DIGITAL TELEVISION TRANSITION

Preliminary Information on Initial Consumer Education Efforts

Statement of Mark L. Goldstein, Director
Physical Infrastructure Issues
DIGITAL TELEVISION TRANSITION

Preliminary Information on Initial Consumer Education Efforts

What GAO Found

A number of federal and private stakeholders have begun consumer education campaigns, with both independent and coordinated efforts underway. FCC has taken several steps to promote consumer awareness, such as launching a Web site, participating in events intended to educate the public, and requiring sellers of televisions to include consumer alerts on non-digital televisions. NTIA has created brochures in English and Spanish to provide the public information about its converter box subsidy program and is partnering with organizations to perform outreach to disadvantaged groups. Earlier this year, the DTV Transition Coalition was launched to help ensure that no consumer is left without broadcast television due to a lack of information. Over 160 private, public, and non-profit groups have joined the Coalition to coordinate consumer education efforts.

While widespread and comprehensive consumer education efforts have yet to be implemented, various efforts are currently being planned. FCC, NTIA, and private sector stakeholders have plans to further educate consumers as the DTV transition nears. For example, voluntary public service announcements to raise awareness of the transition are planned by industry groups and FCC is considering requiring broadcasters, manufacturers and cable and satellite providers to insert various messages and alerts in their products and programming. In addition, the converter box subsidy program will have a consumer education component. Because many education efforts are in the planning or early stages of implementation, it is too early to tell how effective these efforts will be.

Various factors make consumer education difficult. While private sector stakeholders are participating in outreach efforts, these actions are voluntary and therefore the government cannot be assured of the extent of private sector efforts. Strategic communications experts from industry, government, and academia identified potential challenges to a consumer education campaign, including (1) prioritizing limited resources to target the right audience, (2) educating consumers to help protect them from making unnecessary purchases, (3) reaching underserved populations, and (4) aligning stakeholders to form a consistent, coordinated effort.

GAO has work planned to assess the progress of consumer awareness. In particular, GAO plans to conduct a series of surveys to determine the population affected by the DTV transition, levels of awareness about the transition, and demographic information about the affected population. Throughout the transition, GAO will continue to monitor government and industry education efforts and analyze these efforts relative to best practices for consumer education campaigns. GAO plans to review the government’s responsibility for consumer education, monitor the outcome of FCC’s rulemaking related to consumer education, and collect details of the consumer education component of the converter box subsidy program.
Mr. Chairman and Members of the Committee:

I am pleased to be here today to report on our work for the House Energy and Commerce committee and this committee on the progress made in consumer education efforts for the digital television (DTV) transition. We are currently finalizing a report on initial public and private sector efforts underway to implement the transition; as such, the findings that I am reporting to the Committee today are preliminary in nature and principally related to consumer education and outreach programs.

A primary goal of the DTV transition is for the federal government to reclaim spectrum that broadcasters currently use to provide analog television signals. The spectrum that the federal government will reclaim at the end of the transition is considered highly valuable because of its particular technical properties. In all, the DTV transition will free up 108 megahertz (MHz) of spectrum. The Federal Communications Commission (FCC) has reallocated 24 MHz of the spectrum that will be recovered for public safety purposes, which became a higher priority following the terrorist attacks of September 11, 2001. FCC will auction the remaining spectrum for commercial purposes, with the resulting proceeds allocated for, among other things, reducing the federal deficit.

The Digital Television Transition and Public Safety Act of 2005 mandates the cessation of analog television broadcast signals on February 17, 2009. After that date, households that had previously viewed television on analog sets solely through the reception of over-the-air signals must take action to ensure that they have the necessary equipment, such as a digital-to-analog converter box, or subscription video service to be able to view the digital broadcast signals. If they do not take such action, they will lose the ability to view the digital signals on their analog sets. The act also directed the National Telecommunications and Information Administration (NTIA) to establish a $1.5 billion program through which households can obtain coupons for the purchase of digital-to-analog converter boxes. NTIA issued a final rule that adopted regulations to implement the converter box subsidy program, and in August 2007, selected IBM Corporation (IBM) to administer the program. Beginning

---

1The radiofrequency spectrum is the part of the natural spectrum of electromagnetic radiation lying below 300 gigahertz. It is the medium that makes possible wireless communications, including cellular and paging services, radio and television broadcasting, radar, and satellite-based services.
January 1, 2008, households can request up to two $40 coupons toward the purchase of eligible\(^2\) digital-to-analog converter boxes.

