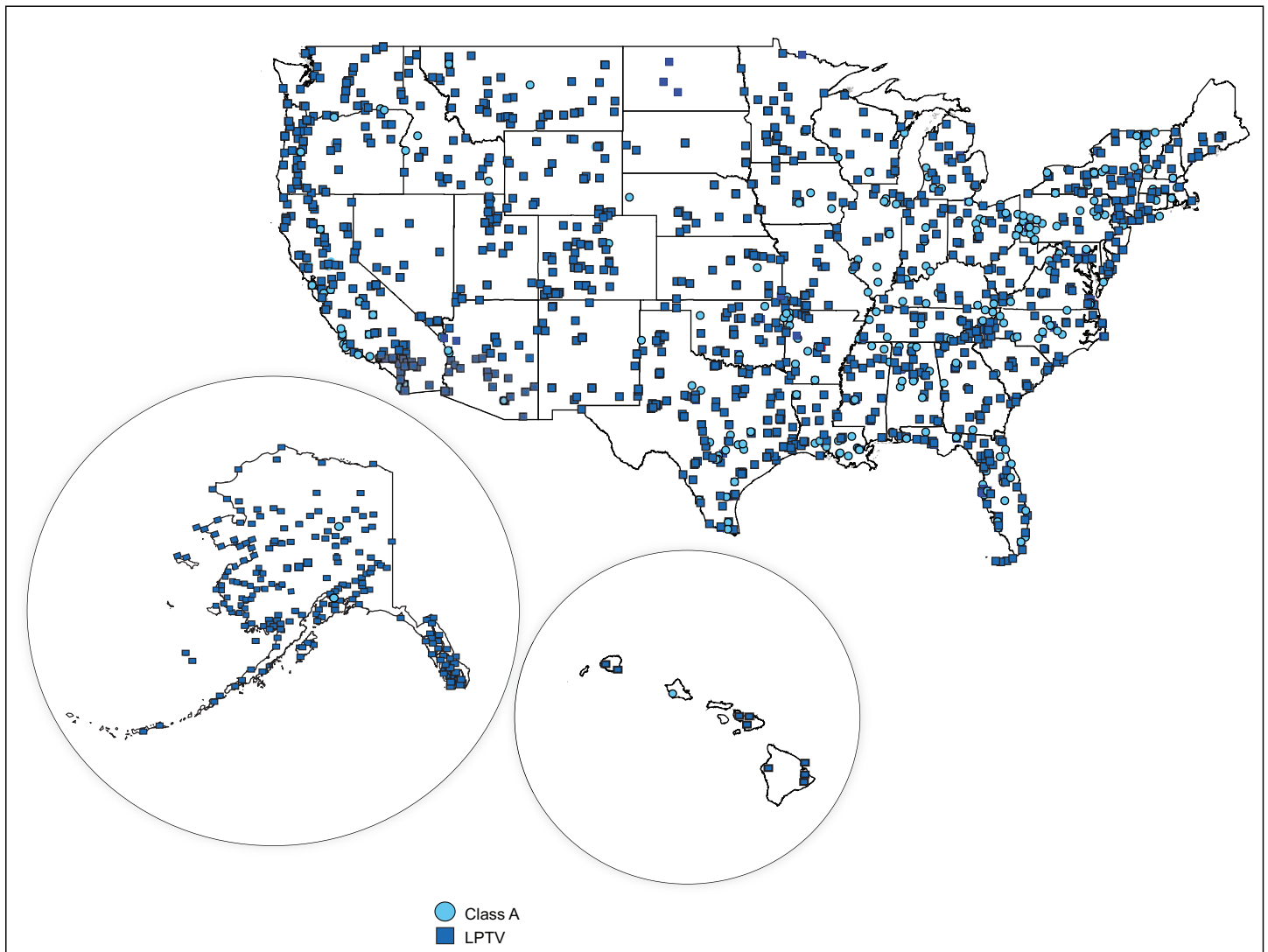
Figure 2: Illustration of a Translator Daisy Chain



Source: GAO.

LPTV and Class A stations: According to FCC data, there are about 2,000 LPTV stations and about 500 Class A stations. As shown in figure 3, these stations are located in both rural and urban areas throughout the country.

Figure 3: Locations of Current Class A and LPTV Licenses as of July 2011, by Type of Station



Source: GAO analysis of FCC data.

Note: LPTV stations are also located in American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the Virgin Islands. Class A stations are also located in Puerto Rico.

FCC does not require broadcasters to submit programming information, with limited exceptions, so it is difficult to report on the specific types of programming provided by low-power television stations. However, based on our interviews and reviews of documentation, it is evident that some LPTV and Class A stations provide foreign-language, religious,

educational (e.g., programming from a university or local school system), and home shopping programming.¹⁶ For example, one licensee we contacted owns and operates several full-power, Class A, and LPTV stations that air Spanish-language programming as an affiliate group for the Telemundo network. This licensee told us that its Class A stations in Washington, D.C., and Orlando, Florida, air daily local news broadcasts. They also hold annual community events, providing the opportunity for face-to-face interactions between station personnel and the community. As previously noted, LPTV stations can act as translators by retransmitting programming from a primary station, so some LPTV stations may actually be serving the function of a translator, and the number of such stations is unknown. For example, a licensee told us that a LPTV station in Colorado acts primarily as a translator, but occasionally overrides the system's broadcast with its own broadcasts of local high-school sporting events, community meetings, and other events.

More than Half of Low-Power Television Stations Have Taken Steps to Transition to Digital

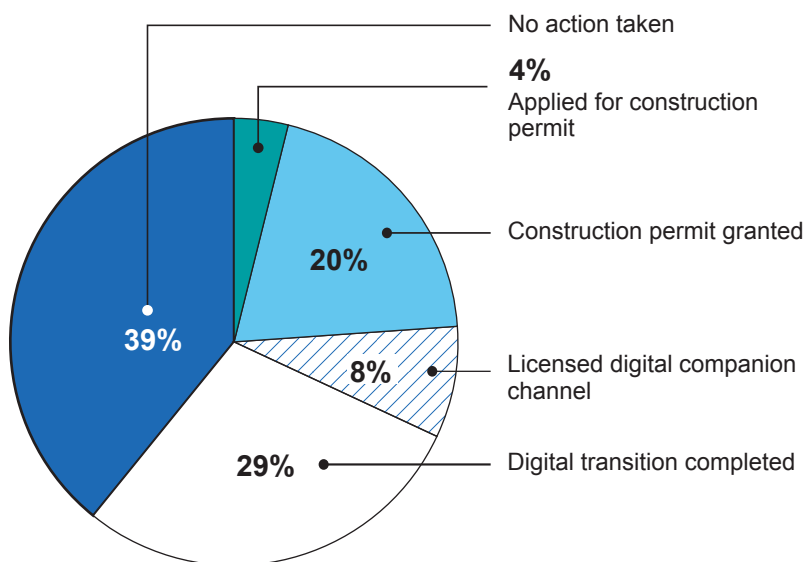
More than half of low-power television stations have taken steps to transition to digital. Low-power television station representatives we spoke with cited a number of benefits to broadcasting in digital, including improved picture and sound quality and improved broadcast coverage. Another significant benefit of digital is the ability to broadcast multiple program streams through one 6-MHz channel, known as multicasting. For example, a Class A station serving San Francisco and San Jose, California, uses digital multicasting to provide 12 streams of television programming on digital subchannels, including local broadcasts in Vietnamese, Tagalog, Mandarin, Hindi, Punjabi, and Spanish.