Three private sector groups have asserted various estimates of the number of households that rely solely on over-the-air television. While one group estimates that 11 percent of households rely on over-the-air broadcasts, another group’s estimate is 16 percent of households, and a third group’s estimate is 20 percent of households. Further, private sector estimates claim an additional 5 percent to 27 percent of households that subscribe to cable or satellite television have at least one television set that receives an over-the-air signal. One group asserted that households that rely on over-the-air broadcasts are disproportionately comprised of older citizens than other households. Although it is unclear what percentage of households that rely exclusively on over-the-air broadcasts use analog rather than digital television sets, millions of those households potentially stand to be left without any television service unless they take action. To help the public understand the DTV transition and the various options they have, consumer education and awareness programs are underway and additional programs are being planned.

While there are many steps necessary to successfully complete the DTV transition, my testimony today will focus on consumer education and awareness. In particular, I will discuss (1) consumer education efforts currently underway, (2) education efforts and programs being planned, (3) the difficulties that may arise in the implementation of such programs, and (4) ongoing work on DTV consumer education and awareness that we will undertake.

To meet these objectives, we interviewed officials with FCC and NTIA, as well as a wide variety of industry and other private stakeholders, such as broadcasters, manufacturers, retailers, and consumer advocacy groups. Further, we consulted strategic communications experts representing public, private, and academic organizations to identify potential challenges that might obstruct consumer education efforts. We performed our review from January 2007 through August 2007 in accordance with generally accepted government auditing standards. We discussed this testimony with FCC and NTIA officials to obtain their comments. FCC and NTIA provided additional information that we incorporated where appropriate.

---

\(^2\)NTIA established technical and performance specifications that converter boxes must meet to be eligible for the coupon program.
In Summary:

- Several federal and private stakeholders have begun consumer education campaigns, with both independent and coordinated efforts underway. FCC and NTIA have been involved in consumer education and awareness programs and some private sector organizations are voluntarily taking the lead on outreach efforts. For example, FCC has launched a Web site (DTV.gov) and NTIA has begun outreach efforts to groups most likely to lose all television service as a result of the transition—including at-risk groups such as the elderly—with “information sheets” and brochures. Private, public, and nonprofit groups have joined together to form the DTV Transition Coalition to coordinate on consumer education efforts and messages.

- Widespread and comprehensive consumer education efforts have yet to be implemented, but additional efforts are currently being planned both for the general population and at-risk groups. FCC, NTIA, and private sector stakeholders have plans to further educate consumers as the transition nears. FCC solicited comments on proposed consumer education programs, including potentially requiring television broadcasters to conduct on-air consumer education efforts. The proposals also include potential requirements for industry to report on the status of their specific consumer outreach efforts, including those efforts targeted to at-risk groups. Included in NTIA’s converter box subsidy program is a consumer education component—the details of which have not been made public. Some organizations, such as the DTV Transition Coalition and various industry trade associations, are planning information and education campaigns and some groups are planning to broadcast public service announcements.

- Despite the efforts currently underway and those being planned, difficulties remain in the implementation of consumer education programs. While private sector organizations are conducting outreach efforts, these actions are voluntary and therefore the government cannot be assured of the extent of private sector efforts. Strategic communications experts from industry, government, and academia identified potential challenges to a consumer education campaign, including (1) prioritizing limited resources to target the right audience for an adequate period of time, (2) educating consumers who do not necessarily need to take action, (3) reaching underserved populations, such as the elderly and disabled, and (4) aligning stakeholders to form a consistent, coordinated effort.