Once stations have received a digital construction permit from FCC, the actions the stations must take to transition their existing facilities to digital vary, depending on the characteristics of individual stations, their locations, and the markets they serve. For example, some stations may need to update transmitter equipment to carry a digital signal in place of an analog signal. Some stations, particularly those that must broadcast from a new channel, will need to conduct an engineering analysis to identify available spectrum and may need to purchase a new transmitter and antenna equipment. Once stations have completed construction of

¹⁶As previously noted, Class A stations are required to broadcast an average of at least 3 hours per week of locally produced programming.

their FCC-approved digital facilities, they must apply for a license to broadcast in digital. According to FCC's data as of July 2011, about 29 percent of low-power television stations had completed the digital transition.¹⁷ Figure 4 displays the percentage of all low-power television stations that have completed various steps or have taken no action in transitioning to digital.

Figure 4: Steps Low-Power Television Stations Have Taken to Transition to Digital as of July 2011



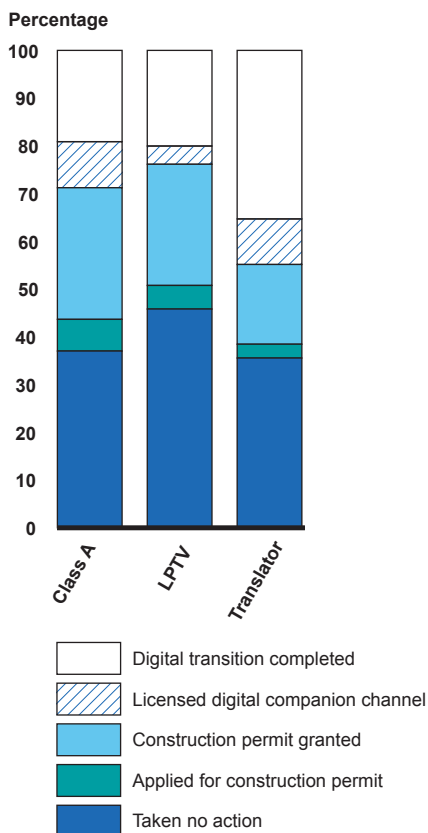
Source: GAO analysis of FCC data.

However, the progress toward transitioning varies by the different types of low-power television stations, as shown in figure 5. Translator stations—about 35 percent of which have fully transitioned to digital—have made the most progress in transitioning to digital, compared with about 19 percent of Class A stations and about 20 percent of LPTV stations. About 46 percent of LPTV stations have taken no action to transition to digital, compared with about 36 percent of translators and about 37 percent of

¹⁷In compiling FCC's data, we categorized stations broadcasting solely in digital as having completed the transition to digital. Stations holding analog station licenses with a digital companion channel were placed in the "licensed digital companion channel" category.

Class A stations. Figure 5 shows the progress in transitioning to digital by type of low-power television station, as of July 2011.

Figure 5: Progress among Various Types of Low-Power Television Stations in Transitioning to Digital as of July 2011



Source: GAO analysis of FCC data.

FCC Issued an Order Establishing a Deadline and Processes for Low-Power Television Stations to Transition to Digital, but These Stations Face Challenges in Transitioning Largely because of Regulatory Uncertainty

FCC Has Established a Deadline and Processes for Low-Power Television Stations to Transition to Digital

FCC previously allowed low-power stations to apply for digital facilities, and recently established a deadline of September 1, 2015, for low-power television stations to cease analog operations and convert to digital broadcasting. In 2004, FCC announced that the statutorily established deadline for full-power television stations to transition to digital did not apply to low-power television stations.¹⁸ In explaining its decision, FCC noted that it did not have sufficient spectrum to give all full-power and low-power television stations digital companion channels, and raised concerns that forcing low-power television stations to transition to digital via flash cuts would result in a loss of service to viewers. FCC stated that it would set a low-power digital transition deadline sometime after the full-power transition was complete (which happened in 2009), but did not preclude existing low-power television stations from transitioning to digital earlier. In 2005, FCC began accepting applications from existing LPTV and translator stations that wanted to transition to digital by using a flash

¹⁸*Report and Order: In the Matter of Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations*, 19 F.C.C.R. 19331, 19380, ¶147 (2004).

cut.¹⁹ FCC subsequently opened two filing windows in 2006 and 2009 during which existing low-power television stations could apply for digital companion channels.²⁰ On October 28, 2010, citing the uncertainty posed by the potential reallocation of spectrum from broadcasting to broadband purposes and the potential impact on low-power licensees, FCC announced a freeze on applications for new digital low-power television stations. However, FCC is still accepting digital flash cut, digital displacement, and digital companion channel applications from existing analog low-power television stations.

In September 2010, FCC issued a Further Notice of Proposed Rulemaking that requested public comment on potential deadlines and proposed rules for the digital transition of low-power television stations.²¹ In the notice, FCC proposed establishing a deadline of sometime in 2012 for low-power television stations to cease analog operations, but also requested comment on whether a later date would be more feasible. The majority of the comments from low-power television licensees stated that a 2012 deadline was not feasible, and some cited the need for additional time to raise funds, receive FCC approval of their applications, and buy and install equipment. In July 2011, FCC issued an order establishing a deadline of September 1, 2015, for low-power television stations to cease analog operations and convert to digital broadcasting.²² FCC also stated that it would allow low-power television stations to file for one 6-month

¹⁹Class A stations have been allowed to convert to digital using a flash cut since the adoption of FCC's 2000 order implementing CBPA.

²⁰In 2006, FCC opened a 12-day filing window during which existing analog low-power television stations could apply for digital companion channels. On August 25, 2009, FCC began allowing existing analog LPTV and translator stations in rural areas to file for digital companion channels, and allowed parties to file applications for new digital low-power television stations in rural areas.

²¹*Further Notice of Proposed Rulemaking and Memorandum Opinion and Order: In the Matter of Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations*, 25 F.C.C.R. 13833 (2010). FCC implements its policy initiatives through a process known as notice and comment rulemaking, which is a governmentwide process for creating rules or regulations that implement, interpret, or prescribe law or policy. When conducting rulemakings, FCC must follow the Administrative Procedure Act of 1946, which generally requires agencies to inform the public about their rules and proposed changes, and provides opportunities for public participation in the rulemaking process.

²²*July 15 Report and Order*, ¶153.

extension to finish completion of their digital facilities by March 1, 2016, but that the stations must cease their analog broadcasts by the September 1, 2015, deadline. FCC's order also adopted prior proposals to allow low-power television stations to use full-power emission masks, which could help some stations more easily secure a channel by filtering the station's signal and reducing potential interference,²³ and to increase the power levels for low-power television stations using VHF channels.

The Regulatory Uncertainty Caused by FCC's Proposed Spectrum Reallocation Creates Challenges for Low-Power Television Stations' Transition to Digital

Our interviews with low-power television stations and other industry stakeholders indicated that the most significant challenge faced by low-power television stations is a result of regulatory uncertainty surrounding FCC's proposed spectrum reallocation. Furthermore, although FCC's July 15, 2011, Report and Order establishes a process for Class A stations to transfer their protected status to their digital companion channel, the lack of such a process had previously posed challenges for some stations in their transition to digital.

FCC's proposed spectrum reallocation: Several licensees reported, both in speaking with us and in written comments submitted to FCC, that the regulatory uncertainty created by FCC's proposed spectrum reallocation has negatively affected their ability to transition to digital. One of the recommendations of the *National Broadband Plan* was for FCC to initiate a rulemaking proceeding to reallocate 120 MHz of spectrum (equivalent to 20 television channels) from television broadcasting to wireless broadband to help meet the nation's increasing demand for broadband service.²⁴ To begin the process of freeing this spectrum, FCC issued a Notice of Proposed Rulemaking in November 2010 that discussed using a variety of tools, including incentive auctions where broadcasters could volunteer to relinquish their spectrum in exchange for a portion of the incentive auction proceeds—which would require congressional approval—and channel sharing, meaning two or more previously distinct stations split the use of one channel and its 6 MHz of bandwidth.²⁵ FCC

²³Emission masks reduce the power level of emissions on frequencies outside a station's authorized channel of operation, thus limiting interference with users operating on adjacent channels.

²⁴FCC, *Connecting America: The National Broadband Plan* (Mar. 16, 2010).

²⁵*Notice of Proposed Rulemaking: In the Matter of Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, 25 F.C.C.R. 16498 (2010).

would then “repack” broadcasters into a smaller number of channels and auction a contiguous band of newly cleared spectrum for wireless broadband uses. Given that the spectrum reallocation proceeding is in its preliminary phase, it has not yet been decided how the proposed reallocation would affect low-power television stations or if those stations would be able to participate in incentive auctions or channel sharing.²⁶

Low-power licensees and industry representatives told us that FCC’s proposal for reallocating broadcast spectrum for broadband purposes created a significant amount of regulatory uncertainty about the fate of low-power television stations. Some licensees believe that FCC should not require low-power television stations to complete their transition to digital until after any spectrum reallocation is completed, when there will be more clarity regarding what channels are available for low-power broadcasters. Low-power licensees are particularly concerned that if full-power stations are repacked into new channels, low-power television stations could (1) be displaced if they cause interference to a relocated full-power station, and (2) find that there are no available channels where they could move to avoid interference. This is a concern for stations located in urban markets where spectrum is already scarce and for translator stations in rural areas that use several channels. As previously noted, Utah’s daisy chain system of translators retransmits signals from several Salt Lake City stations, with each signal requiring its own input and output channels each time it is retransmitted. Officials from the Utah system told us that spectrum is so crowded at certain sites that they have had to make use of alternative technologies to avoid interference. They believe that FCC’s spectrum reallocation, as proposed, would “destroy” the state’s translator network. When FCC decided to adopt a digital transition deadline of 2015, rather than the originally proposed 2012 date, it acknowledged such concerns, noting that it would like to avoid requiring that stations make the significant investment required for conversion to digital facilities, when such facilities may have to be substantially modified because of channel displacement or taken off the air altogether in connection with the implementation of the spectrum reallocation.²⁷ However, since there is no hard deadline for the spectrum reallocation, it could still occur after the digital transition of low-power television stations.

²⁶FCC’s June 2010 technical paper on reallocating spectrum recommended that FCC authorize low-power television stations to participate in incentive auctions.

²⁷July 15 Report and Order, ¶18.

In its order, FCC states that even if the reallocation is not concluded before the digital transition deadline, a 2015 deadline will permit low-power television stations to take specific reallocation proposals into account when finalizing their transition plans.

Low-power television licensees and their representatives told us that it is difficult to secure digital transition financing because of the uncertainty created by the proposed spectrum reallocation. The majority of those with whom we spoke noted that many low-power licensees struggle financially and could face difficulties financing their stations' transition to digital. Some stations have delayed their transition to digital because of concerns that their investment will be lost because of a lack of available channels or the need to spend additional funds to prevent interference with relocated full-power stations.²⁸ As previously mentioned, Congress established NTIA's Low-Power Television and Translator Upgrade Program to help fund rural low-power television stations' transition to digital. As of June 2011, NTIA had reimbursed approximately \$13 million of the available \$44 million to roughly 1,000 low-power television stations for digital transition equipment costs. Some licensees have stated that they would not have been able to transition to digital without federal funds. However, NTIA's program is a reimbursement program, and some licensees have noted that it is difficult to obtain financing for the up-front costs. The last day to apply for funds from NTIA's program is July 2, 2012. FCC recommended that NTIA explore seeking an extension of the statutory deadline from Congress given the number of low-power television stations that will transition after the expiration of the program in 2012.