- In our ongoing work for the House Energy and Commerce committee and this committee, we plan on reporting on the progress of consumer education and awareness about the DTV transition throughout the
upcoming transition period. For example, we will continue to monitor consumer education programs and plan to conduct a series of consumer surveys throughout the year prior to the transition date. These surveys will be aimed at estimating the population that will be affected by the DTV transition and the public awareness of the transition. We will estimate the percent of the population relying on over-the-air broadcasts, as well as demographic characteristics of the affected population to determine what groups might be most disrupted by the transition. We will report on changes in consumer awareness over time based on surveys we plan to conduct throughout the transition process. In addition, throughout the transition process, we will continue to assess government and industry consumer education efforts and analyze the efforts compared with key practices for consumer outreach.

The United States is currently undergoing a transition from analog to digital broadcast television, often referred to as the DTV transition. The transition will enable the government to allocate valuable spectrum from analog broadcast to public safety and other purposes. Further, digital transmission of television signals provides several advantages compared to analog transmission, such as enabling better quality picture and sound reception as well as using the radiofrequency spectrum more efficiently than analog transmission. With traditional analog technology, pictures and sounds are converted into “waveform” electrical signals for transmission through the radiofrequency spectrum, while digital technology converts these pictures and sounds into a stream of digits consisting of zeros and ones for transmission.

The Digital Television Transition and Public Safety Act of 2005 addresses the responsibilities of two federal agencies—FCC and NTIA—related to the DTV transition. The act directs FCC to require full-power television stations to cease analog broadcasting and to broadcast solely digital transmissions after February 17, 2009. As we have previously reported, households with analog televisions that rely solely on over-the-air television signals received through a rooftop antenna or indoor antenna must take action to be able to view digital broadcast signals after the termination of analog broadcasts. Options available to these households include (1) purchasing a digital television set that includes a tuner capable of receiving, processing, and displaying a digital signal; (2) purchasing a digital-to-analog converter box, which converts the digital broadcast signals to analog so they can be viewed on an existing analog set; or (3) subscribing to a cable, satellite, or other service to eliminate the need to acquire a digital-to-analog converter box. The act also directed NTIA to
Digital Television Transition

establish a $1.5 billion subsidy program through which households can obtain coupons toward the purchase of digital-to-analog converter boxes. The last day for consumers to request coupons is March 31, 2009, and coupons can be redeemed through July 9, 2009. As required by law, all coupons expire 90 days after issuance. Consumers can redeem their coupons at participating retailers (both “brick and mortar” and online) for eligible converter boxes.

To help inform consumers about the transition, eight private sector organizations launched the DTV Transition Coalition in February 2007. These eight organizations are the Association for Maximum Service Television, Association of Public Television Stations, Consumer Electronics Association, Consumer Electronic Retailers Coalition, Leadership Conference on Civil Rights, LG Electronics, National Association of Broadcasters, and the National Cable and Telecommunications Association. These founding organizations comprise the Coalition’s steering committee and make decisions on behalf of the Coalition. To better represent the interests of at-risk or underserved populations—such as the elderly—AARP later joined the steering committee. The Coalition’s mission is to ensure that no consumer is left without broadcast television due to a lack of information about the transition. Currently, the Coalition has over 160 member organizations comprised of business, trade and industry groups, as well as FCC.3

Recent surveys conducted by industry trade associations indicate that consumer awareness of the digital transition is low. The Association for Public Television Stations reported in January 2007 that 61 percent of participants surveyed had “no idea” that the transition was taking place. Another study conducted by the National Association of Broadcasters focused on households that primarily receive their television signals over-the-air—and will therefore be most affected by the transition—and reported that 57 percent of those surveyed were not aware of the transition. Both surveys found that most people with some awareness of the transition had limited awareness of the date the transition will take place.