FCC's actions related to Class A stations: In its July 15 Report and Order, FCC established a process for Class A stations to transfer their protected status to their digital companion channel, which had previously posed

²⁸In addition, stations that have already transitioned to digital expressed concerns that they will incur additional expenses if they are displaced during the spectrum reallocation, or may face ceasing operation completely if no spectrum is available. This includes stations that have received federal and state funds to reimburse their costs for transitioning to digital. For example, the University of North Carolina noted that if it is unable to find available spectrum and must cease operations after the repack, it may be forced to repay federal funds it received from NTIA's Public Telecommunication Facilities Grant Program. NTIA officials told us the amount to be repaid would depend upon the remaining federal interest period.

challenges for some stations in their transition to digital.²⁹ Prior to the order, Class A stations that transitioned to digital by flash cutting on their existing channel retained their Class A status since they were not changing channels. However, this was not the case for Class A stations that were using a digital companion channel to transition to digital. To keep their Class A status, these stations had to continue to broadcast on their existing analog channel, to which the Class A status was related. If the Class A station chose to turn off its analog signal without requesting special temporary authority from FCC to remain silent, then it lost its Class A protected status, making the station vulnerable to displacement by full-power stations or other primary users of spectrum. This led some Class A stations to delay completing their transition to digital, and some other stations lost their Class A status after transitioning to digital, as discussed below.

When FCC established rules in 2004 for the digital transition of low-power television stations, it made it clear that it was not at that time providing Class A status to the digital companion channel of an analog Class A station. FCC stated that providing Class A status to these stations' digital companion channels would complicate the digital transition of full-power stations, since full-power stations must protect Class A stations from interference.³⁰ However, FCC stated that its intention was for Class A stations to retain their status on the channel they ultimately chose for digital operations, and that FCC would address the issue of how to permit Class A digital companion channels after the completion of the digital transition of full-power stations.³¹ Prior to establishing a process for Class A stations to transfer their status to a digital companion channel, FCC officials told us that Class A stations operating on a digital companion channel could request special temporary authority to remain silent on their analog facilities for up to 1 year, after which, by statute, the license expires. While such procedures are contained in FCC's rules, FCC did not make any public statement directing such stations to enlist this procedure to retain their Class A status. According to FCC staff, a total of

²⁹July 15 Report and Order, ¶153.

³⁰Report and Order: In the Matter of Amendment of Parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator, and Television Booster Stations and to Amend Rules for Digital Class A Television Stations, 19 F.C.C.R. 19331, ¶147 (2004)

³¹Ibid, ¶148.

five Class A stations lost their Class A status after transitioning to digital and shutting off their analog signal. For example, a low-power PBS station in Pablo, Montana, that provides local programming to the Salish and Kootenai tribes, told us that it lost its Class A status when it transitioned to digital in 2009 and shut off its analog signal. FCC officials told us that these stations could apply to have their Class A status reinstated for their digital facilities, provided that they continued to comply with Class A eligibility requirements and that there would be no adverse effect on other stations. However, the stations may be unaware of this opportunity, as it is not explicitly stated in the July 15 Report and Order.

FCC Authorized Low-Power Television Stations to Reach Underserved Communities, but FCC Has Not Fully Evaluated the Extent to Which Low-Power Television Stations Have Met This Goal

FCC Authorized Low-Power Television Service to Reach Underserved Communities and Help Meet its Broad Policy Goals of Localism and Diversity

FCC's orders classifying the various types of low-power television stations noted that each service fulfilled a need for television broadcasting in underserved or unserved communities. Providing service to underserved communities could include providing television service in an area that had none, or providing specific groups with programming tailored to their needs (e.g., ethnic or religious programming), which was otherwise unavailable. In addition, FCC has highlighted how service to these communities has led to positive impacts on FCC's goals of localism and diversity, including ownership by minorities and women. FCC's 1956 order establishing a licensing process for translators noted that the translators were primarily intended to provide television to areas without

service, but added that they could bring multiple services to communities too small to support several stations.³² FCC subsequently established a licensing process for LPTV stations in 1982, stating that LPTV stations could add to programming diversity and would be particularly suited to providing local programming.³³ In subsequent policy statements, FCC has repeatedly cited LPTV stations' positive impact on providing service to underserved communities and on FCC's policy goals of localism and diversity. For example, in 1994, FCC stated that it established the LPTV service as a means of increasing diversity in television programming and station ownership, and noted that the hallmarks of LPTV stations are localism and niche programming.³⁴

In CBPA, Congress also cited localism and diversity as goals. Specifically, it found that a small number of LPTV license holders had operated their stations in a manner beneficial to the public good by providing broadcasting that would not otherwise be available to their communities.³⁵ Congress further found that it was in the public interest to promote diversity in television programming, for example, the programming provided by LPTV stations to foreign-language communities, and directed FCC to establish a process to provide certain LPTV stations with interference protection equivalent to that afforded to full-power stations (i.e., primary status). This led to FCC's 2000 order implementing CBPA and allowing low-power stations to apply for Class A status, which noted LPTV stations' contribution of locally originated programming to underserved communities and niche programming for specific groups, and also stated that LPTV service significantly increased the diversity of broadcast station ownership by providing first-time station ownership opportunities for minorities and women.³⁶ FCC concluded that acting to improve the commercial viability of such LPTV stations was consistent with FCC's fundamental goals of ensuring localism and

³²21 Fed. Reg. 3680, 3682 (1956).

³³*Final Rule: An Inquiry into the Future Role of Low Power Television Broadcasting and Television Translators in the National Telecommunications System*, 51 R.R.2d 476 (1982).

³⁴*First Report and Order: In the Matter of Review of the Commission's Rules Governing the Low Power Television Service*, 9 F.C.C.R. 2555 (1994).

³⁵CBPA, §5008, 113 Stat. Appendix I, 1501A-594 – 1501A-598 (1999).

³⁶*Report and Order: In the Matter of Establishment of a Class A Television Service*, 15 F.C.C.R. 6355 (2000), amended and explained on recon. 16 F.C.C.R. 8244 (2001).

diversity in television broadcasting. More recently, FCC's 2009 *Annual Performance Report* noted that low-power television stations are an important source of local community information,³⁷ and FCC's 2010 notice on the digital transition of low-power television stations emphasized that FCC seeks to ensure the continued viability of low-power television stations that offer important services to specialized and minority audiences, foreign-language communities, and rural areas.

FCC Does Not Have Data to Evaluate whether Low-Power Service Is Meeting Goals, and May Not Understand How Its Decisions on Low-Power Television Stations Affect Communities

Although FCC's low-power television goals—meeting the needs of underserved communities, and contributing to localism and diversity—are well documented, FCC has not collected data to evaluate the extent to which the stations fulfill unmet needs or contribute to meeting FCC's policy goals. FCC's decisions regarding the reallocation of broadcast spectrum and its implementation of the digital transition of low-power television stations will affect the continued operation of some low-power television stations. However, FCC's ability to weigh the effects of its decisions on low-power television stations, the communities they serve, and FCC's goals of localism and diversity against the increasing need for wireless broadband spectrum could be limited by a lack of data. In addition, external data on these issues are limited; the trade association for Class A and LPTV stations has disbanded, and several consumer groups we contacted stated that they were not focusing on low-power television stations. We have noted the importance of collecting and analyzing data as a means to evaluate progress toward goals and inform agency decisions. Specifically, our publication *Standards for Internal Control in the Federal Government* states that management should ensure that there are adequate means of obtaining information from external stakeholders that may have a significant impact on the agency's achieving its goals.³⁸ In addition, our *Internal Control Management and Evaluation Tool* notes the need to obtain and provide to managers any relevant external information that may affect the achievement of the agency's missions, goals, and objectives, particularly information related

³⁷FCC, *Fiscal Year 2009 Annual Performance Report*. Washington, D.C.: 2009.

³⁸GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

to legislative or regulatory developments and political or economic changes.³⁹

FCC is not able to determine the extent to which low-power television stations provide local programming and meet the programming needs of underserved communities. FCC requires all full-power and Class A stations to file children's programming reports; beyond this, FCC does not collect data on the types of programming that full- or low-power television stations provide. In 2008, FCC issued an order that would have required full-power and Class A broadcasters to file a standardized form with FCC describing the broadcaster's programming, including local programming and programming for underserved communities.⁴⁰ FCC noted that this would help clarify what broadcasters are doing to serve the public interest and allow FCC to monitor trends in the broadcasting industry. However, this requirement was not implemented because of legal challenges, and FCC officials told us they are working to address industry opposition. As a result, FCC's ability to determine the overall community impact of the stations, including whether the stations are serving underserved communities by providing local or foreign-language programming, is limited. Some stakeholders have suggested that FCC use the revised programming form to collect and analyze data on how broadcasters were serving the public interest and weigh the loss of broadcast service against the benefits from reallocating spectrum to wireless broadband.⁴¹

FCC's lack of data may affect its ability to provide Congress with information regarding whether additional Class A stations would help FCC meet its broadcast localism goals. LPTV stations have not had an opportunity to apply for Class A status since the onetime filing opportunity in 2000. In 2008, FCC noted that it tentatively concluded that it should allow additional qualified LPTV stations to be granted Class A status. It stated that increasing the number of Class A stations would ensure the

³⁹GAO, *Internal Control Management and Evaluation Tool*, [GAO-01-1008G](#) (Washington, D.C.: Aug. 1, 2001).

⁴⁰*Report and Order: In the Matter of Standardized and Enhanced Disclosure Requirements for Television Broadcast Licensee Public Interest Obligations*, 23 F.C.C.R. 1274 (2008).

⁴¹Comments of the Office of Communication of the United Church of Christ, Inc, et al., filed *in the Matter of Innovation in the Broadcast Television Bands: Allocations, Channel Sharing and Improvements to VHF*, Mar. 18, 2011.

existence of continued community programming and the availability of Class A status would provide investment protection for LPTV stations looking to make investments in the digital transition.⁴² FCC sought comments on its statutory authority to create additional Class A stations and how to define eligibility, but has not issued an order deciding whether to create additional Class A stations and may need legislative guidance from Congress on whether additional stations can apply for Class A status after the original window of eligibility established by CBPA. It is possible that some LPTV stations are fulfilling the requirements of Class A stations by providing local programming without Class A protection, but the extent to which this is the case cannot be determined without programming data.

As part of the 2009 digital television transition of full-power stations, FCC did use some of the technical data it collects from low-power licensees to create an internal document for a commissioner that identified areas in which the only source of over-the-air broadcasting is a low-power television station. However, FCC does not know the number of stations that have ceased broadcasting without FCC's permission, some of whom may be holding their license for speculative purposes. Low-power licensees and their representatives told us that some low-power construction permits and licenses are being obtained by "spectrum squatters" that hold on to the permit or license in hope of selling it to an interested party. FCC officials acknowledged that some licensees only broadcast the minimal amount of time needed to maintain their license and are simply holding the license in an attempt to sell it. They also noted that as long as applicants comply with FCC's rules, FCC cannot act against a station that may be obtaining a construction permit or license for speculative reasons. Additionally, FCC's system for storing construction permit and license applications does not automatically cancel expired licenses and construction permits, which has led to expired licenses and construction permits temporarily remaining in the system. FCC officials told us that FCC keeps track of stations that report being silent, but it does not have the resources to do the extensive field testing necessary to identify which stations have gone silent without notifying FCC. They also stated that FCC is working on ways to find these stations without extensive field testing and periodically checks for expired licenses and

⁴²*Report on Broadcast Localism and Notice of Proposed Rulemaking*, 23 F.C.C.R. 1324, 1380, ¶ 141 (2008).

construction permits in order to cancel them and update their status in the system.

In addition to lacking data about the contributions of low-power television stations to FCC's goals of localism and diversity, FCC has never formally evaluated the extent to which low-power television stations actually affect these goals. In initiating the 2010 quadrennial review of its broadcast ownership rules, FCC does not mention low-power television stations when discussing the policy goals of localism and diversity;⁴³ however, it did include low-power licensees as panelists on some of its ownership workshops. Similarly, in June 2011, an FCC working group released a white paper on the media and the information needs of communities that described the various types of low-power television stations, but did not assess their impact on communities and FCC's goals of localism and diversity.⁴⁴ FCC officials told us that they have not formally evaluated low-power television stations' impact on localism and diversity because low power television stations are not subject to programming requirements (with the exception of local programming requirements for Class A stations) and are not considered in FCC's multiple ownership rules and policies. However, given FCC's efforts to reallocate spectrum, FCC's ability to determine the public benefit derived from spectrum allocations to low-power broadcasters would be enhanced by information on the impact of low-power stations on communities and FCC's goals. In addition, we have previously identified weaknesses in FCC's collection of data on minority- and women-owned stations, including the lack of an FCC requirement that low-power television stations file such information.⁴⁵ FCC recently began collecting ownership information from Class A and LPTV stations, with the first submission due July 8, 2010, but, according to FCC, the response rate was low. FCC officials told us they were sending letters to licensees in an attempt to increase the response rate for the 2011 filing. FCC officials stated that they hoped the data would provide a baseline that they could eventually use to evaluate overall

⁴³*Notice of Inquiry: In the Matter of 2010 Quadrennial Regulatory Review—Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, 25 F.C.C.R. 6086 (2010).

⁴⁴Steven Waldman and the Working Group on the Information Needs of Communities, *The Information Needs of Communities* (2011).