3While NTIA is not an official Coalition member, the agency has been participating in Coalition activities since its inception. The Coalition, as well as FCC and NTIA, have created Web sites providing information on the DTV transition and converter box subsidy program. These Web sites are available for viewing at the following addresses: www.dtvtransition.org, www.dtv.gov, www.ntia.doc.gov/dtvcoupon/index.html.
Federal and private stakeholders are making progress in educating consumers about the DTV transition, with both independent and coordinated efforts underway. FCC and NTIA have been involved in consumer education and awareness programs and some private sector organizations are voluntarily taking the lead on outreach efforts.

FCC has taken several steps toward educating consumers about the transition. For example, FCC has launched a Web site (DTV.gov), which, among other things, provides background information on the DTV transition and answers common consumer questions. In addition, FCC has met with some industry groups, consumer groups, and other government agencies and participated in public events intended to educate audiences about the transition. Moreover, in April 2007, FCC adopted a rule requiring all sellers of television-receiving equipment that does not include a digital tuner to prominently display a consumer alert that such devices will require a converter box to receive over-the-air broadcast television after February 17, 2009. To ensure that retailers are in compliance, FCC staff have inspected over 1,000 retail stores and Web sites and issued over 250 citations with potential fines exceeding $3 million. In addition, FCC has issued notices to television manufacturers with potential fines over $2.5 million for importing televisions without digital tuners. In June 2007, FCC announced that it had re-chartered an intergovernmental advisory committee comprised of 15 representatives from local, state, and tribal governments to help it address, among other things, consumer education about the DTV transition. Similarly, it re-chartered a consumer advisory committee that will also make recommendations to FCC about the transition on behalf of consumers, with specific representation for people with disabilities and other underserved or at-risk populations.

NTIA has also taken initial steps towards educating consumers about the transition. NTIA has statutory responsibility for the converter box subsidy program, for which Congress appropriated up to $5 million for education efforts. According to NTIA, its education efforts are focused on the subsidy program and more specifically on five groups most likely to lose all television service as a result of the transition: (1) senior citizens, (2) the economically disadvantaged, (3) rural residents, (4) people with disabilities, and (5) minorities. According to NTIA, it has begun outreach efforts to these groups through partnerships with private organizations as well as other federal agencies. Also, it has created “information sheets” for consumers, retailers, and manufacturers that outline the subsidy program and are available on its Web site. NTIA said it has provided informational brochures in English and Spanish to the public and provided a copy to every member of Congress and federal agencies that serve some of the
populations noted above. The agency also created a consumer hotline that
provides information about the transition in English and Spanish, and TTY
numbers that provide information in English and Spanish to the hearing
impaired. In addition, in August 2007, NTIA contracted with IBM to
implement the broad consumer education component about the program.

On a voluntary basis, some private stakeholders have begun implementing
measures to inform consumers about the DTV transition. As previously
mentioned, one such private-sector led effort is the DTV Transition
Coalition, which has developed and consumer tested various messages
about the transition, using surveys and focus groups of the affected
consumers—the general population, senior citizens, minority groups, and
over-the-air analog television households—to understand what messages
are most effective in informing them about the transition. Subsequently,
the Coalition said it agreed upon one concise message that includes
information about the transition itself, the rationale for the transition, and
the ways consumers can effectively switch to DTV. In particular, the
Coalition suggests consumers can prepare for the transition by purchasing
a DTV converter box, purchasing a new television set with a built in digital
tuner, or subscribing to a pay television service such as cable, satellite, or
telephone company video service provider. The Coalition said its member
organizations will distribute this information to their constituents,
including senior citizens, the disabled, and minority groups. The Coalition
message will also be delivered to media outlets.

In addition to coordinated efforts within the Coalition, private sector
organizations also have independent education efforts underway. For
example, a number of industry associations host Web sites that inform
consumers of, among other things, common consumer questions about the
transition, how to check if the television they own is digital-ready, and
how to dispose of analog television sets. One national retailer told us that
it added a feature to its registers so that when a consumer purchases an
analog television, a message about the transition is printed on the bottom
of the receipt.
Many Consumer Education Efforts Are Still in the Planning Stages and Have Not Been Widely Implemented

Widespread and comprehensive consumer education efforts have yet to be implemented, but additional efforts are currently being planned. FCC, NTIA, and private sector stakeholders have plans to further educate consumers as the digital transition nears. The converter box subsidy program, to be administered by NTIA, will also have a consumer education component implemented by its contractor, IBM. Because many education efforts are in the planning or initial stages of implementation, it is too early to tell how effective these efforts will be.