⁴⁵GAO, *Media Ownership: Economic Factors Influence the Number of Media Outlets in Local Markets, While Ownership by Minorities and Women Appears Limited and Is Difficult to Assess*, [GAO-08-383](#) (Washington, D.C.: Mar. 12, 2008).

trends in female and minority broadcast ownership, including LPTV and Class A station ownership.

Conclusions

Low-power television stations use highly valued radio frequency spectrum to transmit programming, and the demand for such spectrum continues to increase as the United States experiences significant growth in commercial wireless broadband services. Since additional spectrum capacity will be needed to accommodate future growth, transitioning low-power television stations from analog to digital would aid FCC's current efforts to identify spectrum that could be made available for broadband services. FCC has repeatedly noted the benefits of low-power television stations in serving communities, such as providing programming that would not otherwise be available, and expanding ownership opportunities for minorities and women. However, FCC has not taken steps to collect information that would inform its understanding of the impact of low-power television service on communities—whether these stations are reaching underserved communities; aiding FCC's policy goals of localism and diversity; or, as in the case of speculative licenses and those stations that have gone silent, providing no community benefit. In addition, it is possible that the three types of low-power television stations are affecting communities differently—for example, a translator may be the only source of free over-the-air network television for some communities, while a Class A station may be the only source of foreign-language programming—however, FCC does not have the data to determine if this is the case. Lacking such information, FCC does not know the public benefit of low-power television stations' receiving spectrum for television broadcast. Given that spectrum is a valuable and scarce natural resource and initiatives are under way in the federal government to identify spectrum that can be repurposed for broadband services, a thorough understanding of the community benefits derived from low-power station licenses could prove very valuable. Especially as FCC makes important decisions related to spectrum allocations, such information could enable FCC to weigh the potential loss of low-power television service against the benefits of reallocating spectrum to broadband services.

With respect to Class A stations, Congress previously determined that such stations had operated in a manner beneficial to the public good by providing broadcasting to their communities that would not otherwise be available, and instructed FCC to allow low-power television stations in operation at the time of CBPA to apply for protected status. However, it is possible that some low-power television stations currently provide programming commensurate with that of Class A stations, but do not

have protected status because they were not in operation during the statutorily provided onetime opportunity to apply for such status. FCC sought comments on its statutory authority to create additional Class A stations and how to define eligibility, but it may need legislative guidance from Congress on this issue. Whether FCC concludes that it has statutory authority, or needs Congress to revise CBPA first, eligibility of additional stations to seek Class A status needs to be resolved.

Recommendations for Executive Action

The Federal Communications Commission should take the following two actions:

- Explore options for assessing how the three types of low-power television stations have affected the communities they serve and have contributed to FCC's policy goals of localism and diversity. Such an assessment could include evaluating what existing data FCC could use and what additional data should be collected to inform such an assessment.
- Work with Congress, as necessary, to determine what the long-term role of Class A stations should be, whether additional low-power television stations should be permitted to apply for Class A status, and what criteria stations must meet to qualify for such status. Such criteria could include attributes that contribute to FCC's goals of serving underserved communities and enhancing localism and diversity, such as providing locally produced programming and programming otherwise unavailable to communities.

Agency Comments and Our Evaluation

We provided a draft of this report to FCC for its review and comment. In response, FCC provided technical comments, which we incorporated as appropriate, and written comments, which are reprinted in appendix II. In its written comments, FCC did not agree or disagree with our recommendations but discussed planned and ongoing actions to address them. In particular, in response to our recommendation to explore options for assessing how low-power television stations have affected the communities they serve and have contributed to FCC's policy goals of localism and diversity, FCC stated that it will ask its Federal Advisory Committee on Diversity in Communications in the Digital Age to address this issue. Regarding our recommendation that FCC work with Congress, as necessary, to determine what the long-term role of Class A stations should be, whether additional low-power television stations should be permitted to apply for Class A status, and what criteria stations must meet

to qualify for such status, FCC stated that it plans to analyze the data from Class A stations' children's programming reports to determine the stations' measures to provide educational and informational children's programming. While this is a useful first step, additional work may be needed to provide Congress with the information it needs to make decisions regarding whether other stations should be allowed to apply for Class A status and what criteria such stations must meet. Overall, FCC stated that its spectrum priorities have changed in response to a growing demand for wireless broadband services, and it is examining the role of low-power television stations in providing over-the-air service to rural and underserved communities as it is considering incentive auction and channel-sharing initiatives to free up spectrum for wireless broadband.

FCC also commented that because of broadcasters' free speech rights, FCC is limited in its ability to evaluate the programming choices made by low-power television stations. FCC added that, with the exception of Class A stations, low-power television stations operate with secondary interference protection and are not subject to the programming or operational obligations of full-power television stations. FCC further noted that since many low-power television stations are translators, FCC has not found the need to collect extensive programming data from low-power television stations. While we understand the need to respect broadcasters' free speech rights, we believe that FCC should collect data to better understand the extent to which low-power television stations address community needs and contribute to FCC's goals of localism and diversity. In addition, FCC could collect data beyond programming information, such as whether a low-power television station is the sole source of emergency information for a community.

We are sending copies of this report to the Chairman of the Federal Communications Commission and appropriate congressional committees. In addition, the report is available at no charge on GAO's website at <http://www.gao.gov>.

If you or your staff have any questions concerning this report, please contact me on (202) 512-2834 or goldsteinm@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

A handwritten signature in black ink, appearing to read 'Mark L. Goldstein', with a long horizontal flourish extending to the right.

Mark L. Goldstein
Director, Physical Infrastructure Issues

Appendix I: Scope and Methodology

To determine where low-power television stations are located, we pulled data from the Federal Communication Commission's (FCC) Consolidated Database System (CDBS) on the coordinates of low-power television stations. We crossed the coordinates against the communities served by the stations, as a check on the data. In addition, FCC officials told us they cross-check coordinates data against existing data for stations located on towers registered to the Federal Aviation Administration (FAA), and we determined that over 36 percent of stations are on such towers. To determine the status of low-power television stations' transition to digital, we pulled data from the CDBS to first identify all existing digital and analog low-power television stations. Then, we identified the number of existing analog low-power television stations that

- requested or received a digital flash cut or digital companion channel construction permit,
- requested or received a digital displacement for an existing analog station, or
- are operating a digital companion channel.