FCC has solicited input on proposed consumer education programs. In August 2007, in response to a letter containing proposals on advancing consumer education submitted by members of Congress, FCC released a notice of proposed rulemaking soliciting public comments. These proposals include requiring television broadcasters to conduct on-air consumer education efforts and regularly report on the status of these efforts, requiring cable and satellite providers to insert periodic notices in customers’ bills about the transition and their future viewing options, and requiring manufacturers to include information on the transition with any television set or related device they import or distribute in the United States. Each of the requirements mentions civil penalties for noncompliance. Another proposal on which FCC sought comment would have FCC work with NTIA to require that retailers participating in the converter box subsidy program detail their employee training and consumer information plans, as well as have FCC staff spot check the retailers for compliance. Also, FCC sought comments on a proposal requiring partners identified on FCC’s DTV.gov Web site to report their specific consumer outreach efforts. The comment period on the notice of proposed rulemaking is scheduled to close on September 19, 2007; the period to file any rebuttal closes October 1, 2007.

NTIA also has not fully implemented education efforts about its subsidy program in large part because it is contracting out the consumer education component of its program. The contract was recently awarded in the middle of August 2007 to IBM and plans are in the development stage.

Many private sector consumer education efforts are in the planning stages and have yet to be fully implemented. Representatives from private sector organizations told us there are several reasons why they are waiting to fully launch their consumer education campaigns. In particular, some said they are trying to time their education efforts for maximum effectiveness and that they do not want to start too early and possibly lose the attention of consumers later on. Another reason is that they are waiting for key events to occur, such as the availability of converter boxes in retail stores,
so that education efforts can contain complete information. A number of nonprofit organizations told us that a lack of dedicated funding hampers their ability to educate and outreach to their constituents. Through its many member organizations, the DTV Transition Coalition intends to disseminate information about the transition in a variety of formats, including through presenting at conferences, creating media attention, and distributing informational materials to Congressional offices. The National Cable and Telecommunications Association has created public service announcements about the transition in both Spanish and English, which will be aired by cable operators and networks in markets throughout the country in the fall of 2007. The National Association of Broadcasters also has plans to launch a public service announcement campaign related to the transition by the end of 2007, which will air on its local television broadcasting affiliates, independent stations, and broadcast networks.

Despite efforts currently underway and those being planned, difficulties remain in the implementation of consumer education programs. Private sector organizations are participating in outreach efforts, but these actions are voluntary and therefore the government cannot be assured of the extent of private sector efforts. Moreover, given the different interests represented by industry stakeholders, messages directed at consumers vary and might lead to confusion. For example, in addition to providing information about why the transition is occurring, some industry stakeholders have incentives to provide consumers with information on a wide host of technology equipment or services that consumers could purchase, at varying costs. Advocates for the elderly, disabled, and non-English speaking households told us that they are concerned that their members will become confused by the options and end up purchasing equipment they do not need or more expensive equipment than necessary to maintain their television viewing.

Further, we heard from strategic communication experts from industry, government, and academia that potential challenges might obstruct consumer education efforts. In particular, the experts and others highlighted several challenges:

- **Prioritizing limited resources.** With limited time and financial resources, it is likely to be a challenge for stakeholders to determine how best to allocate those resources within the campaign—for example, whether to target a smaller audience over a set period of time, versus targeting a broader audience over a shorter period of time. This is applicable because,
according to industry stakeholders, there may be specific groups that are more vulnerable than others to losing television service.