We removed construction permits that had expired. We did not remove licenses with past expiration dates if FCC considers them active, as indicated by a facility status of "licensed" or "licensed and silent." Active licenses with past expiration dates represented less than 5 percent of the total active licenses in CDBS, and some may have renewal applications or other actions pending. We then assigned stations to the following categories:

- digital transition completed (all licensed digital low-power television stations that are not a companion channel for a licensed analog channel);
- licensed digital companion channel;¹
- analog stations granted a digital construction permit for flash cut, companion channel, or displacement;

¹Each station in this category is represented in CDBS as two separate entities, and is broadcasting on two separate channels—one channel in analog and the other channel in digital; such pairs were counted as one station.

- analog stations that had applied for a digital construction permit for flash cut, companion channel, or displacement; and
- analog stations that have taken no action (none of the above).

To determine the number of stations that had taken no action to transition to digital, we identified the number of analog stations that (1) had not requested or received a digital construction permit (or had received such a permit but it had expired), and (2) were not operating a digital companion channel.

To determine the reliability of data pulled from CDBS, we reviewed FCC user guides and forms for the system, and interviewed knowledgeable FCC officials regarding data entry and analysis procedures. In addition to receiving tables from FCC, we created tables from FCC's raw data to determine the low-power television stations' status in transitioning to digital, and the location of facilities. We compared FCC's tables against our own, and we examined data runs for duplicates and other inconsistencies. Finally, we interviewed selected low-power licensees and asked them to verify FCC's data regarding their status in transitioning, and asked them for their general impressions regarding the accuracy of FCC's data. We note that applicants for a construction permit, displacement, or license from FCC enter the data regarding the location of their station, although as previously mentioned, FCC does check the data against existing data for stations on FAA-registered towers. FCC's system automatically captures applications for station permits and licenses—necessary steps in transitioning from analog to digital—and we cross-checked stations' tower coordinates against the community of city and state served by the station. We determined the data were reliable for our purposes. When discussing the number of stations in the report, we note that while FCC's rules require licensees to notify FCC when their station is silent (not broadcasting) for more than 10 days,² there may be some licensed stations that are not actively broadcasting without notifying FCC. However, these stations are holding licenses for particular pieces of spectrum; therefore, we are including them in our station counts. Therefore, when we describe numbers of stations in the report, the word

²FCC's rules also require licensees to obtain authority from FCC to be silent for more than 30 days, and state that if a station is silent for 12 consecutive months, then its license is expired. 47 CFR § 74.763.

“stations” includes actively broadcasting stations and other stations that may not be actively broadcasting, but which have licenses to broadcast.

To identify the steps FCC has taken to transition low-power television stations to digital, and any challenges low-power television stations are facing transitioning to digital, we interviewed FCC officials and reviewed FCC’s orders and notices of proposed rulemaking relating to the digital transition of low-power television stations and the proposed reallocation of broadcast spectrum for wireless broadband, as well as comments submitted in response to FCC’s requests for comments on these issues. In addition, we reviewed the *National Broadband Plan* and a related technical paper on the proposed spectrum reallocation, as well as documents regarding the proposed spectrum reallocation from an FCC-sponsored broadcast engineering forum and an FCC webinar with state broadcasting associations. We also interviewed representatives of 18 low-power licensees, which cumulatively hold licenses for approximately 838 low-power television stations. These licensees included owners of all three types of low-power television stations; owners of a large number of stations and owners of a small number of stations; owners providing foreign-language, religious, or local programming; and municipalities that own low-power television stations.

Further, we also interviewed legal counsel for some low-power television stations and representatives from the National Translator Association, Spectrum Evolution, Association for Maximum Service Television, Association of Public Television Stations, Public Broadcasting Service, and the League of United Latin American Citizens. We received written responses to questions we submitted to the Minority Media Telecommunications Council. We interviewed officials from the National Telecommunications and Information Administration (NTIA) and the United States Department of Agriculture (USDA) regarding the types of low-power television stations that apply to their programs for funding to transition to digital, and the challenges they face. In addition, we reviewed documents and data from NTIA and USDA to determine the amount of federal funds used to aid low-power television stations’ transition to digital.

To obtain information on why low-power television stations were established, we reviewed FCC’s 1956 order establishing a licensing process for translators; the Notice of Inquiry, staff report, and resulting

1982 order establishing a licensing process for nontranslator, non-Class A low-power television stations; and the Community Broadcasters Protection Act of 1999³ and resulting FCC implementation order creating Class A stations. In addition, we reviewed contemporary FCC documents for language regarding the purpose and benefits of low-power television. To determine the extent to which FCC is tracking whether low-power television stations are meeting their statutory and policy goals, we interviewed FCC officials and reviewed relevant documents to identify the types of information FCC collects, how it has used such data in the past, and its current plans for using the data. In addition, we reviewed comments submitted by low-power licensees and stakeholder groups regarding FCC's data on low-power television stations, and we interviewed low-power licensees and their representatives to get their perspectives on whether FCC has the data it needs to evaluate the extent to which low-power television stations are meeting their statutory and policy goals. We contacted a number of consumer groups to discuss low-power television stations' impacts on communities, but the majority did not respond or stated they were not working on the issue.

We conducted this performance audit from October 2010 to September 2011 in accordance with generally accepted government auditing standards. These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

³Pub. L. No. 106-113, § 5008, 113 Stat. Appendix I at pp.1501A-594–1501A-598 (1999).

Appendix II: Comments from the Federal Communications Commission



Federal Communications Commission
Washington, D.C. 20554

August 18, 2011

Mark Goldstein
Director, Physical Infrastructure Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Goldstein:

Thank you for the opportunity to respond to the draft Government Accountability Office (GAO) report addressing the Federal Communications Commission's (Commission) continuing oversight of low power television stations¹ and our efforts to ensure that low power stations are able to complete a successful transition to digital.

The GAO report recognizes the progress that has been made with respect to the low power television digital transition, and acknowledges that the completion of this digital transition will enable the Commission to further its goal of maximizing the efficient use of broadcast spectrum.

As correctly noted in the report, about sixty percent of low power television stations have either already completed the digital transition or have taken steps to transition to digital. To facilitate the completion of the digital transition for the remaining low power television stations, the GAO report recognizes that, after a comprehensive rulemaking, the Commission recently released the *LPTV DTV Second Report and Order* implementing a number of important rule changes and new policies. The GAO report acknowledges that, in the *LPTV DTV Second Report and Order*, the Commission adopted a September 1, 2015 date for the completion of the low power television transition. The GAO report recognizes that, in response to concerns voiced by many low power television commenters, the Commission rejected an earlier 2012 transition date finding that: such a date was not feasible for many stations; and citing to the uncertainty surrounding the ongoing proceedings implementing the National Broadband Plan, including proposals to reallocate spectrum from television to wireless broadband. Finally, the GAO report recognizes that, as a result of the rule changes, low power television stations will be permitted to use full power emission masks, which could help some stations more easily secure a channel by filtering the station's signal and reducing potential interference, and that low power stations on VHF channels will be permitted to increase their power levels.

Although the GAO report maintains that the Commission does not collect programming data and has not evaluated low power stations' impact in assessments of the information needs of

¹ As more fully outlined in the GAO Report, "low power television stations" include low power television (LPTV), TV translators, replacement translators, and Class A television stations.

communities, the Commission has made efforts in this regard. Preliminarily, we note that, because of broadcasters' free speech rights guaranteed by the First Amendment to the Constitution, the Commission is limited in its ability to evaluate the programming choices made by low power television stations. Furthermore, with the exception of Class A stations, low power television stations operate with secondary interference protection, and are not subject to extensive programming or operational obligations like their full power television counterparts. In fact, the majority of the stations in the low power television services are translators that merely relay programming from a full power station to another area, often times unserved by full power stations. Thus, the Commission has not previously found the need to collect extensive programming data from low power stations. Class A television stations, on the other hand, are subject to more extensive programming and operational requirements and are required to submit data on children's programming. Subject to final implementation of already-adopted new rules, full power and Class A television stations will also be required to submit data on their overall programming, including local programming and programming for underserved communities.

As for evaluating the impact of low power television stations on the information needs of communities, the Commission continues to evaluate the overall need for stations in the low power television services. For example, in the *LPTV DTV Second Report and Order* the Commission recognized the continued need for low power television services, and stated its goal to "facilitate, wherever possible, the digital transition of low power television stations, thereby enabling their viewers to realize the many benefits of digital broadcast television technology."

Additionally, the GAO report suggests that regulatory uncertainty has been created by certain recommendations of the National Broadband Plan. Specifically, the GAO report argues that the Commission's "incentive auction," "channel sharing" and "repacking" proposals have negatively impacted the ability of low power television stations to transition to digital. With respect to incentive auctions and channel sharing, we note that although the National Broadband Plan introduced the idea of voluntary incentive auctions, Congress must provide the FCC with the authority to conduct them. To that end, Congress has contemplated how both Class A and LPTV stations should be treated in that process, and the Commission has sought comment on whether low power television stations should be permitted to participate in channel sharing. Furthermore, as noted previously, the Commission sought to lessen the impact of repacking on low power television stations in the *LPTV DTV Second Report and Order* by adopting a later digital transition deadline of September 1, 2015 in order to reduce the likelihood that low power television stations will have to move twice – once to their initial digital channel and a second time to a new "repacked" channel.

Also, the GAO report notes that in the *LPTV DTV Second Report and Order* the Commission established a process for Class A stations to transfer their primary interference protection status from their analog to their digital companion channel which, prior to such status transfer, has the same secondary interference protection status as other non-Class A low power television stations. The GAO report suggests that prior to adoption of the *LPTV DTV Second Report and Order* some Class A stations lost their primary interference protection status after transitioning to operations on their digital companion channel and ceasing analog Class A operations. We note

that, while the digital low power proceeding remained ongoing, stations that desired to discontinue operations of their analog facilities could preserve their Class A status by seeking special temporary authority to remain silent on their analog facilities for a period not exceeding twelve consecutive months (after which, as mandated by federal law, a license expires). Many licensees exercised this option. Indeed, a staff review discovered only five stations that lost their Class A status, four by requesting cancellation of their analog Class A license, and one by remaining off air for longer than twelve consecutive months. Two of these stations, neither of which remained silent for more than twelve months, have submitted requests to reinstate their status.

Next, the GAO report represents that the Commission is limited in its ability to identify stations that are not broadcasting. The Commission's rules require stations to notify it upon discontinuation of operations and, if such discontinuation continues for more than 30 days, to obtain authority to remain silent. While some stations may choose to violate these rules and discontinue operations without authority, the Commission's staff conducts periodic reviews to uncover these stations and take those steps permitted under the Communications Act and the Commission's rules to rescind their authorization.

Finally, the GAO report recommends that the Commission: (1) explore options for assessing the impact of low power stations on the communities they serve and on the FCC's goals; and (2) work with Congress as necessary to determine what the long-term role of Class A stations should be, whether additional stations should be permitted to apply for Class A status, and what criteria stations must meet to qualify for such status.

In response to these recommendations, we first note that, as a result of the adoption of the National Broadband Plan, the Commission's spectrum priorities have changed. The Commission is examining methods to further our ongoing commitment to addressing America's growing demand for wireless broadband services. The Commission is seeking ways to spur spectrum innovation and methods to repurpose television spectrum for flexible use by fixed and mobile wireless communications services, through the use of voluntary channel sharing and incentive auctions. In conjunction with that effort, the Commission is examining the continued role of low power television stations in providing over-the-air service to rural and underserved communities and the ability of such stations to participate in channel sharing and incentive auctions initiatives. The Commission continues to work with Congress, providing technical advice and support for legislative initiatives on these matters.

In addition, at the beginning of the year the Commission commenced an inquiry of Class A television stations' responsiveness to community needs, by first making sure that all stations had filed the required children's programming reports. That investigation revealed that 20% of these stations did not file all of the required reports. Consequently, in March the Commission sent letters to licensees with missing children's programming reports requesting submission of the missing data. Approximately one-third of the licensees in this category failed to respond to our initial inquiries. To these non responders the Commission sent a follow-up request. Finally, the

Commission will be analyzing the collected data to determine the measures being taken by these stations to provide educational and informational children's programming.

Further, as to data collection related to the responsiveness of low power television stations to localism and diversity, we will ask the Federal Advisory Committee on Diversity in Communications in the Digital Age to address this issue. That Committee's mission is to provide recommendations to the FCC regarding policies and practices that will further enhance diverse participation in telecommunications and to gather the data and information necessary to formulate meaningful recommendations.

Once again, we appreciate GAO's recommendations and, as indicated above, we believe that we are already well on the way to implementing them. We look forward to working with you in the future.

Sincerely,

Barbara E. Kuehner, Chief, Video Division

for William T. Lake
Chief, Media Bureau

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Mark L. Goldstein, (202) 512-2834 or goldsteinm@gao.gov

Staff Acknowledgments

In addition to the contact named above, Sally Moino, Assistant Director; Cheron Green; Brian Hartman; Crystal Huggins; Bert Japikse; John Mingus; Josh Ormond; Amy Rosewarne; Andrew Stavisky; and Hai Tran made key contributions to this report.

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