- **Educating consumers who do not necessarily need to take action.** Many of the outreach efforts will be focused on educating consumers on what to do to keep their television sets from going dark after the termination of analog broadcasts. However, a large proportion of U.S. households will not need to do anything—for example, because they have cable or satellite television service that will enable their analog set to continue to display programming. Because many messages focus on the actions that households that rely on over-the-air analog broadcasting need to take, consumers unaffected by the transition might become confused and purchase equipment they do not need. In our past work looking at a similar digital transition in Germany, we have described this potential confusion to cable and satellite households as a challenge of educating consumers about the transition.

- **Reaching underserved populations.** Conveying the message to underserved populations, such as senior citizens, the disabled, those residing in rural areas, or non-English speaking households, will provide an added challenge. Many groups reaching out to consumers about the transition are doing so on Web sites, which may not be available to people who lack Internet access or are less technically savvy. Another challenge is providing information in a wide variety of formats, such as in different languages for non-English speaking consumers and in text, video, voice, and Braille for the disabled. Overall, a challenge of consumer education is that those households in need of taking action may be the least likely to be aware of the transition.

- **Aligning stakeholders.** Industry representatives also noted the challenge of aligning stakeholders—some of whom are natural competitors—to work together. In our past work, we have reported that federal agencies engaged in collaborative efforts—such as the transition—need to create the means to monitor and evaluate their efforts to enable them to identify areas for improvement. Reporting on these activities can help key decision makers within the agencies, as well as clients and stakeholders, to obtain feedback for improving both policy and operational effectiveness. Some progress in aligning stakeholders, such as the formation of the DTV Transition Coalition, has been made, but some stakeholders may have competing interests. For example, recent announcements produced by the National Cable and Telecommunications Association invoke the DTV transition, but ultimately promote the role of cable television in the transition.
Our Future Work Will Focus on Consumer Awareness of the DTV Transition

In our ongoing work for the House Energy and Commerce committee and this committee, we plan to assess the progress of consumer education and awareness about the DTV transition. We will continue to monitor consumer education programs and plan to conduct a series of consumer surveys throughout the year prior to the transition date. These surveys will be aimed at determining the population that will be affected by the DTV transition and the public awareness of the transition. In determining the affected population, we will look at the percent of the population relying on over-the-air broadcasts for their primary television, as well as the percent of the population with non-primary televisions being used to watch over-the-air television. Additionally, we will review the demographic characteristics of the affected population to determine what groups might be most disrupted by the transition. We will survey for public awareness of the DTV transition, and specific knowledge of the transition, such as when the transition will take place. We will seek to determine the level of public awareness of those who will be affected by the transition and awareness of the converter box subsidy program and other options for viewing digital signals after the transition. We plan to report on changes in consumer awareness over time by conducting surveys throughout the transition process.

Furthermore, we will continue to assess government and industry consumer education efforts and will analyze the efforts compared with key practices for consumer outreach. We will review the government’s responsibility for consumer education, monitor the outcome of FCC’s notices of proposed rulemaking regarding the transition, and collect details on IBM’s consumer education plan as they become available.

Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions you or other Members of the Committee may have at this time.

Contacts and Acknowledgements

For questions regarding this testimony, please contact Mark L. Goldstein on (202) 512-2834 or goldsteinm@gao.gov. Individuals making key contributions to this testimony included Matthew Cail, Colin Fallon, Simon Galed, Bert Japikse, Crystal Jones, Sally Moino, Andrew Stavisky, and Margaret Vo.
The Government Accountability Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday, GAO posts newly released reports, testimony, and correspondence on its Web site. To have GAO e-mail you a list of newly posted products every afternoon, go to www.gao.gov and select “Subscribe to Updates.”

The first copy of each printed report is free. Additional copies are $2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. Government Accountability Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone: Voice: (202) 512-6000
TDD: (202) 512-2537
Fax: (202) 512-6061

E-mail: fraudnet@gao.gov
Automated answering system: (800) 424-5454 or (202) 512-7470

Gloria Jarmon, Managing Director, JarmonG@gao.gov (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, D.C. 20548

Susan Becker, Acting Manager, Beckers@gao.gov (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, D.C. 20548